Outline Business Case & Master Plan

For the Proposed Airports Development in the Cayman Islands

Cayman Islands Airports Authority

Highly Confidential

Final

14 June 2023

Revision	Date	Summary of Changes
1.0	16 November, 2022	First draft sent to client
2.0	2 December, 2022	Second draft sent to client
N/A	8 December, 2022	Approved by the Steering Committee w/ comments
N/A	13 December, 2022	Approved by the CIAA Board w/ comments
3.0	3 January, 2023	Third draft sent to client
4.0	10 January, 2023	Fourth draft - shared with Minister
5.0	25 February, 2023	Fifth draft - shared with Caucus
6.0	23 May, 2023	Sixth draft - approved by Caucus

Document Information

This report has been produced in collaboration between the Cayman Islands Airports Authority ("CIAA"), its Prime Consultant, Stantec and the Financial Consultant, KPMG in the Cayman Islands ("KPMG"). Services have been provided in accordance with the terms of the Prime Contract for the Outline Business Case (OBC) and Master Plan for the Proposed Airports Development in the Cayman Islands (Tender No.: PPC-2021-CIAA-059), signed on 26 May 2022 ("the Engagement Contract") between Stantec and the Cayman Islands Airports Authority ("CIAA" or the "Client"). This report is subject to the terms, conditions, qualifications and restrictions contained in the Engagement Contract and herein.

The information presented in this document reflects the substantive findings from the research and analysis to date; however, this information may be refined, as research and analysis continues, applicability of potential options for CIAA are assessed, and as work advances and an action plan for implementation is developed.

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Glossary

Abbreviation/Term	Definition
$ / CI$	Cayman Islands Dollars
ATM	Air Traffic Management Surveillance Project
BAU	Business as Usual (i.e. the existing infrastructure and operations)
Base year / Nominal prices	Prices presented exclusive of inflation.
BCU	Building Control Unit
Capex	Capital expenditure
Caymanian	A person who possesses Caymanian status under the repealed Immigration Law (2003 Revision) or any earlier law providing for the same or similar rights and includes a person who acquired that status under Part III.
CIAA	Cayman Islands Airports Authority
CIG	Cayman Islands Government or the Government
CKIA / CYB	Charles Kirkconnell International Airport, Cayman Brac
EBA / LYB	Edward Bodden Airfield (Little Cayman)
EBITDA	Earnings Before Interest Tax Depreciation and Amortisation
ESO	The Economics and Statistics Office of the Cayman Islands Government
GA	General Aviation (non-commercial) terminal at ORIA
Green Book	The Green Book is UK HM Treasury guidance which has been refined and tested over many years and provides a clear framework for developing spending proposals and a structured process for appraising, developing and planning to deliver best public value. It provides guidance on the development of a business case, using the Five Case Model. It also provides a framework for thinking and a process for approval which is flexible and scalable.
KPI	Key Performance Indicator
KPMG	KPMG in the Cayman Islands
Consultant Project team	• Stantec, Prime Consultant • KPMG, Financial Consultant • Munich International GmbH, Airport Management and Operations Consultant • DKMA, Aviation Planning and Engagement Consultants • Chalmers Gibbs Associates, Local Architect and Design Consultant • BCQS, Construction Cost and Risk Consultant
KUR	Key user requirements
MPO	Major Projects Office
NPV / NPSV	Net Present Value/ Net Present Social Value
OBC	Outline Business Case - revisits the SOC in more detail and identifies a Preferred Option that demonstrably optimises Value for Money. It also sets out the likely transaction structure; demonstrates its affordability; and details the supporting procurement strategy, together with management arrangements for the successful rollout of the scheme.

	The OBC is the second stage in the management process of developing a business case to justify an investment decision to deliver a major public sector project in the UK.
ORIA / GCM	Owen Roberts International Airport, Grand Cayman
PFC	Passenger Facilities Charge
Project/(s)	Project A1: Master Planning Development of the General Aviation Terminal at ORIA Project A2: Master Planning Development of the Owen Roberts International Airport (ORIA) Project B: Master Planning Development of the Charles Kirkconnell International Airport (CKIA) Project C: Master Planning Development of the Little Cayman Aerodrome (EBA)
PWD	Public Works Department
Real prices	Prices presented inclusive of inflation.
RESA	Runway end safety area
SOC	Strategic Outline Case. The first stage in the Five Case model which is the recommended business case methodology in the UK and is widely used in public sector projects.
Steering Committee	The Steering Committee has strategic responsibility for the OBC. The Committee is responsible for the Project's direction including ensuring the preferred solution provides value for money, is affordable, commercially viable and achievable. The committee consists of a wide range of stakeholders including senior personnel from CIAA, to represent CIAA's interests; senior personnel from the Public Works Department, Cayman Airways and the Fire Service; and the Chief Officer of the Ministry of Tourism and Transport. The membership of the steering committee consists of: • Stran Bodden, Chief Officer and Chairman, Ministry of Tourism • Albert Anderson, CEO, CIAA • Rosa Harris, Director of Tourism • Dwight Rankin, Chief Fire Officer • Karen Batiste, CFO, CIAA • Roy Williams, Senior Project Manager and Secretary, PWD • Eimer Powery, Facilities and Project Manager • Jonathan Jackson, Deputy Chief Officer, Ministry of District Administration, Tourism and Transport • Fabian Whorms, CEO, Cayman Airways • Charles Clifford, Director, Cayman Islands Customs and Border Control (CBC) • At Steering Committee meetings, further representatives were present from various other stakeholder groups in addition to those listed above.
UK	United Kingdom
US	United States of America
US$ / USD	United States Dollars
VFM	Value for Money. VFM is based not only on the minimum purchase price but also on the maximum efficiency and effectiveness of the resources required to deliver the purchase.
Year / financial year / FY	Financial year from January 1 to December 31.

1.0 Executive Summary

1. Introduction

This document is the Outline Business Case in support of the Proposed Airports Development in the Cayman Islands. The OBC covers the Master Planning for the development of the following Projects:

- Project A1: The General Aviation (GA) terminal at Owen Roberts International Airport (ORIA), Grand Cayman
- Project A2: Owen Roberts International Airport (ORIA), Grand Cayman
- Project B: Charles Kirkconnell International Airport (CKIA), Cayman Brac
- Project C: Edward Bodden Airfield (EBA), Little Cayman

The aim of this OBC and the Master Planning Project is to evaluate the requirements of each of the Airports, to ensure that each airport is capable of coping with the forecast levels of demand. Furthermore, interconnectivity of the sister islands, conveyance of a strong brand image for the Cayman Islands, environmental issues and health and safety factors are also important considerations for any expansion or development.

This OBC outlines the context against which a long list of options has been evaluated and identifies the key drivers for change. This OBC also details value for money (Economic Case) and affordability (Financial Case) considerations. Finally, it provides guidance on preferred procurement routes (Commercial Case) and management (Management Case) arrangements required to deliver each project.

This OBC has been prepared using the agreed standard and format for business cases using the Five Case Model, which comprises the following key components:

- **Strategic case** – This section examines how the scope of the Projects fit within the existing policy in the Cayman Islands and outlines a case for change in terms of existing and future needs.
- **Economic Case** – This section evaluates the long list of options identified in detail. It has elements of qualitative and quantitative analysis. It culminates in the identification of a Preferred Option for each Project
- **Commercial Case** – This section outlines the proposed procurement route in relation to the Preferred Option for each Project outlined in the economic case.
- **Financial Case** – This section assesses the overall affordability of the Preferred Options in terms of funding and financing.
- **Management Case** – This section of the OBC addresses the achievability of the Preferred Options including how the Projects will be delivered and how the risks will be managed. It builds on the SOC by setting out in more detail the actions that will be required to ensure the successful delivery of the Projects in accordance with best practice.

We believe that the development of this OBC and the contents herein comply with the requirements detailed in the Green Book Guidance for development of an OBC using the Five Case Model.

1.2 Key decisions log

Included below are key decisions/directives that were received throughout the OBC and are further expanded on in each of the Cases:

Key decisions / directives	Date
Steering Committee approved the Long List of Options and the Short-List of options (including the Preferred Way Forward) for each of the four Projects	5 September, 2022
Steering Committee cost/benefit and risk workshop for the short-list of options	15 September, 2022
Steering Committee final approval of the Preferred Options for each of the four Projects	2 November 2022
Steering Committee approval of the of the preferred procurement route for each of the Projects	17 November 2022
Steering Committee approval of this Outline Business Case	8 December, 2022
Board approval of this Outline Business Case	13 December, 2022
Caucus approval of this Outline Business Case	23 May, 2023

2. Strategic case

The Airports Development Project aligns with a number of CIG's and CIAA's priorities including, but not limited to:

Key strategies	Alignment of the projects with the Key strategies
Project A1: General Aviation (GA) terminal at the Owen Roberts International Airport (ORIA), Grand Cayman CIG recognises the importance of attracting High Net Worth Individuals (HNWIs) and VIPs to the Cayman Islands. Updating and improving the GA Terminal is a key objective within the Strategic Policy of CIG.	It is envisioned that the Airports Master Plan will provide the CIAA with the context in which to make decisions, address new initiatives, and explore opportunities that will facilitate the long-term development of the Owen Roberts International Airport (including the GA terminal), Charles Kirkconnell International Airport and Little Cayman Aerodrome. In addition to this, the project includes updated passenger forecasts for the next 20 years and provides an analysis of air service traffic growth, the nature and mix of this traffic, airport facility requirements, necessary infrastructure to meet future demand, location of airport services, land appropriation requirements, an updated land use plan, neighboring and adjacent land uses, aids to air navigation, ground transportation access, circulation and parking, environmental issues and the overall impact on the community. The Preferred options therefore seek to ensure that the capacity of each airport is increased to ensure the forecast passenger numbers are met, with health and safety prioritised.
Project A2: Owen Roberts International Airport (ORIA), Grand Cayman The travel and tourism industry provides significant employment and entrepreneurial opportunities for residents of the Islands and is also a significant contributor to CIG's revenues and the Cayman Islands' GDP. These factors and several others make it one of the two main pillars of the economy. The continued enhancement and development of the main international airport – the Gateway to the Cayman Islands - is therefore an important part of the growth strategy for the Cayman Islands tourism market.	
Project B: Charles Kirkconnell International Airport (CYB), Cayman Brac The Charles Kirkconnell Airport is pivotal to the growth and development of tourism in Cayman Brac as it is the only way visitors can currently access the island. The majority of the tourism sector is concentrated on scuba diving with two hotels serving visitors. The long-term goal is to create a high-quality environment which provides Cayman Brac with well-connected access to the global marketplace.	
Project C: Edward Bodden Airfield (EBA), Little Cayman CIG recognises the need to ensure air travel options are available to Little Cayman due to growth in tourism opportunities, to ensure essential services exist to accommodate air ambulances and for hurricane evacuation and relief efforts.	

Case for change

The key drivers for the case for change are summarised as follows:

- Capacity – Although there have been major renovations to both the commercial terminal and to the airside infrastructure at ORIA completed in 2019, there are still capacity constraints during peak hours. Peak hour passenger numbers in 2019 reached record levels and leading up to the COVID pandemic, the expectation was that 2020 would surpass 2019, with record numbers experienced in the first quarter of 2020. The 2014 Master Plan identified annual / peak hour numbers that would trigger the need for the development of a new terminal at ORIA to support the growth in passengers (initially forecast for 2028); however, these numbers were exceeded in 2019. Although annual passenger figures are currently below that of 2019 levels, as of November 2022, the Ministry for Tourism and Transport have confirmed that vacation bookings for the 2022/23 season have surpassed those of 2019, highlighting the need to ensure capacity increases are prioritised.

- Branding – CIG has outlined in its policy that there needs to be a focus on attracting High Net Worth Individuals ("HNWIs") to the Cayman Islands and that the current GA facility is of low quality, outdated and is not a good representation of the islands from a luxury brand perspective.

- Inefficient layout – The single-story terminal building at ORIA requires passengers and staff to walk sub-optimal distances, including when transiting between the terminal building and aircraft. Visitors are also exposed to the elements when walking to aircraft on the airside and to the car rental buildings and parking lots on the landside. During peak hours there are capacity issues at check-in, immigration, security and in the departure lounges. At CKIA and EBA there are also inefficiencies and insufficient space with respect to check-in and security facilities. Furthermore, there is insufficient parking capacity at ORIA and CKIA, with long term parking at ORIA regularly reaching capacity.

- Regulatory concerns – CKIA is currently operating under an exemption to airport regulatory standards due to insufficient length and strength of the Runway End Safety Area (RESA) and the runway strip is too narrow on the south side due to proximity of ponds. Landside expansion is also required to accommodate the 30m set-back security regulation at CKIA, which will result in parking facilities having to be relocated to the North. EBA fails to meet any airport regulatory standards required to be classified as a certified airport (CIAA do not currently operate the aerodrome and Cayman Airways currently has operational responsibility for implementing safety measures and airport operations). Operating under such exemptions is not a sustainable position to be in and the CAA has only granted the exemption until the end of December 2022. A new Air Traffic Management System is required at ORIA to improve safety.

- Competition – Regional competitor countries such as Antigua, Jamaica, Bahamas, Barbados, BVI, Aruba and Turks & Caicos Islands, having recognised the need for airport growth, have made, or are in the process of making, the relevant investments and incentives to position themselves for future expansion of their tourism industry. At present, the Cayman Islands are not maintaining their competitive edge in this regard. Inefficient space and processes, lack of previous investments in airfield and landside infrastructure has resulted in the need for significant investments to support the growth in passenger demand over the master plan horizon.

- Environmental – Rising sea levels were considered and the option of raising the runways was explored; however, the conclusion of the Project Team was that based upon current elevation, the airport facilities and runways for each of Projects A1, A2, B and C would not need to be raised to accommodate potential sea level rises in the near term. The existing ORIA terminal is 8.5ft above sea level, which is only susceptible to partial flooding in extreme circumstances that are infrequent in nature (e.g. the partial flooding from by Hurricane Ivan in 2004). Other environmental factors have been considered in more detail in the economic case. However, beyond the airport master planning horizon of twenty years, CIG must consider the cost and solutions for rising sea levels to be adopted by CIAA for future infrastructure development.

3. Economic Case

Short list of options

The original Strategic Outline Case ("SOC") that was prepared for this Project was initially prepared with the following long list of options:

1. No Change
2. Develop an Outline Business Case for the Airport Development Project and successive new Airports Master Plan

Upon review, it was noted that these options did not fully address the requirements of each Project, nor did they comply with the latest Green Book Guidance. Therefore, the available options were revisited by the Project Team and consultants. The following long list of options were then developed:

1. Project A1 – Grand Cayman GA Facility

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
Scope	Status quo: All GA traffic served from current location with capacity constraints and a dated facility.	Upgrade existing terminal building, minor apron expansion	Replace existing GA terminal building and expand aircraft parking apron, expand or build new hangars adjacent to GA Terminal and on the existing playground	Expand aircraft parking at the North Sound site, replace the existing / new terminal building at existing site.	Expand existing GA Terminal / apron at existing site in short - medium term, reserve space for new GA Terminal and Apron at North Sound site in long-term.	Relocate and upgrade the GA terminal/ aircraft parking to the North Sound site.	Relocate and upgrade the GA terminal/aircraft parking to a new site (e.g. East End).

2. Project A2 – Owen Roberts International Airport

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Scope	Status quo: business as usual.	Do minimum - minimal upgrades, no expansion to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers.	Moderate upgrades and expansion to current airside and landside infrastructure to cater for moderate growth in aircraft movements and passengers.	Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers.	Upgrades and expansion to current airside and landside infrastructure to cater for growth in aircraft movements and passengers exceeding forecasts.	Relocate the entire airport (e.g. to the East End) to cater for maximum future demand.

3. Project B – Charles Kirkconnell International Airport

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
Scope	Status quo: business as usual.	Do minimum - minimal upgrades (no expansion) to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers. Relinquish International status.	Minimal upgrades and expansion to current airside and landside infrastructure to cater for low growth in aircraft movements and passengers. Modify lands as needed to meet regulatory	Moderate upgrades and expansion to current airside and landside infrastructure.	Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers. Acquire lands / meet all applicable regulatory	Relocate the airport - build an entirely new runway and terminal at a different location to meet all forecast demand and all international regulatory

		Exemptions to regulations continue (regardless of international status).	requirements and applicable standards.		requirements and standards.	requirements and standards.

4. Project C – Little Cayman Airport

	Option 1	Option 2	Option 3	Option 4	Option 5
Scope	Status quo - business as usual.	Do minimum - minimal upgrades / expansion to current airside or landside infrastructure, cater for limited growth in aircraft movements and passengers. Exemptions to regulations continue.	Moderate upgrades and expansion to current airside and landside infrastructure to cater for growth in aircraft movements and passengers. Try to resolve some of the major issues, such as the powerline, un-even runway and public road.	Close Existing Airport and Build New Airport and including airside and landside infrastructure to cater for the most-likely forecast growth in aircraft movements and passengers. Build to meet all applicable regulatory requirements and standards.	Sell or Close Existing Airport, to be replaced by Ferry / Helicopter / Seaplane service

From the revised long list of options, prepared jointly by CIAA and its consultants (with ultimate approval from the Steering Committee), based upon a detailed discussion of the strengths, weaknesses, opportunities and threats (as outlined by the Green Book), the following options were short-listed and carried forward for further development in this OBC:

Project A1 – General Aviation Terminal

- Option 1 - Status quo: All GA traffic served from current location with capacity constraints and a dated facility;
- Option 2 - Upgrade existing terminal building, minor apron expansion;
- Option 3 - Replace existing GA terminal building and expand aircraft parking apron, expand or build new hangars adjacent to GA Terminal and on the existing playground;
- Option 4 - Expand aircraft parking at the North Sound site, replace the existing / new terminal building at existing site; and
- Option 6 - Relocate and upgrade the GA terminal/ aircraft parking to the North Sound site.

Project A2 – Owen Roberts International Airport

- Option 1 - Status quo: business as usual;
- Option 2 - Do minimum - minimal upgrades, no expansion to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers;
- Option 3 - Moderate upgrades and expansion to current airside and landside infrastructure to cater for moderate growth in aircraft movements and passengers;
- Option 4 - Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers; and
- Option 5 - Upgrades and expansion to current airside and landside infrastructure to cater for growth in aircraft movements and passengers exceeding forecasts.

Project B – Charles Kirkconnell International Airport

- Option 1 - Status quo: business as usual;
- Option 2 - Do minimum - minimal upgrades (no expansion) to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers. Relinquish International status. Exemptions to regulations continue (regardless of international status);
- Option 3 - Minimal upgrades and expansion to current airside and landside infrastructure to cater for low growth in aircraft movements and passengers. Modify lands as needed to meet regulatory requirements and applicable standards;
- Option 4 - Moderate upgrades and expansion to current airside and landside infrastructure; and
- Option 5 - Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers. Acquire lands / meet all applicable regulatory requirements and standards.

Project C – Little Cayman Airfield

- Option 1 - Status quo: business as usual;
- Option 2 - Do minimum - minimal upgrades / expansion to current airside or landside infrastructure, cater for limited growth in aircraft movements and passengers. Exemptions to regulations continue;
- Option 4 - Close Existing Airport and Build New Airport and new airside and landside infrastructure to cater for the most-likely forecast growth in aircraft movements and passengers. Build to meet all applicable regulatory requirements and standards; and
- Option 5 - Sell or Close Existing Airport, to be replaced by Ferry / Helicopter / Seaplane service.

Key Findings

Each short-listed option was evaluated against quantitative (economic), benefits and risk appraisal criteria.
Key findings from the economic appraisals projected over a 60-year period (as specified in the latest Green Book Guidance) were also used to help determine the Preferred Options for each Project and these have been presented below (please refer to the Economic Case for the detailed analysis):

$'000	Project A1 - Option 6	Project A2 – Option 4	Project B – Option 5	Project C – Option 4
Ranking	2	1	3	2
Significant Unquantifiable benefits	Further increased capacity for future air traffic growth (i.e. potentially less costly in the long term) Greater revenue opportunity for CIAA or 3rd party operator if hangar, g/a terminal and aprons are collated Majority of east-end apron is to be constructed on brownfield / cleared lands. Hangars, GA terminal together will enable reduction in aircraft fuel burn and emissions Would allow for boat transfers/water taxis, which would drastically	Increased capacity for future air traffic growth (i.e. potentially less costly in the long term) Improved facilitation of movement of people, goods and services, due to reduced time, lower costs from development of innovative, technology-based solutions which benefit airlines, cargo and mail shippers, and consumers	Further terminal satisfaction, which is expected to lead to increased tourism (i.e. higher revenues for businesses in Cayman) Further improved efficiency from the upgrades/expansion Further increased capacity for future air traffic growth (i.e. potentially less costly in the long term) Improvements in facilitation will lead to more efficient airport operations, benefiting the airlines, passengers and	Increased capacity for future air traffic growth (i.e. potentially less costly in the long term) Further reduced risk of accidents and therefore associated costs May lead to increased revenues (i.e. higher airport revenues and increase in revenues for businesses in Little Cayman) Would facilitate more efficient medevac/ hurricane evacuation services as well as night-time flights Would allow for a better quality of

	improve the user experience for HNWIs. Higher GA terminal satisfaction, which may lead to increased tourism (i.e. higher revenues for businesses in Cayman)		shippers, and aircraft operators	service (i.e. larger planes) Reduced risk of accidents
Significant Unquantifiable benefits ranking	1	1	1	1

*A rank of 1 is the option with the highest NPSV

Overall findings: The Preferred Options

The methodology adopted to select the Preferred Options is consistent with the methodology used on other projects in the Cayman Islands and we believe to be in accordance with the latest Green Book Guidance.

The overall ranking is based on the results of each appraisal category. Based on the scoring results summarised above, the Steering Committee selected the following as the Preferred Options:

- **Project A1:** *Option 6: Relocate and upgrade the GA terminal/ aircraft parking to the North Sound site.*
- **Project A2:** *Option 4: Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers.*
- **Project B:** *Option 5: Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers. Acquire lands / meet all applicable regulatory requirements and standards.*
- **Project C:** *Option 4: Close Existing Airport and Build New Airport including airside and landside infrastructure to cater for the most-likely forecast growth in aircraft movements and passengers. Build to meet all applicable regulatory requirements and standards.*

It should be noted that the Preferred Options above were not necessarily the options with the highest Net Present Value ("NPV"). However, they did all score well in the benefits and risk appraisals. The Steering Committee, taking into account the Green Book Guidance and feedback from stakeholders, evaluated VFM with equal importance to economics, benefits and risks. The Steering Committee felt that the Preferred Options scored highly enough on the risks and benefits appraisals to offset any lower ranking in the economic appraisals, as shown in the table above.

Value for Money Assessment of the Preferred Options for Projects A1, A2, B and C

Value for Money (VfM) is a balanced judgement about finding the best way to use public resources to deliver policy objectives. The process starts with the rationale informing the setting of SMART objectives. A long-list appraisal can only be conducted once SMART objectives are set.

A shortlist of viable options can then be created. The shortlist is then compared using Cost Benefit Analysis (CBA), taking into consideration the risks, any relevant policy objectives and qualitative factors (refer to Appendix 6). Only by following these steps in sequence can the Preferred Option then be identified at the end of this process as having the best VfM. **The table below analyses both nominal and discounted net present social values (i.e. including the quantitative benefits, costs and risks as well as capital costs).** Refer to the Financial Case for discussion around capital costs.

VfM Assessment Summary

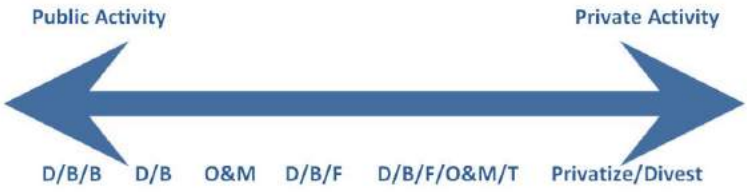
Preferred option by project	Costs ($'000)	
	Nominal benefits/(costs)	**NPSV discounted (3.5% / 3.0%)**
Project A1	($7,627)	($23,369)
Project A2	$148,721	($144,784)
Project B	($341,517)	($158,695)
Project C	($129,227)	($72,666)
Total costs	**($329,534)**	**($399,514)**

- The Preferred Option for each project has been selected to ensure that the base case passenger forecasts (prepared by DKMA) have been met, for each island.
- It is the Steering Committee's assessment that the planned facilities are required to cater for forecast demand and to provide quality facilities that present the Cayman Islands in the best light and meet regulatory requirements, enabling the islands to compete with neighboring jurisdictions.
- The conceptual design team has ensured that the designs optimise space allowances in light of existing constraints and user requirements.
- Given the parameters set by the Steering Committee, it is believed that the Preferred Options for Project A1 and A2 have been optimised and as such can be considered in this context to represent value for money.
- Overall, it is noted that the Preferred Options for Projects B and C may not necessarily represent the best VfM of the options, given the limited passenger numbers that each island services (i.e. both airports are loss making); the Steering Committee selected the Preferred Options for each of these airports based not upon VfM, but rather on the importance of certain qualitative benefits:
    - The choice of Preferred Options for Projects B and C is driven largely by the desire of the Steering Committee to ensure the high-quality brand image of the Cayman Islands and to ensure the highest level of interconnectivity between the islands, placing safety and efficiency at the heart of any future development. Therefore, the increased costs associated with options B and C have been deemed necessary to facilitate such development and ensure a "step forward" for the Cayman Islands.
- The overall capital cost (real prices) of CI$860m for all four projects will be used to set the affordability envelope going forward (after considering inflation, as discussed in the Financial Case section).

4. Commercial Case

Preliminary Assessments of Traditional vs. P3 procurement strategies

The Commercial case considers the selection of the preferred procurement route for each of the Projects. The following potential procurement routes were considered:



D/B/B	Public Design/Bid/Build
D/B	Design/Build
O&M	Operate and Maintain
F	Finance
T	Transfer to Public Ownership

Source: NCPPP

The following assertions, which were discussed with the Steering Committee, support the use of traditional procurement methods for the execution of the four Projects (A1, A2, B and C) as opposed to a P3 structure:

- Projects are expected to be delivered using proven design and construction concepts utilising better control methods. While some innovation is expected from the bidder, there is limited scope that a private delivery model can provide over and above what would be available through a traditional model.
- Technical complexities relate primarily to the need to use existing buildings in the design (Projects A2 and B). This constraint is unlikely to be mitigated by the use of a private delivery model.
- CIAA has recently completed the extension of the ORIA terminal (in 2019), which was delivered using traditional delivery methods and whilst there were some lessons learned from these works, there appears to be no obvious benefits from using a P3 approach for future works.
- Revenue generation associated with the Projects would be hard to distinguish from the business-as-usual or "do nothing" option revenues. Thus, it may be more complex to pass on demand risk to a private sector partner.
- Projects B and C are unlikely to achieve any form of return on investment or payback on the required capital expenditures. Without the ability to generate a return, the onus would be on CIAA and/or CIG to fund any P3 partner's required returns directly. Given the small size of these projects as well, it is unlikely that a P3 approach would generate any interest in these standalone projects.
- Long term lifecycle and maintenance requirements are expected to be routine in nature. CIAA has experience in procuring relevant solutions.
- A P3 procurement process would likely involve lengthier procurement timelines versus a traditional process. It is the Steering Committee's stated need to complete one or more of the Projects as a matter of national priority.
- At this stage, it is our understanding that CIAA is committed to funding the capital expenditure and ongoing lifecycle and maintenance expenditure of the Project through its own revenues, surpluses and, where necessary, CIG debt (which at 3.5% is expected to be cheaper than any potential external funding sources, including a P3 approach).

Further commentary on the assessment of the procurement options can be found in the Commercial case.

Selected Procurement and Delivery Method

Due mostly to the expected timing and phasing of the Projects, it is proposed that each project and sub-project would need to be procured separately. However, additional options to package combinations of the Projects will be explored during the next stage. This may be particularly important for generating interest from contractors for Projects B and C, which might otherwise appear too small for contractors to be prepared to work through the complexities of undertaking projects in Cayman Brac and Little Cayman.

Upon consideration of CIAA and CIG's preference to be actively involved in the design development and with the Senior Project Manager having analysed the time scales for implementing the projects, the following methods have been approved by the Steering Committee:

Item	Project A1	Project A2	Project B	Project C
Delivery method	1. Design Build 2. PPP	1. Design Bid Build	1. Design Bid Build	1. Design Bid Build 2. PPP
Procurement method	Open or restricted procedure	Open or restricted procedure	Open or restricted procedure	Open or restricted procedure
Summary	The steering committee noted their preference would be to build the apron themselves and retain ownership, with a third party building and operating the terminal on their behalf. However, given the low costs involved with the construction of the	On the basis that a PPP approach would relinquish control over one of the nation's most important assets, a PPP was discounted. Not only would this approach hand control of the asset over to the private sector, it would	A PPP approach was discounted because the Steering Committee felt that the project would not generate significant enough returns to attract sufficient interest from the private sector. A Design Bid Build approach was instead	The steering committee noted that a PPP could be a viable option if the airports development was packaged up with a wider development plan for the island (i.e. an eco-tourism package that seeks to transform the island to fully electric, with a new airport and other infrastructure, etc.).

	terminal (c.$12m), it was felt unlikely that sufficient competition or interest would be generated to proceed with this approach. Therefore, a Design Build approach was selected as the preferred route as this would allow for the project to be completed in the shortest possible time frame (aligned with CIG's strategic policies) and could lead to a third party operating the terminal on a concession basis. PPP was retained as a secondary option, should an option to proceed with this approach present itself.	likely be very poorly received by the public. A Design Bid Build approach was instead chosen, as this would give the CIAA more control over the process (vs a DB approach) and allow different elements of the development to be packaged together and implemented separately in line with the proposed phasing of the project.	chosen, as this would give the CIAA more control over the process (vs a DB approach) and allow different elements of the development to be packaged together and implemented separately in line with the proposed phasing of the project.	However, such a plan is not on the immediate horizon and so it was felt that this may not be a viable option given the time constraints (i.e. the need to address regulatory and health and safety concerns in the short term). Therefore, a Design Bid Build approach was instead chosen, as this would give the CIAA more control over the process (vs a DB approach). Whilst it was noted that a DB approach would be marginally faster, the difference was not considered to be material given the small size of the project. PPP was retained as a secondary option.

Refer to the meeting minutes of the Steering Committee meeting on 17 November for evidence of Steering Committee approval, attached at Appendix 14.

A summary project schedule is included below:

Suggested time scales for implementing the Projects:

Project Milestones	Project Timelines			
	Project A1	Project A2	Project B	Project C
Outline Business Case (OBC)	Jun 2022 – Jun 2023			
Development of the Preferred Options (DPO)	2023	2023 - 2027	2032 – 2033(i)	2023 - 2027
Procurement of the Preferred Options	2026	2023 - 2033	2032 – 2033(i)	2023 - 2027
Final Business Case (FBC) Including placement of initial contract(s)	2026	2023 - 2028	2032 – 2033(i)	2026
Main works – ready for use	2029	2023 – 2038(ii)	2033 – 2041	2028 - 2031

(i) Minor development planned for runway strip and RESA works planned for 2023 with the bulk beginning in 2033
(ii) Main works to occur primarily between 2029 and 2038; however, the works in relation to cargo/future MRO/engine run-up aprons is modelled to take place between 2039 and 2041. The runway expansion is planned to occur from 2023-2026.

5. Financial Case

Capital Costs Affordability Assessment

An initial affordability target for the Projects was not set out in the SOC. As a result, during the OBC process, the consultant team explored the high-level cost estimates of the short-listed options for each Project with the Steering Committee and then more detailed capital cost estimates for the Preferred Options were created by the cost consultants.

The capital affordability target for each Project has been set based on the projected capital costs, provided by the cost consultants. It should be noted that the total costs (and funding requirements) of the Projects will be materially different based on the phasing of each Project and each sub-development. At present, the phasing is estimated as follows:

Project phasing (base year prices) spreadsheet

To develop the phasing spreadsheet below, the project team have worked to balance funding availability with the need to improve health and safety standards (Project C) as well as considering which sub-projects would generate the most revenue (Project A2: terminal and runway expansion) to reduce the overall funding requirement. Note: the total cost estimate shown below in KYD '000s, reflects the estimated cost in today's prices, and therefore those projects that are shown further to the right in this table will be expected to be subject to a higher degree of inflation, as they are further in the future:

					Short Term					Medium Term					Long Term								
Priority	Priority	Description of Sub-Project	Project	Cost ($'000)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
YES	S	New G/A Terminal east side, North Sound site	A.1	$11,658				1%	29%	70%													
	S	New Hangar next to g/a terminal	A.1	$9,050				1%	37%	62%													
YES	S/M	New apron, north-sound	A.1	$21,354	3%	4%			20%	73%													
		Project A.1 (GA facility) total:		**$42,061**																			
YES	S/M	Land acquisition (ATC Tower location, Andy's and Car Rental properties, Budget and lot near CAL plot (LT)	A.2	$29,910							25%	25%		25%	15%				10%				
YES	S/M	Terminal Expansion	A.2	$335,528			1%	2%	2%	5%	10%	15%	25%	25%	15%								
	S/M	Apron expansion, and rehabilitation	A.2	$25,154							5%	20%				20%	20%	15%	10%	10%			
YES	S	Runway extension	A.2	$27,708	2%	2%	54%	42%															
	M	Full Parallel taxiway	A.2	$14,924											5%	20%	75%						
	L	Cargo / Future MRO/Engine Run-up Aprons	A.2	$8,610																	10%	40%	50%
	L	Marine Dock / Seawall for water taxi services interface with airport	A.2	$5,000											5%	45%	50%						
YES	S/M	Landside works	A.2	$24,627									10%	10%	30%	50%							
	L	Heliport, Medevac/Police/Tourism Center	A.2	$1,230											10%	40%	50%						
YES	S	New ATC Tower and ATM System	A.2	$9,840	3%	26%	19%					5%		5%	25%	17%							
YES	M	Airfield drainage improvements and pumping station	A.2	$8,230							5%			10%	85%								
		Project A.2 (ORIA) total:		**$490,761**																			
	S	Landside expansion to accommodate 30m set-back security regulation	B	$7,510											100%								
	L	Terminal expansion, meets future requirements	B	$31,244											10%	15%	25%	25%	25%				
	L	Maintenance facility expansion	B	$1,230															10%	10%	80%		
YES	S	Runway strip and RESA works (REVIEW)	B	$1,146	2%	1%		97%															
	M	Rehabilitate Runway, Taxiway, Apron,	B	$13,568												5%	50%	45%					
	M/L	Site Works, fencing, contingency, fees, etc. (MORE DETAIL)	B	$18,636										10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
	M	Apron expansion and 2nd taxiway to runway from apron,	B	$2,629												5%	55%	40%					
	L	General Aviation apron	B	$995																	10%	40%	50%
	L	ATC Tower	B	$2,050																10%	40%	50%	
		Project B (CKIA) total:		**$79,009**																			
YES	S	Environmental Impact Assessment	C	$1,384	37%	63%																	
YES	S	EIA, Runway, NEW taxiway, apron	C	$14,034			5%	5%	10%	30%	40%	10%											
YES	S	Access road, terminal curb road and parking lot	C	$2,473			5%	5%	80%	10%													
YES	S	Airport perimeter road and fence	C	$4,867					10%	50%	40%												
YES	S	Site Clearing, fill and other preperation	C	$17,897			25%	75%															
YES	S	Terminal	C	$6,872						5%	5%	40%	50%										
		Project C (LCY) total:		**$47,525**																			
		Total		**$659,357**																			

**Note: if the decision is made to add a Primary Surveillance Radar in the future, the ATM system may increase by a range of $2.75M – $4M. It is unknown at this time when that decision will be made.*

The objective of the phasing outlined above is to ensure that the short-term investments, particularly at the ORIA terminal, prioritise alleviating further pressure on peak hour congestion (additional CUSS / improved / digitised check-in processes). Additional objectives include: implementing self-bag drops and improvements (added redundancy) to baggage conveyor systems and HBS devices downstream, improving security processing and equipment along with necessary legal / regulatory changes to enable improved processes, and improving departure hold rooms and cover for passengers walking to/from aircraft during wet /windy weather.

Within the base costs of $659m is a contingency of approximately $62m, comprising a 10% contingency on BCQS costings and a 15% contingency on land acquisition costs. This is further broken down by Project as follows: A1 - $3.8m; A2 - $46.2m; B - $7.5m; and C - $4.3m.

After factoring in the phasing above and forecast inflation over the period (assumed to be 3.0% p/a from 2025 onwards, refer to financial assumptions for further detail), the capital costs in real prices and therefore the Affordability Envelope for each project being set at the OBC stage are as follows:

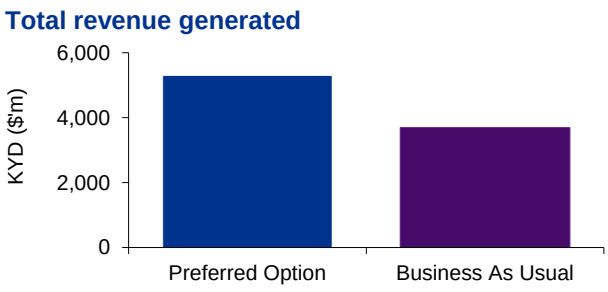
Real costs ($'000) – Affordability Envelope

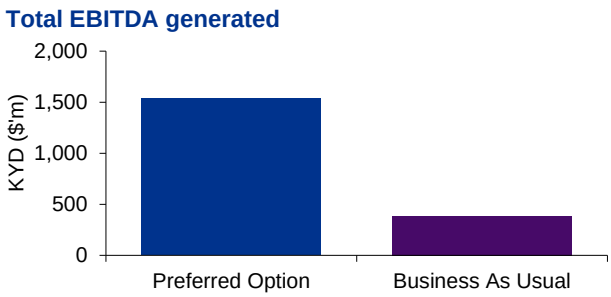
Year	Project A1	Project A2	Project B	Project C	Total
Phasing	Short term (0-5yrs)	Short/Medium term (0-10yrs)	Short/Medium term (0-10yrs)	Short/Medium term (0-10yrs)	
Real prices					
FY23	$641	$849	$23	$512	$2,025
FY24	$897	$5,030	$12	$916	$6,854
FY25	-	$20,018	-	$5,731	$25,749
FY26	$231	$20,438	$1,239	$15,871	$37,779
FY27	$12,621	$7,699	-	$4,438	$24,758
FY28	$34,696	$19,826	-	$8,549	$63,072
FY29	-	$51,975	-	$9,621	$61,596
FY30	-	$79,400	-	$5,206	$84,605
FY31	-	$111,503	-	$4,437	$115,940
FY32	-	$126,543	$2,479	-	$129,022
FY33	-	$99,708	$17,122	-	$116,830
FY34-43	-	$95,842	$95,994	-	$191,835
Total	**$49,085**	**$638,831**	**$116,869**	**$55,281**	**$860,066**

Revenue Requirements

For the 60-year period the Preferred Options are estimated to result in cumulative Operating Expenses of $3,675m for CIAA. For the same period, Business as Usual would result in cumulative Operating Expenses of $3,216m. The additional funding requirement for CIAA's operating expenses is therefore $459m over the 60-year period.

However, the Preferred Options generate significantly higher revenues by allowing increases in demand to be fully captured. As such, EBITDA generation is estimated to be 288% higher under the Preferred Option, as illustrated below:





Whilst the Preferred Options generate approximately $1,607m more cumulative revenues over the 60-year period, the majority of this flows through to EBITDA which results in an EBITDA increase of $1,148m. This increase in EBITDA is driven not only by increased passenger volume but CIAA's ability to charge increased fees and generate more revenue from larger and more profitable concessions and other peripheral services.

Considerations for increasing the CIAA's revenue generating capacity

CIAA does not have complete autonomy over day-to-day operations, with CIG having to approve many of CIAA's operational decisions which impact the public.

Since CIAA generates its own revenues, a portion of the CAPEX requirements are forecast to be internally funded. This still leaves a funding requirement from CIG (which varies depending on the funding scenarios discussed below).

Key ways of reducing this funding requirement include:

1. **Increase CIAA revenue streams**. See analysis below.
2. **CIG loans to be interest-free** (as currently modelled), or interest to be rolled up until CIAA resumes generating positive cash flows (post construction works). Applying interest during the construction phases will simply increase the loan amounts required by CIAA.
3. Adjust the **programme of the Projects to an "optimal" level**. There is a balance between delaying projects to reduce the CAPEX requirements in the initial years, versus inflation meaning that projects in the future are more expensive. Revenue-accretive projects should therefore be prioritised.

Increase CIAA revenue streams

It is the view of the consultant team that the users should bear the brunt of cost, over time. It is expected that the users would be willing to pay a small premium to come to a premium destination. This is currently true, in that the fees per passenger in the Cayman Islands are higher on average compared to an international passenger fee paid at a US or Canadian airport.

For example, undervaluing parking service fees in the future (e.g. once a covered parking facility is in place) would be to CIAA's detriment; however, this can be avoided when a premium price is charged for a premium service (e.g. undercover parking with a concierge service). To offset the costs of these Projects, CIAA must focus on growing the non-aeronautical revenue, which is largely from overseas users. Along with improved concessions and expanding non-aeronautical revenue on the landside (30m set back to include a plaza of shops, F&B options, air-conditioned cafes, children's playground, dog relief area, etc.), CIAA need to focus on ***new*** revenues in addition to those that exist, which will grow with passenger growth.

Aeronautical revenue does need to be competitive, particularly in the region, but CIAA could also have a reduced rate for the small population of Cayman Islands residents. International fees will need to be held at a higher rate for the use of new facilities and are required to offset the improved processes (both internal and external) and capital investments that are being implemented mostly to process users in the peak hours, many of whom originate outside of the Cayman Islands.

Two areas have been identified that could be optimised to drive CIAA's revenue growth:

Non-aeronautical revenue

- Long-stay customer parking – currently priced at $7 per day in ORIA, which is well below market rate in other regions. The current rates also lead to capacity issues during peak hours; consider in-depth review of parking charges;
- Passenger drop off charges – ORIA currently does not charge for passenger drop offs, which is a practice that has been implemented in many other airports;
- Licensing of a ground transportation system – the licensing of taxi and bus services at the airport would generate additional revenues for the CIAA;
- Commercial land development and new terminal revenues – additional restaurants, bars, shops and other concessions would contribute significantly higher revenues than the existing options, particularly if premium rates were charged; and
- Car rental concessions – expanding ORIA such that car rental concessions become part of the terminal would generate higher revenues in comparison with the current model;
- Additional land leases for restaurant / lounge / viewing point;
- Significant revenues from landside concessionaires, including hotel, food and beverage and retail; and
- Revenues from overflights and ATM managed flights over the Cayman Islands.

Aeronautical revenue

- Peak-hour landing fees – premium rates could be charged to airlines for landing during peak hours (both commercial and general aviation), which would increase revenues, may ease congestion during peak hours (i.e. airlines incentivised to land outside of peak hours) and may attract additional airlines (i.e. non-peak landing slots may be priced low enough to attract budget or cheaper airlines);

- Operating charges and fees – an improved service offering (i.e. more efficient airside infrastructure and improved terminal) would allow for higher operating charges and fees to be charged;
- Development fees could be introduced to fund a portion of the developments at the airports as is seen in several other comparable airports (e.g. St. Maarten; Panama City; Kingston and Belize City);
- Additional fees from sales of aviation fuel (AvGas, Jet-A fuels);
- Additional fees from aircraft parking (hourly rates during peak hours, daily/overnights off peak);
- Additional revenues from Ground Handling Companies from land leases (offices, equipment maintenance garages, storage and staging areas on aprons);
- Revenues from administrative equipment licensing (operating rights to be located at the airport requires safe, modern equipment);
- Higher landing fees for late night flights (noise disturbance) and Stage 3 or older aircraft models;
- Revenues from aircraft engine runup facilities;
- Revenues from aircraft storage (hangarage) and power use on airside (i.e.: charging stations for GSE); and
- Pavement / building lease areas (cargo handling, military and/or other aviation equipment storage / staging).

Furthermore, CIAA is unable to raise its own finance, which limits the capacity for self-funded projects. If CIAA was able to raise its own finance, this may create opportunities in private sector debt financing and municipal bonds.

An analysis of Aeronautical fees against comparable countries has been presented below.

Aeronautical fees of comparable countries

Per unit fees

The table below presents a comparison of aeronautical fees based on analysis prepared by Stantec (refer to Appendix 18 for the detailed table from which the data below is derived):

Region and Country	**Average per unit fee (US$)**
Caribbean (avg)	**$94.97**
Antigua	$56.00
Bahamas	$99.00
Barbados	$182.20
Cayman Islands	$65.40
Cuba	$0.00
Dominican Republic	$137.02
Guadeloupe	$89.09
Jamaica	$114.65
Martinique	$154.40
Puerto Rico	$102.56
St. Maarten	$90.57
Trinidad and Tobago	$48.75
Central (avg)	**$35.14**

Belize	$55.50
Costa Rica	$14.77
Guatemala	$33.25
Honduras	$50.44
Nicaragua	$3.00
Panama	$53.88
Average	**$75.03**

**The table above presents the sum of the per unit fees charged at each airport for each country (e.g. Service; Development; Environmental; Facility; Processing; Clearance Fees; etc.) as well as the average fees for each region. We note this analysis is high-level and that appendix 18 should be reviewed for further detail.*

As illustrated above, the per unit fees of the Cayman Islands (ORIA only) total US$65.40, which is below the US$75.03 average of the Caribbean and Central regions and well below the US$94.97 average of the Caribbean region. However, most notably, the total fees per unit of the Cayman Islands are significantly below primary competitor countries, such as: Barbados US$182.20; Jamaica US$114.65; and the Bahamas US$99.00.

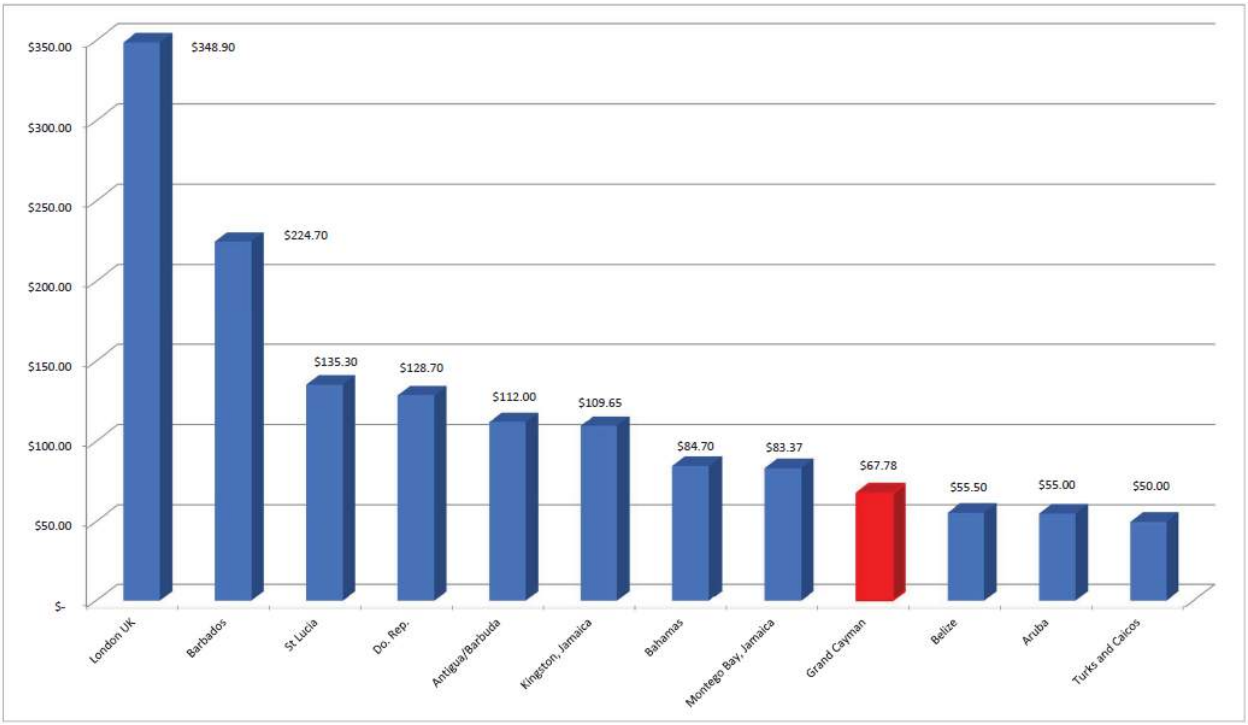
The per unit fees (USD$) included for the Cayman Islands comprise:

- Passenger service fees - $36.00
- Passenger facility charges ("PFC") - $15.60
- Security charges - $12.00
- Terminal charges - $1.20 (however, we note this is anticipated to increase to $6.00 during 2023 and there is also a fixed charge element of $217 for landings between 02:00 and 12:00)

Therefore, there is ample scope to increase fees for the Cayman Islands to align with the closest competitor countries in the region. This can be further justified in the context of Cayman's desired branding (i.e. high-end and luxury tourism).

Total fees

The chart below presents total airport taxes, fees and other charges using a return flight from each originating airport to Miami, USA (excluding US taxes and fees):



**The chart above is based on analysis prepared jointly by CIAA and Stantec. We note that the amounts presented in the chart above do not directly align with the amounts presented in the per unit fee analysis above, this is due to the chart above: (i) accounting for fixed fees as well as per unit fees; (ii) being based specifically on a return trip to Miami; and (iii) the exclusion of taxes.*

On a total fee basis, ORIA is considerably cheaper than the majority of comparable island nations in the region. As such, this further supports the proposition of fee increases to supplement the development of the airports as part of this Project.

Approved funding method (the "Approved Works")

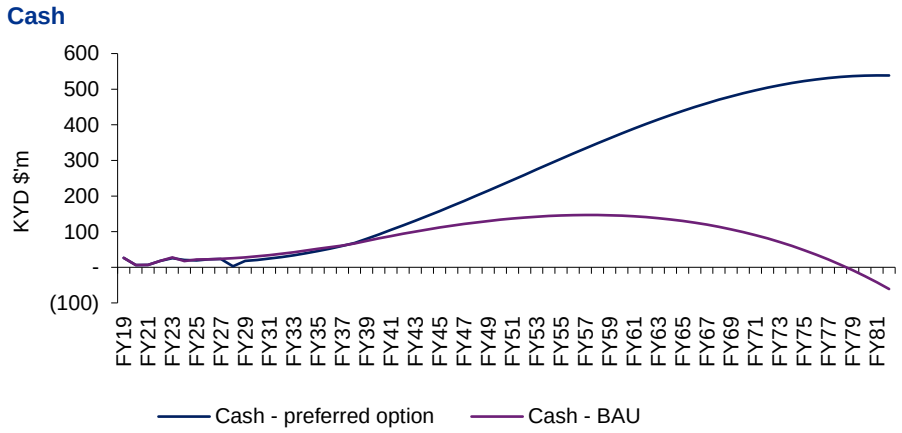
Given the budgetary constraints of CIG; Caucus are not in a financial position to approve funding of the entirety of Projects A1, A2, B and C at this stage. As such, approval has been given for the following projects to proceed initially:

- Project A.1 – The GA facility is to be built in its entirety by 2028;
- Project A.2 – The runway extension and ATM system have been approved along with the conceptional design and environmental impact assessment ("EIA") costs associated with the terminal expansion;
- Project B – Essential runway strip and RESA works only;
- Project C – EIA costs associated with the new Airport only;

The associated costs that have been approved are shown in the table below:

KYD $'000	Nominal prices	Real prices
Project A.1	42,061	49,085
Project A.2	34,109	37,046
Project B	1,146	1,274
Project C	1,384	1,428
Total	**78,700**	**88,833**

Assuming only the Approved Works are proceeded with, an illustrative cash position over the life of the project has been presented below:



Note: cash generation tails off under the Preferred Option to reflect the need for continued development over the forecast period (i.e. if the airport is not expanded or improved again in 40 years, cost increases will begin to outpace revenue); however, the next Airport Master Plan, which should address these future issues, is beyond the scope of this OBC. The cash flow tail-off also applies to the BAU scenario; albeit at a much faster rate, in the absence of any near time development recommended in this OBC (operating expenditure and maintenance costs begin to outpace revenue growth as capacity constraints restrict any ability to grow passenger numbers).

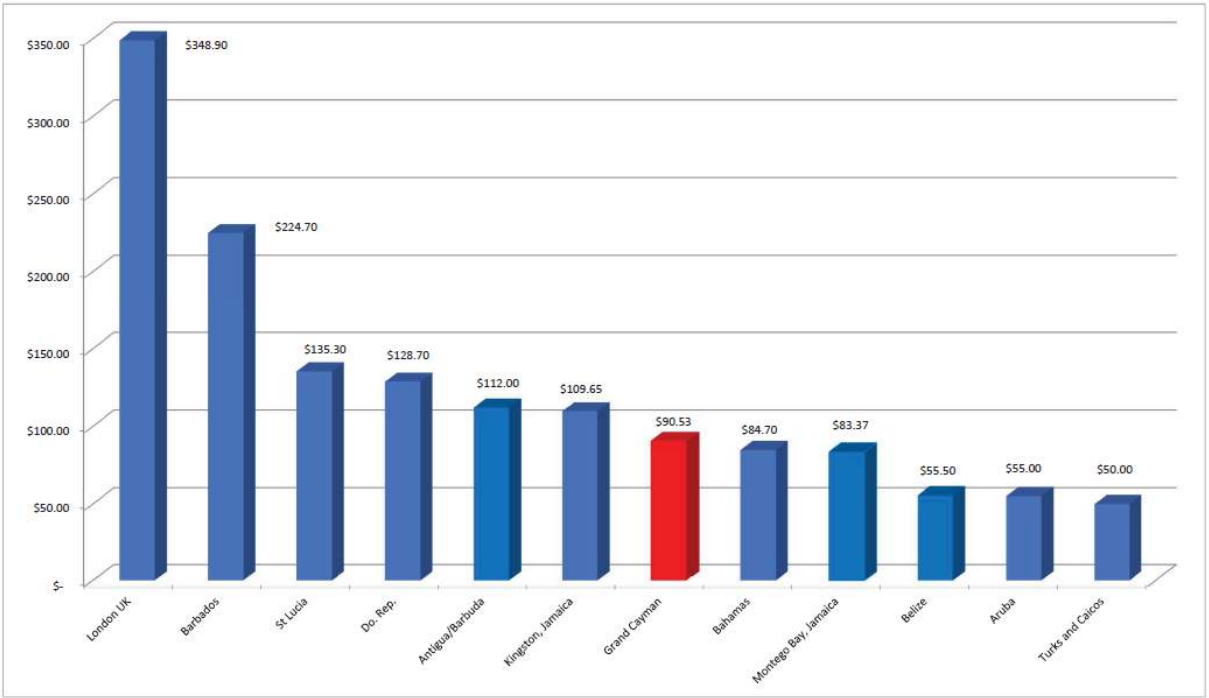
The proposed funding method for the Approved Works is as follows:

- Terminal fee – increase from CI$1.00pp to CI$5.00pp;
- Airport development fee – introduction of a CI$15.00pp development fee during the construction period (2024 – 2029);
- In 2024, CIG will invest $5m into CIAA (as equity) to fund the conceptual design and EIA of the new ORIA terminal as well as the Little Cayman EIA costs; and
- Ongoing operating profits of CIAA (outside of the ringfenced PFCs).

Note: No loss of passengers has been assumed as a result of the fee increases proposed above, given their proportionality to typical air fares.

As a result of the funding method noted above, it is not expected that CIAA will require any additional CIG or external funding (aside from the $5m equity injection noted above). The remaining projects have been approved in principle, subject to future funding availability. Should CIAA's financial performance worsen in the forecast period, it is assumed that the repayment terms on the $50m COVID support loan that is currently in place (which is forecast to be repaid equally over 15 years from 2024 onwards) could be renegotiated to avoid CIAA requiring any additional CIG funding.

After accounting for the fee increases above, the Cayman Islands ranks as follows against regional competitor countries:



Financial Statements

The Financial Case also provides indicative financial statements for CIAA incorporating the four Projects. Please refer below for the illustrative financial statements, which have been prepared on the basis that the entirety of each project is undertaken, however, only the increase in fees and $5m equity injection referenced above are modelled, meaning that the additional funding requirements for the remainder of the projects are simply shown as a funding gap at this stage. As such, the financial statements are for illustrative purposes only:

Combined P&L

Preferred option

CI$'000	Actual FY19	Actual FY20	Actual FY21	Actual FY22	Budget FY23	Budget FY24	Budget FY25	F'cast FY26	F'cast FY27	F'cast FY28	F'cast FY29	F'cast FY30	Cumulative FY19-FY82
Revenue	**41,110**	**11,804**	**4,188**	**25,656**	**36,228**	**55,417**	**58,282**	**59,823**	**61,409**	**62,929**	**64,386**	**52,754**	**5,178,342**
Salaries and Wages	-11,946	-12,155	-11,750	-12,553	-14,122	-16,281	-18,551	-18,830	-19,112	-19,399	-19,690	-19,985	-1,786,314
Other Staff Costs & Benefits	-1,981	-2,340	-1,486	-2,721	-3,047	-3,397	-3,410	-3,461	-3,513	-3,566	-3,619	-3,674	-318,819
Utilities	-1,750	-1,235	-1,469	-1,886	-2,428	-2,086	-2,244	-2,277	-2,312	-2,346	-2,382	-2,417	-215,116
CAA Regulatory Fees	-1,000	-283	0	-328	-1,303	-1,303	-1,300	-667	-756	-774	-792	-809	-61,177
Repairs & Maintenance	-2,158	-1,406	-1,512	-1,865	-2,857	-2,467	-2,457	-3,695	-3,792	-3,885	-3,974	-4,060	-362,216
Contracted Services	-3,534	-2,032	-3,616	-3,240	-4,083	-3,758	-3,847	-3,904	-3,963	-4,022	-4,083	-4,144	-365,714
General Insurance	-636	-851	-721	-841	-845	-847	-847	-860	-872	-886	-899	-912	-81,096
Professional /Consultancy Fees	-272	-149	-344	-726	-100	-169	-105	-707	-725	-743	-760	-776	-68,247
EBITDA contingency	0	0	0	0	0	0	0	0	-5,000	-5,000	-5,000	-5,000	-275,000
Other expenses	-953	-684	-654	-1,056	-1,071	-1,394	-1,412	-1,654	-1,679	-1,705	-1,729	-1,754	-145,210
Total Expenses	**-24,232**	**-21,134**	**-21,552**	**-25,215**	**-29,857**	**-31,702**	**-34,172**	**-36,055**	**-41,724**	**-42,325**	**-42,928**	**-43,531**	**-3,678,909**
EBITDA	**16,879**	**-9,330**	**-17,364**	**441**	**6,371**	**23,715**	**24,109**	**23,768**	**19,684**	**20,603**	**21,458**	**9,224**	**1,536,222**

**FY23 includes 5 months of actual financial results to May-23 with the remaining 7 months of the financial year relating to the CIAA approved budget.*

Combined Cash Flow

Preferred Option

CI$'000	Actual FY19	Actual FY20	Actual FY21	Actual FY22	Budget FY24	Budget FY24	Budget FY25	F'cast FY26	F'cast FY27	F'cast FY28	F'cast FY29	F'cast FY30	Cumulative FY19-FY82
EBITDA	**16,879**	**-9,330**	**-17,364**	**441**	**6,371**	**23,715**	**24,109**	**23,768**	**19,684**	**20,603**	**21,458**	**9,224**	**1,536,222**
Less: interest	-124	-37	-30	-84	-35	-30	-30	0	0	0	0	0	-370
Working capital													
Decrease/(increase) in trade debtors	5,484	2,396	3,165	-3,005	-2,264	-5,672	-2,243	0	0	0	0	0	-2,140
Decrease/(increase) in other debtors	-3,093	3,995	-850	-3,575	-3,016	0	0	0	0	0	0	0	-6,539
(Decrease)/increase in trade creditors and accrua	-4,473	3,377	-2,014	-1,111	-291	-2,388	4,653	0	0	0	0	0	-2,247
(Decrease)/increase in other creditors	5,187	1,958	2,347	2,173	424	0	0	0	0	0	0	0	12,089
Movement in NWC	**3,105**	**11,726**	**2,647**	**-5,517**	**-5,147**	**-8,060**	**2,410**	**0**	**0**	**0**	**0**	**0**	**1,164**
Operating cash flow	**19,860**	**2,359**	**-14,746**	**-5,161**	**1,190**	**15,625**	**26,490**	**23,768**	**19,684**	**20,603**	**21,458**	**9,224**	**1,537,016**
(Purchase)/sale of fixed assets	-16,166	-37,613	-2,774	-1,566	-3,871	-22,330	-32,121	-40,564	-27,627	-66,027	-64,639	-87,740	-1349,552
Free cash flow	**3,694**	**-35,254**	**-17,521**	**-6,726**	**-2,681**	**-6,705**	**-5,631**	**-16,796**	**-7,943**	**-45,423**	**-43,181**	**-78,516**	**187,465**
Other cash flows													
(Decrease)/increase in loans	0	13,000	7,900	18,100	11,000	-3,333	-3,333	-3,333	-3,333	-3,333	-3,333	-3,333	0
Decrease/(increase) in term deposits	-9	2,074	0	0	0	0	0	0	0	0	0	0	2,065
Other comprehensive income/(loss)	-3,884	0	0	0	-770	0	0	0	0	0	0	0	-4,654
Capital contributions	0	154	10,000	0	0	5,000	0	0	0	0	0	0	15,154
Unreconciled variance	36	13	2	0	0	0	0	0	0	0	0	0	51
Non-operating cash flows	**-3,857**	**15,242**	**17,902**	**18,100**	**10,230**	**1,667**	**-3,333**	**-3,333**	**-3,333**	**-3,333**	**-3,333**	**-3,333**	**12,616**
Total cash movement	**-164**	**-20,013**	**382**	**11,373**	**7,549**	**-5,038**	**-8,964**	**-20,129**	**-11,276**	**-48,757**	**-46,515**	**-81,849**	**200,081**
Opening cash balance	26,442	26,279	6,266	6,648	18,021	25,570	20,531	11,567	-8,562	-19,838	-68,595	-115,109	26,442
Closing cash balance	26,279	6,266	6,648	18,021	25,570	20,531	11,567	-8,562	-19,838	-68,595	-115,109	-196,959	226,523

**FY23 includes 5 months of actual financial results to May-23 with the remaining 7 months of the financial year relating to the CIAA approved budget.*
*** Working capital movements have been assumed to be $nil from FY26 onwards given the working capital assumptions included in the CIAA approved budget are deemed to be prudent.*

Combined Balance Sheet

Preferred option

$'000 KYD	Actual FY19	Actual FY20	Actual FY21	Actual FY22	Budget FY23	Budget FY24	Budget FY25	F'cast FY26	F'cast FY27	F'cast FY28	F'cast FY29	F'cast FY30	F'cast FY82
Assets													
Current assets													
Cash and cash equivalents	26,279	6,266	6,648	18,021	25,570	20,531	11,567	-8,562	-19,838	-68,595	-115,109	-196,959	226,523
Term deposits	2,074	0	0	0	0	0	0	0	0	0	0	0	0
Accounts receivable	8,019	5,623	2,458	5,463	7,727	13,399	15,642	15,642	15,642	15,642	15,642	15,642	15,642
Other receivables and prepaid expenses	3,600	-396	455	4,030	7,045	7,045	7,045	7,045	7,045	7,045	7,045	7,045	7,045
	39,972	**11,494**	**9,561**	**27,514**	**40,342**	**40,976**	**34,255**	**14,126**	**2,850**	**-45,907**	**-92,422**	**-174,271**	**249,211**
Non current assets													
Property, plant and equipment	168,244	201,357	199,632	196,702	196,388	213,689	241,533	282,097	309,724	375,751	440,390	528,130	1,474,643
Intangible assets	500	500	500	500	506	2,006	3,256	3,256	3,256	3,256	3,256	3,256	3,256
Total assets	**208,716**	**213,351**	**209,693**	**224,716**	**237,237**	**256,672**	**279,044**	**299,480**	**315,830**	**333,100**	**351,225**	**357,115**	**1,727,110**
Liabilities and equity													
Current liabilities													
Current portion of long-term debt	0	13,000	20,900	39,000	50,000	46,667	43,333	40,000	36,667	33,333	30,000	26,667	0
Accounts payable and accrued expenses	3,143	6,520	4,506	3,395	3,104	716	5,369	5,369	5,369	5,369	5,369	5,369	5,369
	3,143	**19,520**	**25,406**	**42,395**	**53,104**	**47,382**	**48,703**	**45,369**	**42,036**	**38,703**	**35,369**	**32,036**	**5,369**
Non current liabilities													
Long-term debt	0	0	0	0	0	0	0	0	0	0	0	0	0
Unfunded pension laibility	9,380	9,876	10,436	10,992	10,647	10,647	10,647	10,647	10,647	10,647	10,647	10,647	10,647
Unfunded health care obligations	18,183	19,645	21,432	23,049	23,819	23,819	23,819	23,819	23,819	23,819	23,819	23,819	23,819
	27,563	**29,521**	**31,868**	**34,041**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**
Total Liabilities	**30,706**	**49,041**	**57,274**	**76,436**	**87,569**	**81,848**	**83,168**	**79,835**	**76,501**	**73,168**	**69,835**	**66,501**	**39,835**
Net assets	**178,010**	**164,310**	**152,419**	**148,280**	**149,668**	**174,824**	**195,877**	**219,645**	**239,329**	**259,932**	**281,390**	**290,614**	**1,687,276**
Equity													
Contributed capital	34,675	34,829	44,829	44,829	44,829	49,829	49,829	49,829	49,829	49,829	49,829	49,829	49,829
Retained earnings	48,530	60,821	46,967	25,076	20,937	23,095	43,251	64,304	88,072	107,756	128,359	149,817	1518,914
Asset revaluation	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649
Retained OCI	1,865	1,865	1,865	1,865	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095
Current year surplus	12,291	-13,854	-21,891	-4,139	2,158	20,156	21,053	23,768	19,684	20,603	21,458	9,224	36,789
	178,010	**164,310**	**152,419**	**148,280**	**149,668**	**174,824**	**195,877**	**219,645**	**239,330**	**259,933**	**281,391**	**290,614**	**1,687,276**
Total liabilities and equity	**208,716**	**213,351**	**209,693**	**224,716**	**237,237**	**256,672**	**279,045**	**299,480**	**315,831**	**333,101**	**351,225**	**357,116**	**1,727,111**

**FY23 includes 5 months of actual financial results to May-23 with the remaining 7 months of the financial year relating to the CIAA approved budget.*
*** Working capital movements have been assumed to be $nil from FY26 onwards given the working capital assumptions included in the CIAA approved budget are deemed to be prudent.*

******The financial statements presented above are provided for illustrative purposes only. The historical financial information provided has not been audited and is therefore draft; furthermore, multiple revisions have been made to the historical numbers during the preparation of this OBC, as well a number of unreconciled cash flow items being identified between FY19 and FY22. Therefore, the forecasts presented may be inaccurate due to unreconciled or incorrect historical financial information and furthermore, they are dependent on CIAA achieving the budgets prepared by management. Refer to the detailed list of assumptions and caveats included within the Financial Case.***

6. Management Case

The Projects are an integral part of the Strategic Policy Initiatives of CIG. In the wake of Covid-19, CIG has made clear that one of its main priorities is to rebuild and improve their tourism industry. More specifically, the exact priority with regards to the Ministry of Travel and Tourism is as follows:

"Continued enhancement of tourism marketing to high value source markets while ensuring a safe and stable recovery plan when the country initiates a phased reopening of borders; diversification of tourism products along with a greater focus on sustainable Ecotourism; reintegration of Caymanians within the Tourism sector to fill the void of expatriate workers who returned home due to the pandemic; continuing service by Cayman Airways to strategic tourism markets; ***continued enhancement of the air and sea port to meet the growth of the country****; revision of public transport legislation in order to enhance and better regulate public transport; utilisation of environmentally cleaner modes of public transport; and the continued implementation of the National Tourism Plan."*

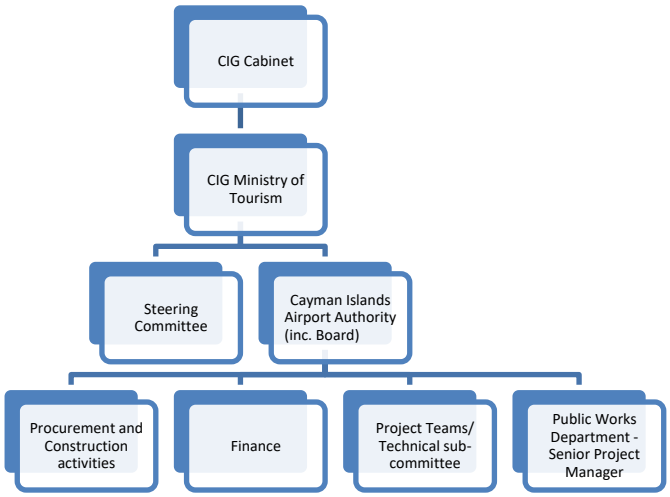
It is expected that each Project will be completed under the aegis of CIAA. The construction phase of each Project will also fall under the guidance and Project Management of PWD.

The primary objectives of the project management process are to ensure:

- Construction and Refurbishment of any buildings, facilities and infrastructure on time, budget and in accordance with the design brief.
- Effective and proactive lines of accountability and responsibility for the project deliverables.
- Effective user involvement at all stages of the Projects.

The proposed project governance structure is envisaged to be as follows:

Governance and Project Management Organisation Chart for the selected procurement route



Constituents, roles and responsibilities of each group in the programme management structure

Group	Constituents, roles and responsibilities
CIG Cabinet	The Cabinet has the authority to approve this OBC. The Cabinet is also expected to provide any policy directives that they deem to be relevant
CIG – Ministry of Tourism	It is expected that the Project will operate under the aegis of the MOT. The Chief Officer of the MOT is therefore responsible for presenting the OBC to the Cabinet for approval. The Chief Officer will also present initial and annual ongoing funding requirements to CIG for appropriations. The Chief Officer has assumed the role of the Senior Responsible Officer of the Projects.

Steering Committee	The Steering Committee will be responsible for providing oversight of the programme and will continue to provide stakeholder input during the implementation of the Projects. The role includes the following: — Monitoring the Projects' progress, resolving issues and initiating corrective action as appropriate; — Defining the governance framework; — Managing the Projects' budgets on behalf of the MOT, monitoring the expenditure and costs against benefits that are realised as the Projects progress; — Facilitating the appointment of individuals to the Project delivery teams; — Ensuring maximum efficiency in the allocation of resources and skills within the Project Portfolios; — Managing any third-party contributions to the Projects; — Managing communications with stakeholders; — Managing the dependencies and interfaces between the Projects; — Managing risks to the Projects' successful outcomes; — Reporting progress of the programme to the relevant CIG Cabinet members; — Any additional Change Management responsibilities are absorbed into the role; — Identifying and tracking the benefits, risks and related outcomes required of the Projects; and — Leading any transitional requirements.
Project Manager	The Major Projects Office of the PWD is expected to identify a Project Manager. The Project Manager reports to the Steering Committee and provides overall strategic direction for the Projects. The Project Manager actively drives the Projects forward and is accountable for delivering the programme as agreed. The Project Manager will provide regular updates to the Chief Officer and MOT on the progress of the Projects. The Project Manager will present summary reports from the Project team to the Steering Committee and the Sponsor, at least monthly.
Project Teams/ Technical Sub-Committees	The Project team is ultimately responsible for the Projects and for providing the assurance that they remain on course to deliver the desired outcomes of the Business Case. The Project Team activities include: • Ultimate responsibility and accountability for the project delivery; • To provide strategic guidance in line with strategic objectives; • To report project progress to the Steering Committee and MOT; • Approving any major changes in scope of the Projects; • Contribute to the negotiations with key stakeholders to ensure that they are fully informed in respect to changes that will take place; • To review the risk register from inception to completion of the Projects;

	• Ensure the Projects produce outputs that deliver the user requirements; • Ensure the Project provides the expected stakeholder benefits; and • Formally close the Projects ensuring lessons learned are documented and ensure that a comprehensive post project review is completed. The Project team lead will present a report to the Project Manager at Project Team Meetings at least monthly. Significant specific activities are listed below: a) Procurement and construction activities – as noted in the Commercial Case, this Project is expected to be procured through public sector delivery methods. Representatives from PWD will be responsible for overseeing the procurement process and liaising with the Public Procurement Committee (PPC) of CIG. PWD representatives could also provide oversight over the progress of the development works. b) Finance – Representatives of the MoF along with CIAA finance representatives can provide oversight over budgeted funding and financing requirements of the Projects. c) Recruitment and staffing – Representatives of CIAA can further refine the staffing plan (for continued operations of the airports. These individuals can also develop staffing plans for recruitment, training and retention of staff.

Benefits realisation and risk management

Cost, Benefit and Risk summaries have been included in the Economic Case of this OBC. These will be more fully developed for the Final Business Case ("FBC") stage. The assessment and monitoring of the realisation of these benefits and risks will then form a key part of the Post Project Evaluation process.

7. Conclusion

The analysis above is fully supported by members of the Steering Committee who, as advisors to the Senior Responsible Officer, have submitted the following projects for approval:

- **Project A1:** *Relocate and upgrade the GA terminal/ aircraft parking to the North Sound site. Affordability envelope (capital cost): **$42m**: $49m in real prices)*
- **Project A2:** *Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers. Affordability envelope (capital cost): **$491m**: $639m in real prices)*
- **Project B:** *Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers. Acquire lands / meet all applicable regulatory requirements and standards. Affordability envelope (capital cost): **$79m**: $117m in real prices)*
- **Project C:** *Close Existing Airport and Build New Airport including airside and landside infrastructure to cater for the most-likely forecast growth in aircraft movements and passengers. Build to meet all applicable regulatory requirements and standards. Affordability envelope (capital cost): **$48m**: $55m in real prices)*

The estimated aggregate capital cost for the Projects is CI$659m (CI$860m in real prices). Refer to Appendix 3 for detailed NRM1 cost estimates provided by the Cost Consultant.

The Steering Committee proposes that the Projects be procured using a mixture of Design Bid Build and Design Build procurement routes, as outlined above. Further development and execution of this process will occur at the next stage. Project management and governance activities will be carried out as outlined in this OBC, with further development as necessary.

2.0 Strategic case

2.1 Introduction

This section examines how the scope of the Projects fit within the existing infrastructure requirements of the Cayman Islands and outlines a case for change in terms of existing and future needs. It assesses why intervention is required through the development of the Projects and a definition of outcomes and the potential scope for what is to be achieved. The Strategic case also includes an assessment of the issues associated with the status quo (existing arrangements) and the potential scope for the Projects in relation to the anticipated benefits and potential risks.

2.1.1 History of the Projects

The Cayman Islands are served by a number of public and private airports and heliports. Of these, three are considered the primary aerodromes. These aerodromes are used for international and domestic air transport throughout the islands and include:

- Owen Roberts International Airport, Grand Cayman (ORIA) – Public/Certified Airport
- Charles Kirkconnell International Airport, Cayman Brac (CYB) – Public/Certified Airport
- Little Cayman Airstrip, Edward Bodden Airfield (EBA) – Private/Uncertified Aerodrome

While the Little Cayman Aerodrome is not a certified airport, Cayman Airways is granted special operating permission by the Cayman Islands Civil Aviation Authority under specified operating conditions and enabling Cayman Airways to operate a Twin Otter turboprop aircraft for the provision of domestic passenger air services to and from Cayman Brac and Grand Cayman.

The other two airports, ORIA and CKIA are fully certified public airports serving both domestic and international air traffic (albeit CKIA currently does not meet all regulatory airport standards due to insufficient Runway Strip Width and insufficient Runway End Safety Areas ("RESA"), meaning that the Civil Aviation Authority does not recognise the Runway Strip and RESAs as compliant). All flights originating from outside the Cayman Islands must make their first landing at either ORIA or CKIA to clear Customs and Border Control, Health and Immigration before proceeding onto the islands.

The previous Airport Master Plan was issued and approved by Cabinet in 2014. This document was the guide for the most recent infrastructure developments that have been completed over the past 7 years. Other previous master plans for long term development of the Airports were produced in 2002, 2004 and 2007. These provided options for services and infrastructure development to address terminal building congestion, capacity demand, and the wider airport facilities including apron/runway extension and regulatory requirements.

2.1.2 The Current Projects

The purpose of this OBC is to revisit the assumptions and analysis in the SOC in order to: identify a Preferred Option for each project, which optimises the potential to deliver value for money; prepare the project for procurement; and to identify the necessary funding and management arrangements for the successful delivery of the project. The OBC covers the following projects:

- **Project A1: GA Terminal at Owen Roberts International Airport (ORIA), Grand Cayman**
  - Outline the necessary infrastructure required for the GA Terminal
- **Project A2: Owen Roberts International Airport (ORIA), Grand Cayman**
  - Outline the necessary infrastructure required at ORIA
- **Project B: Charles Kirkconnell International Airport (CYB), Cayman Brac**
  - Outline the necessary infrastructure required at CYB
- **Project C: Edward Bodden Airfield (EBA), Little Cayman**
  - Outline the necessary infrastructure required at EBA.

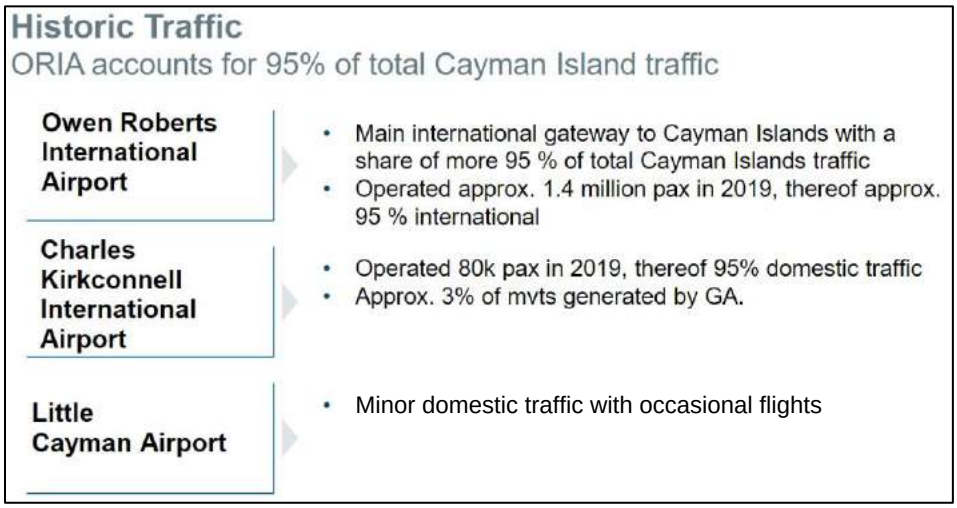
Keeping the four Projects separate is expected to enable the project management team to focus on the delivery of each Project, to attract more bids for each contract and to aid CIAA in the appropriation of the necessary funds and in the phasing of each project.

Inter-relationship and links between the Projects

The shortlisted options are to be developed with the intention of constructing them as discrete Projects, with the exception of Projects A1 and A2 which will naturally be interlinked (e.g. apron expansion, new taxiways will impact both projects). This approach limits the impact on the operation of the existing facilities, whilst providing new and improved facilities in the shortest time frame possible.

The inter-relationship between the Projects is reflected in the diagram below

Inter-relationships among the Projects (Munich Airport International GmbH analysis)



**DKMA analysis indicates there are an estimated 30,000 pax per annum in LCY, expected to grow to 40,000 by 2042*

2.1.3 The Proposed User Groups

The success of the Travel & Tourism (TT) industry prior to the COVID pandemic and the expected return of tourism post COVID is important for the Cayman Islands, as measured by several metrics including long-term growth, total contribution to GDP, capital investment and contribution to employment. TT contributed $1.1bn, or 25.5%, of Cayman's GDP in 2019. This figure represents a 3.5% increase over the 2018 TT contribution to GDP. A large majority of travel to the Caribbean Islands, and particularly to the Cayman Islands, is for leisure. Of the $650m per annum in international visitor spend in Cayman, 87% goes towards leisure spending, while the remainder is business spend. Therefore, tourism and business travellers will represent a significant proportion of the user groups for each island, with Caymanians and residents accounting for the balance.

The proposed user groups for each of the Projects are noted below:

- Caymanians and residents of the Cayman Islands
- Tourists
- Business visitors

A list of conversations held with key stakeholders during engagement sessions held in June 2022 has been included below within section 2.3.

2.2 Strategic and Policy Context

2.2.1 Organisational Overview

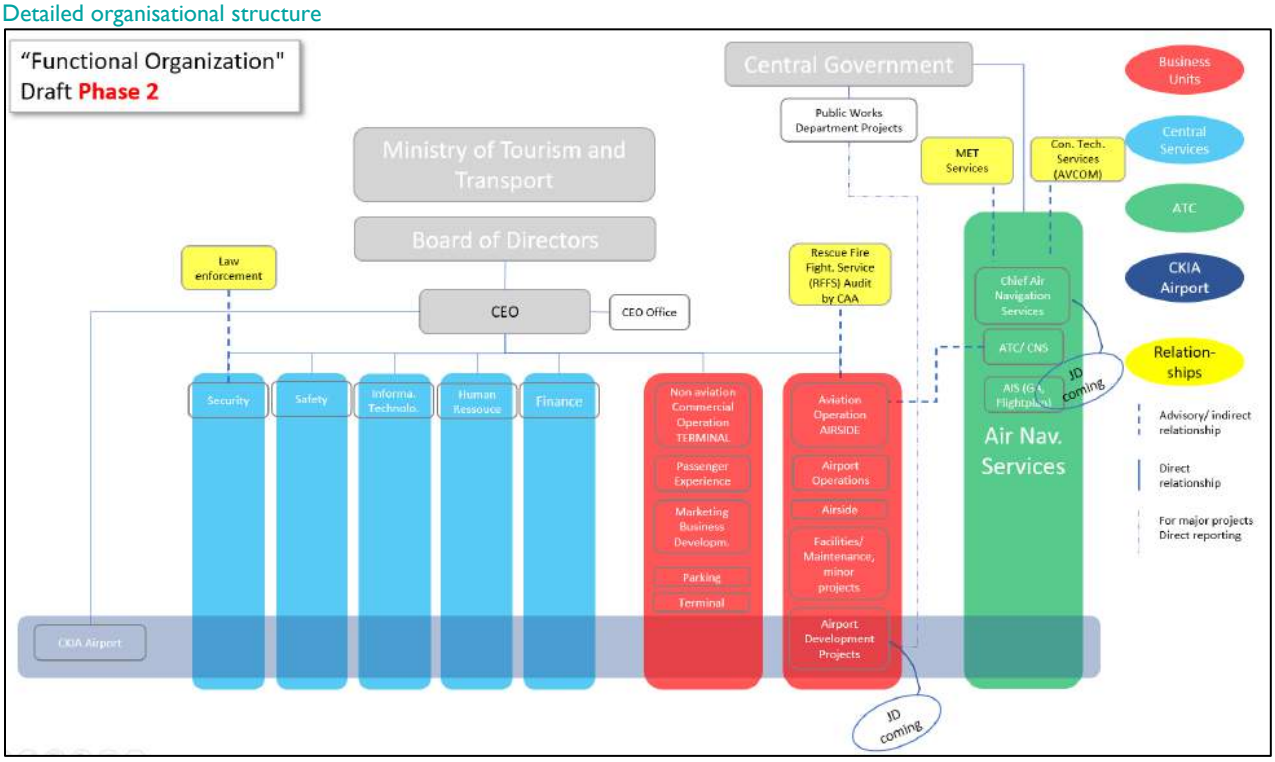
CIAA is a statutory authority under the Ministry of Tourism & Transport. CIAA has numerous departments including: (i) Facilities; (ii) Communications, Navigation and Surveillance systems; (iii) Aeronautical Information Service; (iv) Air Traffic Control; (v) Airside Operations; (vi) Security; (vii) Finance; (viii) Human Resources; (ix) Customer Service; (x) Marketing & Business Development; (xi) Information Security; and (xii) Safety.

CIAA owns and operates the Cayman Islands' airport facilities, which consist of two international aerodromes, ORIA and CKIA. The domestic airstrip in Little Cayman is situated on private land and is managed by Cayman Airways.

The CIAA employs approximately 150 people at Owen Roberts International Airport. In 2019, ORIA catered to approximately 27,381 commercial and private aircraft movements and processed approximately 1,427,100 passengers, including tourists, business visitors and residents of the three islands (approximately 83,000 domestic passengers). In addition, the airport processes approximately 1,029.8 tonnes of air freight and 105.9 tonnes of mail. ORIA has a runway that is 7,008 feet long by 150 feet. Furthermore, there is also a General Aviation Terminal (GAT) with one Fixed Based Operator, Island Air, who handles the majority of private aircraft movements on behalf of CIAA.

The CIAA employs approximately 35 employees at the Charles Kirkconnell International Airport, with a runway that is 6,010 feet long by 150 feet wide. In 2019 the Airport processed 174.2 tonnes of air freight and 4.8 tonnes of mail. In addition, there were approximately 80,300 passengers and 5,287 aircraft movements, which contributed to the island's growth and development.

Detailed organisational structure



2.2.2 Existing Strategies

Key strategies	Alignment of the projects with the Key strategies
Project A1: General Aviation (GA) terminal at the Owen Roberts International Airport (ORIA), Grand Cayman CIG recognises the importance of attracting High Net Worth Individuals (HNWIs) and VIPs to the Cayman Islands. Updating and improving the GA Terminal is a key objective within the Strategic Policy of CIG.	It is envisaged that the Airports Master Plan will provide CIAA with the context in which to make decisions, address new initiatives, and explore opportunities that will facilitate the long-term development of the Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Aerodrome. In addition to this, the project includes updated passenger forecasts for the next 20 years and provides an analysis of air service traffic growth, the nature and mix of this traffic, airport facility requirements, necessary infrastructure, location of airport services, land appropriation requirements, an updated land use plan, neighboring land uses, aids to navigation, ground
Project A2: Owen Roberts International Airport (ORIA), Grand Cayman The travel and tourism industry provides significant employment and entrepreneurial opportunities for residents of the Cayman Islands and is also a significant contributor to CIAA's - and therefore CIG's - revenues. These factors and several others make it one	

of the two main pillars of the economy. The continued enhancement and development of the airport is therefore an important part of the growth strategy for the Cayman Islands' tourism market.	transportation access, environmental issues and noise, and the overall impact on the community. The Preferred options therefore seek to ensure that the capacity of each airport is increased to ensure the forecast passenger numbers are met, with health and safety prioritised.
Project B: Charles Kirkconnell International Airport (CYB), Cayman Brac The Charles Kirkconnell Airport is pivotal to the growth and development of tourism in Cayman Brac as it is the only way visitors can access the island. The majority of the tourism sector is concentrated on scuba diving with two hotels serving visitors. The long-term goal is to create a high-quality environment which provides Cayman Brac with well-connected access to the global marketplace.	
Project C: Edward Bodden Airfield (EBA), Little Cayman CIG recognises the need to ensure air travel options are available to Little Cayman due to growth in tourism opportunities and for hurricane evacuation, relief efforts and medical evacuations.	

2.3 Key user requirements

The key user requirements for the Projects were developed in the SOC, with the key stakeholders being identified as the following: visitors and residents of the Cayman Islands; all airlines; the car rental and ground transport industry; ground handling service providers; fuel providers; medical care providers; the Cayman Islands Tourism Association; Cayman Finance Ltd; the Civil Aviation Authority; general and business aviation service providers; the Mosquito Research Control Unit; air ambulance providers; the Cayman Islands Water Authority; National Trust, Sister Island Committees and the Central Caribbean Marine Institute; and the Cayman Flying Club. During the OBC stage as part of the airport master planning exercise, input was sought to inform the design process from several Government departments, including: Cabinet; the Cayman Islands Airports Authority; the Department of Environment; the National Roads Authority; the Cayman Islands Department of Tourism; Customs and Border Control; the Cayman Islands Fire Service; the Department of Environmental Health; the Police Department; the Meteorological Office; and the Cayman Islands Chamber of Commerce.

Initial stakeholder consultations were conducted during the second and third quarters of 2021 with further consultations provided in the week commencing 20 June, 2022. Meetings, presentations and workshops were held with senior leadership from CIAA, including members of the Steering Committee.

Consultations held with key stakeholders

Key stakeholders	Type of engagement and date
Civil Aviation Authority	Meeting, 20 June 2022
CIAA CEO and COO	Meeting, 20 June 2022
Ground Handlers	Meeting, 20 June 2022
ATC / CNS / AIS	Meeting, 20 June 2022
Airside Operations	Meeting, 20 June 2022
Fosters Food Group	Meeting, 20 June 2022
CIAA Customer Service and Security	Meeting, 21 June 2022
Department of Environment	Meeting, 21 June 2022
CIAA Facilities Department	Meeting, 21 June 2022

CIAA CFO	Meeting, 21 June 2022
All Airlines	Meeting, 21 June 2022
CKIA Airport Manager	Meeting, 22 June 2022
CIAA Departments and Munich Consultants	Meeting, 23 June 2023
Steering Committee	Meeting, 23 June 2023

Refer to Appendix 17 for summary notes from each of the sessions noted above. A list of stakeholders interviewed as part of the Master Planning process has also been included at Appendix 19 with the Master Plan executive summary included at Appendix 20.

Subsequently, the first round of public outreach sessions were held in order to gain feedback from local residents and the general public as follows:

- Monday, 11 July at the Aston Rutty Centre, Cayman Brac (17:30 – 19:30)
- Tuesday, 12 July at the Little Cayman Beach Resort, Little Cayman (17:30 – 19:30)
- Wednesday 13, July at the John Gray High School Hall, Grand Cayman (17:30 – 19:30)

The sessions were streamed live on the CIAA Facebook page and subsequently posted on Facebook for the public to watch on-demand. The public was given the opportunity to express their main concerns, frustrations and their aspirations for the Airport infrastructure of the Cayman Islands. An online survey was also conducted to gauge public opinion on a wider scale. A detailed summary of the findings from the sessions and surveys has been included at Appendix 4, with a high-level summary below:

Grand Cayman

- **Environmental:** Concerns over mangrove destruction; loss of natural habitat and animals; light and noise pollution; and ensuring sustainability.
- **Operational:** Jetways or airside cover from the elements; and the separation of international and domestic flights.
- **Experience:** Greater variety of food and drink offerings (e.g. Caymanian and/or healthy cuisine options, larger bar area, etc.); Caymanian art/murals; local music; shopping options; improved overall "feel"; and many respondents feel the recent developments resulted in a loss of "charm" and Caymanian identity.
- **Other:** Radar system; and improved GA facility required for Cayman's "luxury" image to be reinforced.

Cayman Brac

- **Environmental:** Wetlands and bird habitat destruction; and light and noise pollution.
- **Operational:** Traffic in the immediate airport area; and concerns regarding private property in the surrounding area.
- **Experience:** Minimal comments regarding the experience at CKIA.
- **Other:** A general reluctance towards any unnecessary expansion.

Little Cayman

- **Environmental:** Wetlands and bird habitat destruction; light and noise pollution; excessive tourism resulting in damage to the island/reefs; and a general reluctance to any relocation of the airstrip.
- **Operational:** Minor improvements to the terminal building; airstrip lighting for overnight flights; and concerns regarding private property in the surrounding area.
- **Experience:** Keep the airport largely as is to preserve the "feel" and "charm".
- **Other:** A general reluctance towards any unnecessary expansion; albeit, many recognise the need for safety improvements.

Summary

- Responses were varied but included enthusiasm for seaplane facilities and heliports. Locations suggested were Bodden Town, East End, North Sound or South Sound in Grand Cayman as well as Little Cayman and Cayman Brac.
- There is a general consensus that sustainability (e.g. recycling facilities, plastic reduction, sustainable buildings practices, etc.) should be at the forefront of any further development.
- Respondents were aligned in their views that the airports should reflect the culture and values of the Cayman Islands, with any development being commensurate with the Islands' capacity for tourism growth (particularly CKIA and EBA).

Furthermore, a second round of public outreach sessions were held to present the Preferred Options to residents and the general public as follows:

- Monday, 21 November at the Little Cayman Beach Resort, Little Cayman (17:30 – 19:30)
- Tuesday, 22 November at the Aston Rutty Centre, Cayman Brac (17:30 – 19:30)
- Wednesday, 23 November at the John Gray High School Hall, Grand Cayman (17:30 – 19:30)

The sessions were posted on the CIAA Facebook page for the public to watch on-demand. The public was given the opportunity to ask questions regarding the Preferred Options. Overall, the sessions and Preferred Options were well received by all; the public recognised the care the project team had taken to minimise the environmental impact whilst ensuring regulations and forecast demand could be met at each of the airport. Notes from the sessions have been included at Appendix 12.

Prior to the public outreach session on 21 November, a presentation to Caucus was made that set out the proposed plans (i.e. the Preferred Options as discussed in the Economic Case). The primary objective of this presentation was to keep Caucus informed, ensuring they were not blindsided by the plans that were to be communicated to the public later on in the day.

Project A1

The below table provides a summary of the key user requirements that were identified:

Key user requirements and related needs.

Key User Requirement	Development Needs
Communication	- Continue to involve the public in consultations; and - Ensure any key decisions are communicated to the public.
Development	- Ensure population and tourism growth are considered; and - Clarity on which land would be targeted for future development.
Technical	- Increased capacity for the general aviation facility to avoid planes being turned away; and - Consideration of alternative fuel sources for planes.
Environmental	- Consider rising sea levels; - Prevent destruction of natural habitats; - Consider air quality; and - Ensure environmental credits are awarded for any environmental damage.

Project A2

The below table provides a summary of the key user requirements that were identified:

Key user requirements and related needs.

Key User Requirement	Development Needs
Communication	- Continue to involve the public in consultations; and - Ensure any key decisions are communicated to the public.
Development	- Ensure population and tourism growth are considered; - Clarity on which land would be targeted for future development; - Conveying the 'spirit' of Cayman Islands in the airport (e.g., local businesses in the airport); and - Improved facilities, such as: jetways; electronic kiosks; more efficient use of space, etc.
Technical	- Improved navigation facilities (e.g. radar); - Full-length parallel taxiway; - Increased capacity for the general aviation facility to avoid planes being turned away; and - Consideration of alternative fuel sources for planes.
Environmental	- Consider rising sea levels; - Prevent destruction of natural habitats; - Consider air quality; and - Ensure environmental credits are awarded for any environmental damage.

Project B

The below table provides a summary of the key user requirements that were identified:

Key user requirements and related needs.

Key User Requirement	Development Needs
Communication	- Continue to involve the public in consultations; and - Ensure any key decisions are communicated to the public.
Technical	- Improved navigation facilities; - Full-length parallel taxiway; and - Lengthened runway to ensure all applicable international standards are met (e.g. large run-off areas).
Environmental	- Ensure Westerly Ponds are not destroyed; - Prevent destruction of natural habitats; - Consider environmental impact assessment; and - Ensure environmental credits are awarded for any environmental damage.
Demand and need for development	- Communicate the requirements for development, given the airport is currently internationally certified; and - A formal development/zoning plan is required.
Land ownership	- Ensure that land ownership is understood to ensure development can take place; and - Clarify whose responsibility it is to maintain land if the boundaries of the airport are extended (e.g. with reference to height restrictions for trees and other objects).

Project C

The below table provides a summary of the key user requirements that were identified:

Key user requirements and related needs.

Key User Requirement	Development Needs
Communication	- Continue to involve the public in consultations, especially important for Project C which appears to be the most divisive of the four Projects; and - Ensure any key decisions are communicated to the public.
Demand and need for development	- Communicate the requirements for development, given residents regard the current airport as operating as it is required; - Consider limiting further development on Little Cayman; - Provide statistics showing the need for safety improvements (e.g. historical bird strike data); and - A formal development/zoning plan is required.
Environmental	- Ensure Booby Ponds are not destroyed; - Prevent destruction of natural habitats; - Monitor tourism levels to maintain acceptable impact on the island's reefs; - Consider environmental impact assessment; and - Ensure environmental credits are awarded for any environmental damage.

2.4 Case for change

The key drivers of the case for change are summarised as follows:

- Capacity – Although there have been major renovations to both the commercial terminal and to the airside infrastructure at ORIA completed in 2019, there are still capacity constraints during peak hours. Peak hour passenger numbers in 2019 reached record levels and leading up to the COVID pandemic, the expectation was that 2020 would surpass 2019, with record numbers experienced in the first quarter of 2020. The 2014 Master Plan identified annual / peak hour numbers that would trigger the need for the development of a new terminal at ORIA to support the growth in passengers (initially forecast for 2028); however, these numbers were exceeded in 2019. Although annual passenger figures are currently below that of 2019 levels, as of November 2022, the Ministry for Tourism and Transport have confirmed that vacation bookings for the 2022/23 season have surpassed those of 2019, highlighting the need to ensure capacity increases are prioritised.

- Branding – CIG has outlined in its policy that there needs to be a focus on attracting High Net Worth Individuals ("HNWIs") to the Cayman Islands and that the current GA facility is of low quality, outdated and is not a good representation of the islands from a luxury brand perspective.

- Inefficient layout – The single-story terminal building at ORIA requires passengers and staff to walk sub-optimal distances, including when transiting between the terminal building and aircraft. Visitors are also exposed to the elements when walking to aircraft on the airside and to the car rental buildings and parking lots on the landside. During peak hours there are capacity issues at check-in, immigration, security and in the departure lounges. At CKIA and EBA there are also inefficiencies and insufficient space with respect to check-in and security facilities. Furthermore, there is insufficient parking capacity at ORIA and CKIA, with long term parking at ORIA regularly reaching capacity.

- Regulatory concerns – CKIA is currently operating under an exemption to airport regulatory standards due to insufficient length and strength of the Runway End Safety Area (RESA) and the runway strip is too narrow on the south side due to proximity of ponds. Landside expansion is also required to accommodate the 30m set-back security regulation at CKIA, which will result in parking facilities having to be relocated to the North. EBA fails to meet any airport regulatory standards required to be classified as a certified airport (CIAA do not currently operate the aerodrome and Cayman Airways currently has operational responsibility for implementing safety measures and airport operations). Operating under such exemptions is not a sustainable position to be in and the CAA has only granted the exemption until the end of December 2022. A new Air Traffic Management System is required at ORIA to improve safety.

- Competition – Regional competitor countries such as Antigua, Jamaica, Bahamas, Barbados, BVI, Aruba and Turks & Caicos Islands, having recognised the need for airport growth, have made, or are in the process of making, the relevant investments and incentives to position themselves for future expansion of their tourism industry. At present, the Cayman Islands are not maintaining their competitive edge in this regard. Inefficient space and processes, lack of previous investments in airfield and landside infrastructure has resulted in the need for significant investments to support the growth in passenger demand over the master plan horizon.

- Environmental – Rising sea levels were considered and the option of raising the runways was explored; however, the conclusion of the Project Team was that based upon current elevation, the airport facilities and runways for each of Projects A1, A2, B and C would not need to be raised to accommodate potential sea level rises in the near term. The existing ORIA terminal is 8.5ft above sea level, which is only susceptible to partial flooding in extreme circumstances that are infrequent in nature (e.g. the partial flooding from by Hurricane Ivan in 2004). Other environmental factors have been considered in more detail in the economic case. However, beyond the airport master planning horizon of twenty years, CIG must consider the cost and solutions for rising sea levels to be adopted by CIAA for future infrastructure development.

Based on the considerations above, the Steering Committee has determined that there is a case for change at each of the three aerodromes.

2.5 The Investment Gap (Existing Arrangements and Shortfall in the Existing Arrangements)

2.5.1a Project A1

Owen Roberts International Airport is a vital part of the Cayman Islands transportation system and an integral component of the transportation infrastructure for the region. ORIA is an International Commercial Service Airport, which serves a diverse aviation community. Scheduled domestic, international, and charter airline services, cargo operations, general aviation and recreational aviation use combine to formulate the majority of aviation activities at ORIA. The General Aviation (GA) terminal is linked to the commercial terminal via an airside access road used by ground vehicles only. The problems with the existing arrangements are included in the table below:

Project A1 - Problems with the Current Arrangements

Key Issue	Impact
Insufficient capacity	• Instances of incoming traffic being turned away due to lack of ramp and hangar capacity • Passengers are required to walk significant distances outside between the terminal building and aircraft (exposed to the elements) • Transport options to 7 Mile Beach are limited and so HNWIs are required to drive through the industrial estate and heavy traffic to reach their destination (i.e. creates a poor first impression of the island).
Aging and below par facilities	• Poor user experience and therefore poor reflection on the Cayman Islands for HNWIs. • Increased risk of neighboring competitor islands gaining market share • Increased operational and maintenance requirements • Increased risk of delays or cancellations • Safety concerns (e.g. risk of workers being injured using faulty or aged facilities)

2.5.1b Project A2

Project A2 - Problems with the Current Arrangements

Key Issue	Impact
Insufficient capacity during peak hours	• There are large queues during peak hours (Saturdays), resulting in significant delays for passengers resulting in a low level of service • Safety concerns (e.g. security staff under pressure to process passengers more quickly) • Air traffic congestion leads to cumulative delays in peak hours
Inefficient Layout	• The single-story terminal building requires passengers and staff to walk sub-optimal distances. Visitors are exposed to the elements when walking to the car rental building (separate to the terminal) • Passengers are required to walk significant distances outside between the terminal building and aircraft
Poor segregation of passengers	• There is no split between domestic and international arrivals/ departures, increasing wait times for domestic passengers • There is no segregation between arrivals and departures on the land side of the airport, creating confusion for visitors
Inadequate facilities with increased operational and maintenance requirements	• Poor user experience • Costly to maintain Increased risk of delays or cancellations • Safety concerns (e.g. risk of workers being injured with faulty or aged facilities) • Absence of jetways mean passengers are exposed to the elements • The existing control tower was built in the 1980s, with the following issues: smells of damp (health concerns); the elevators do not work; some of the equipment is 5 years old and approaching the end of its useful life; there are dangerous leaks (especially dangerous during storms); and minimal visibility of the GA terminal
Insufficient infrastructure to support forecast growth in passengers	• Parallel taxiway required to enable runway capacity in peak hours • New airfield control tower to replace the existing control tower • New Air Traffic Management Surveillance System • Expanded apron parking for aircraft
Missed opportunities for revenue generation	• Landing fees are approximately $17 per passenger, which could be significantly higher • There is no advertising on airport trollies, which could be a source of revenue • Airlines are not currently charged for using space and equipment in the data control rooms • There is no pay-per-use business class lounge • Parking charges of $7 per day are well below what could be charged. Furthermore, a valet service could be introduced for an additional fee • The existing concessions are very limited, improved and increased concessions would lead to more revenue • There are no landside food and beverage options

2.5.2 Project B

Charles Kirkconnell International Airport (CKIA) is located on Cayman Brac, about 90 miles North East of Grand Cayman and 5 miles East of Little Cayman and is the only airport on Cayman Brac. The airport is utilised by Cayman Airways with daily flights to ORIA on Grand Cayman, and Edward Bodden Airfield on Little Cayman. International flights are currently limited to Cayman Airways flights to and from Miami International Airport. The Charles Kirkconnell Airport is the only way visitors can access Cayman Brac. CKIA currently does not have the proper facilities in place to effectively handle international flights, with some areas experiencing overcrowding when there are commercial jet operations. The problems with the existing arrangements are included in the table below:

Project B - Problems with the Current Arrangements

Key Issue	Impact
Insufficient capacity during peak hours	• There are large queues during peak hours, resulting in significant delays for passengers • Safety concerns (e.g. security staff under pressure to process passengers more quickly)
Inefficient Layout	• Passengers are required to walk significant distances outside between the terminal building and aircraft
Poor segregation of passengers	• There is no split between domestic and international arrivals/ departures, increasing wait times for domestic passengers
Aging facilities with increased operational and maintenance requirements	• Poor user experience • Costly to maintain • Increased risk of delays or cancellations • Safety concerns (e.g. risk of workers being injured with faulty or aged facilities) due to limited apron parking / maneuvering space
Failure to meet regulations	• The airport is currently operating under an exemption of air worthiness, which may be revoked in the future • The runway does not have a sufficient Runway End Safety Area infrastructure and the Runway Strip Width is not wide enough, which increases the risk of serious damage, injuries or worse in the event of an aircraft overrun or undershoot
Missed opportunities for revenue generation	• Revenue could be generated from advertising, parking fees, land and building space leases, etc. • Limited revenue from general aviation or cargo aircraft movements (i.e. landing fees only). Cargo facilities could be built and then rented out • There is limited revenue from fuel sales; fuel sales are a major source of aviation revenues for airports. Without the airport, there are no sales of aviation fuel as there are no users in that case. • There are limited land leases at CYB for hangars and aircraft storage; additional land leases could improve the number of based aircraft, the level of activity, and creates opportunities for other revenue generating activities such as flight training and recreational flying.

2.5.3 Project C

The existing Little Cayman airstrip currently operates under an exemption from standards provided by the CAA. Edward Bodden Airfield, which is situated on private lands, is therefore considered to be a private, uncertified aerodrome; EBA does not meet any applicable aerodrome standards and cannot be easily improved due to surrounding land use restrictions. It is an uncontrolled aerodrome and private operators use it at their own discretion and at their own risk. Cayman Airways operates a Twin Otter turboprop aircraft to/from Little Cayman with permission from CAA through the provision of mandatory operations requirements to ensure safe aircraft operations in order to provide domestic air service between EBA and CKIA and ORIA.

The airport does not meet any regulations or standards for aerodromes, with the most significant infringements related to an adjacent road running between the runway and apron, several electrical utility poles and lines, trees and mature vegetation in close proximity to the runway. The problems with the existing arrangements are included in the table below:

Project C - Problems with the Current Arrangements

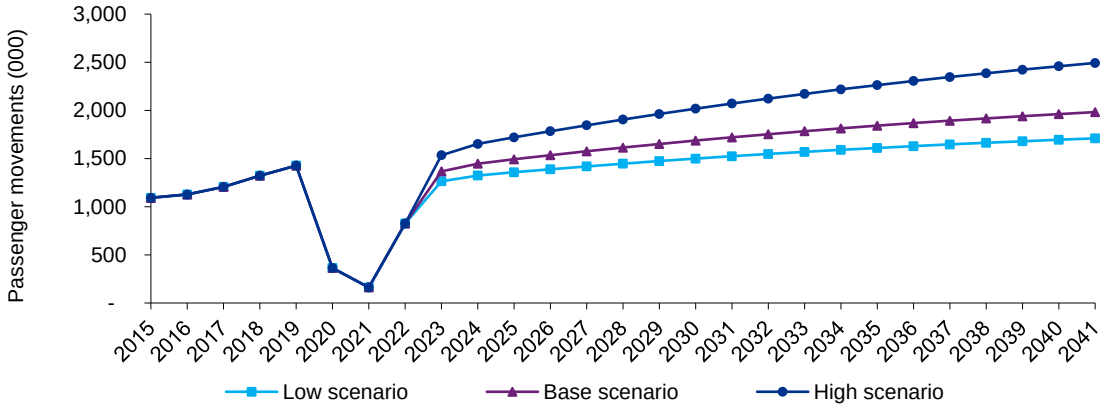
Key Issue	Impact
Land ownership issues	• The airport is situated on a number of privately owned parcels of land with no formal agreements in place between the landowners and CIG, which could lead to disputes should landowners wish to develop on their land.
Failure to meet regulations and safety concerns	• The aerodrome is currently operating under an exemption from standards, which may be revoked in future (as early as 1 Jan 2023). • The aerodrome does not meet international regulations or applicable standards for airports with the most significant infringements related to a road running between the runway and apron, many trees and power poles adjacent on the runway strip and penetrating the OLS, an absence of runway lighting (limiting night-time medical evacuation opportunities), limited runway length and resulting aircraft size. As a result, there are significant safety concerns.
Minimal and aged facilities	• The terminal building has no security protocols and so there is a risk that weapons, drugs or hazardous baggage could be transported illegally and unknown to the air carrier. • The fire station is only a small shed, providing minimal cover for the ARFF vehicle stationed at EBA. A combined services building to house the ARFF equipment and other aerodrome maintenance equipment is required to maintain the safe operations of the aerodrome.

2.5.3 Strategic Demand Forecasts

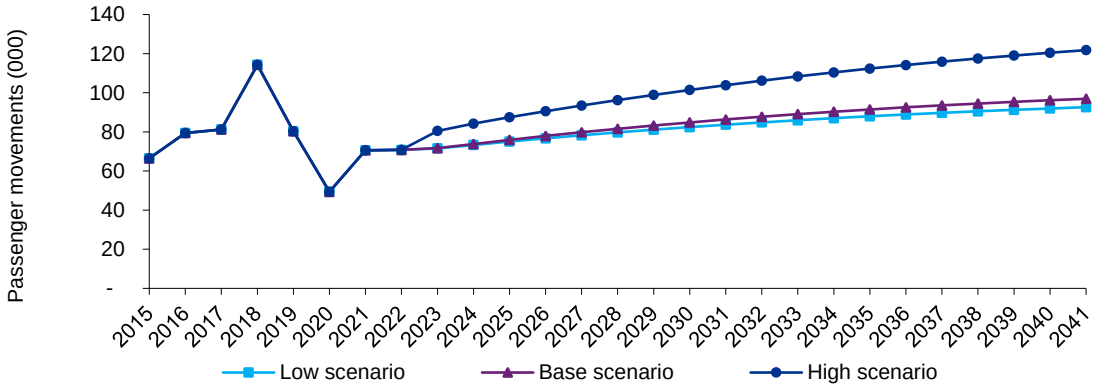
The Strategic Demand Forecasts were developed based on information received from DKMA (aviation planning and engagement consultants). The following key assumptions were made in the preparation of the base case strategic demand forecasts:

Description	History	Forecast
Economic Growth (GDP), Cayman Islands	GDP: 1.1% p.a. between 2006-2021	GDP: 0.9% p.a. between 2021-2041
Population Growth, Cayman Islands	2000-2021: 2.6% p.a.	2021-2041: 1.5% p.a.
Tourism Growth, Cayman Islands	Tourist Arrivals: 0.5% p.a. between 2006-2019	Tourist Arrivals: 0.3% p.a. between 2019-2041
Tourist Arrival by Air, Cayman Islands	Tourist Arrivals by Air: 4.9% p.a. between 2006-2019. Market Share in 2019: 21.5% (500,000 visitors) vs.12.2% in 2006	Tourist Arrivals by Air: 1.5% p.a. between 2019-2041. Market Share in 2041: 28.2% (700,000 visitors)
Cayman Airways Fleet Replacement	N/A	Saab 340s are replaced by ATR 72 or similar. Fleet replacement is between 2025 and 2026. ATR 72s (or similar) will operate on domestic routes and intra-Caribbean routes

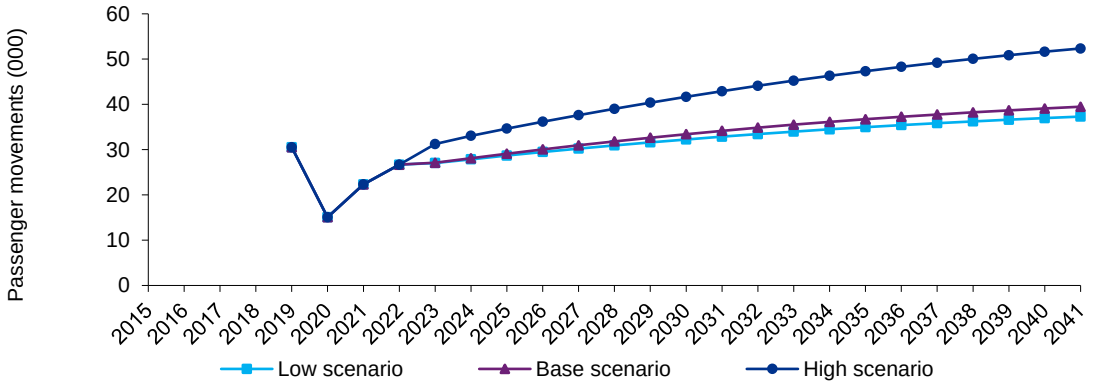
Passenger movements - GCM



Passenger movements - CYB



Passenger movements - LYB



** Data from 2015 – 2018 above has been obtained from the CIAA website and thus excludes LYB passenger data. Data from 2019 onwards utilises the DKMA passenger data and forecasts.*

The projections above reflect the base scenario prepared by DKMA (i.e. their expected levels of demand), low and high case scenarios were also prepared. The projections reflect an increase in the number of passengers from 1.5m in 2019 to 2.1m by 2041 (i.e. an increase of 0.6m), with 2041 levels reflecting an increase of 1.9m from 2021 levels (significantly below average due to Covid-19 restrictions). The Projects are reflected in the projections as follows:

- GCM: Project A1 and Project A2 – CIAA could not provide G/A passenger figures, therefore a forecast of G/A passenger demand at ORIA was not completed; an aircraft forecast was provided.
- CYB: Project B – Cayman Brac

- EBA: Project C – Little Cayman

These projections are taken into account in the VFM assessment in the Economic Case and in the Affordability section in the Financial Case.

2.6 Specific Measurable Achievable Realistic Time-bound ("SMART") Objectives

The SMART objectives below were determined at the long list stage, which the Project Team and Steering Committee also considered to be the Critical Success Factors ("CSFs") of the Project.

	SMART Objectives/CFSs
Project A1	Develop the GA facility to: (i) optimise GA airport revenues; (ii) enhance the high-net-worth passenger experience; (iii) minimise the environmental impacts of any development; (iv) provide adequate parking and storage facilities for GA aircraft; (v) meet the Strategic Policy objectives from CIG; and (vi) meet the latest safety and security regulations. The development should begin at the earliest opportunity.
Project A2	Upgrade the airport to: (i) compete with or surpass the offerings of regional competitor countries (tourism); (ii) meet forecast demand to 2041; (iii) minimise the environmental impacts of any development; (iv) meet the latest safety and security regulations; and (v) enhance the passenger experience. The development should begin at the earliest opportunity.
Project B	Upgrade the airport to: (i) meet forecast demand to 2041; (ii) ensure that all applicable safety and security regulations are adhered to (i.e. ideally without the requirement of an exemption); (iii) minimise the environmental impacts of any development; and (iv) enhance the passenger experience with a high level of service. The development should begin at the earliest opportunity.
Project C	Upgrade the airport to: (i) meet forecast demand to 2041; (ii) ensure that all applicable safety and security regulations are adhered to; (iii) minimise the environmental impacts of any development; and (iv) enhance the passenger experience. The development should begin at the earliest opportunity.

2.7 Benefits, Risk, Constraints and Dependencies

2.7.1 Main Benefits

This section outlines the main outcomes and benefits associated with the implementation of the potential scope in relation to the aviation needs of the Cayman Islands.

- **Project A1:**
  - Potential to cement Cayman's "Luxury" brand, putting Cayman level with or above regional competitors, leading to increased visitors and therefore revenues
  - Additional capacity to send/receive cargo, resulting in improvements for Caymanians and residents
  - Improved efficiency and aircraft parking capacity from the apron expansion, additional hangar(s) and terminal

- **Project A2:**
  - Decreased wait times during peak hours
  - Ability to handle increased demand (beyond that of the 2019 peaks)
  - Improved first and last impressions of the Cayman Islands
  - Security improvements
  - Improved facilities and air traffic management surveillance systems, leading to efficiencies and increased safety
  - Improved retail and F&B options

- **Project B:**

- Improved facilities and user experience
- Increased safety and satisfaction of requirements to meet regulations (e.g. lengthened runway, security improvements, etc.)
- Ability to handle increased demand

- **Project C:**
  - Increased safety and satisfaction of requirements to meet regulations (e.g. lengthened runway, runway lighting, perimeter, and security improvements, etc.)
  - Improved facilities and user experience
  - Considered to be a "step forward" for the island
  - Increased aircraft movement efficiencies

2.7.2 Key risks

This section reviews the key risks that could impact on the successful delivery of the Projects and the proposed counter measures to ensure the risks are minimised and managed.

Main Risks and Counter Measures

Main Risks	Description	Counter Measures
Business Risks	Changes in macroeconomic conditions of the Cayman Islands may impact CIAA's / CIG's ability to fund the Projects	No contractual commitments will be made until assurances have been provided with regards to the affordability and availability of funding.
Political Risks	The options are reliant on continued support for the Projects. If there is a change in Government or a change in Government policy, it could result in a lack of support for the Projects. The Projects are directly dependent on Government funding as there are insufficient revenue streams within CIAA initially to fund the Projects.	Cabinet has given approval of the Strategic Outline Case and will be kept informed as the Projects develop. Cabinet approval of this OBC and the FBC(s) will also be a requirement before proceeding to sign contracts.
Delivery Risks	If there are insufficient numbers of bidding consortia it may result in sub-optimal value for money during procurement. There can be time and cost overruns from delays in the construction process. Substandard work or substandard materials during the construction process can result in an increase in operational and lifecycle expenses.	There will be early market engagement with potential bidders to garner interest in the Projects and to shape the RFP(s) accordingly. The contracts will be developed to ensure that specific risks are passed on to the contractors, where possible.
Resources	Insufficient staff to oversee the project during construction and maintenance, post completion. Lack of construction skilled labor to complete the Projects.	CIAA and PWD will employ specific project managers. Contractual arrangements with the contractors will require assurance that the contractors have adequate labor locally to complete the Projects.
Service risks	Inability to obtain relevant approvals from statutory authorities such as the Planning Department and the Department of Environmental Health.	The relevant statutory stakeholders have been engaged early in the consultations and will be kept abreast and feedback sought at key milestones.
Service risks	Changes to policies or regulations that impact the feasibility of the Projects.	Flexibility will be planned into the options where possible.

Further project specific risks are explored in the Economic and Commercial Cases.

2.7.3 Constraints

- The Framework for Fiscal Responsibility and Public Management and Finance Law
  - This framework identifies limits on spending and borrowing. This could impact funding and financing considerations.
  - This is an infrastructure project with revenue streams that will offset additional expenditure, however, there is likely to be an initial funding shortfall. Therefore, additional capital will need to be obtained from funding approved by Cabinet on a Value for Money basis.

- Availability and interest of suitable bidders
  - The Cayman Islands is a small terriotory with a limited number of contractors available to oversee the Projects. If the tender process is unable to garner sufficient interest it could limit the competitive process and potentially lead to an increase in the costs and risks of the Projects.

2.7.4 Dependencies

The key dependencies are:

- The availability of funding to complete the Projects;
- The approval of cabinet; and
- Adequate government resources to manage the Projects.

3.0 Economic Case

3.1 Introduction

This section of the OBC focuses on the options that have been selected for delivering the Projects, with the view of selecting a Preferred Option for each one. The Economic Case explores VfM considerations and has elements of quantitative and qualitative analysis. An option that is VfM strikes the optimum combination of affordability and quality to meet the stakeholders' expectations.

The criteria used for scoring the options and selecting the Preferred Options includes:

- Qualitative appraisal: results of evaluating the qualitative benefits for each short-listed option
- Risk Appraisal: results of the quantified risks for each short-listed option
- Economic Appraisal: results of quantitative analysis for each short-listed option

All costs and benefits in the Economic Case section are estimated in base year prices (i.e. exclusive of inflation), in line with the latest Green Book Guidance. However, costs and benefits are discounted, as discussed in more detail later in this section. Costs and benefits stated in this case reflect the best estimates of the Project Team and Steering Committee at the time of the long list and short list analysis. The Capital cost estimates for the Preferred Options were subsequently refined and finalized, as presented in the Financial Case.

3.2 Long list to short list evaluation

The Strategic Outline Case ("SOC") was prepared by CIAA and it sought to set out the long list of options under consideration for the development of the Cayman Islands' Airports. However, the SOC initially focussed on whether to proceed with a new Airport Master Plan/OBC or not as the long list of options for evaluation.

After discussions between CIAA, Stantec and its consultants the project was split into four: (i) Project A1 – The Grand Cayman GA terminal; (ii) Project A2 – Owen Robert International Airport, Grand Cayman; (iii) Project B – Charles Kirkconnell International Airport, Cayman Brac; and (iv) Project C – Edward Bodden Airfield, Little Cayman. A long list of options (focusing on the extent of development) for each project was then developed, analysed, revised and subsequently signed off by the Steering Committee at an extraordinary meeting on September 5, 2022. The meeting minutes have been attached at Appendix 2.

As per the latest Green Book guidance, decisions and reasons must be recorded along with the indicative estimates of costs and benefits, along with a detailed "SWOT" analysis for each option. Long list appraisal must be based on evidence and rational assumptions with objective support. Simple weighting and scoring lacks an objective basis and detracts from transparency, it must not be substituted for this transparent evidence-based analysis as part of the decision process. Each of the domains (e.g. Scope, Service solution, etc.) were assessed separately. The detailed long list appraisal has been attached at Appendix 1, with the results summarised below:

3.2a Project A1 Long List of Options

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
1. Scope	Status quo: All GA traffic served from current location with capacity constraints and a dated facility.	Upgrade existing terminal building, minor apron expansion	Replace existing GA terminal building and expand aircraft parking apron, expand or build new hangars adjacent to GA Terminal and on	Expand aircraft parking at the North Sound site, replace the existing / new terminal building at existing site.	Expand existing GA Terminal / apron at existing site in short - medium term, reserve space for new GA Terminal and Apron at North Sound	Relocate and upgrade the GA terminal/ aircraft parking to the North Sound site.	Relocate and upgrade the GA terminal/aircraft parking to a new site (e.g. East End).

			the existing playground		site in long-term.		
2. Service solution	Current services	Refurbish existing facilities	Combination of replacing existing facilities and appropriating/purchasing additional land	Combination of replacing existing facilities and building new infrastructure (e.g. roads).	Combination of replacing existing facilities and reserving additional land	Combination of purchasing more additional land and building new infrastructure (e.g. roads).	Combination of purchasing the most additional land and building the newest infrastructure (e.g. roads).
3. Service delivery	Current arrangements	Private sector providers: local contractors	Private sector providers: local contractors	Private sector providers: local & international contractors	Private sector providers: local contractors	Private sector providers: local & international contractors	Private sector providers: local & international contractors (most heavily involved)
4. Implementation		Big bang 12 months	Big bang 15 months	Big bang 18 months	Phased	Big bang 36 months	Long term 4-7 years
5. Funding		c.$2m Funded through either: self-finance; and/or CIG loans	c.$10-15m Funded through either: self-finance; and/or CIG loans	c.$20m Funded through either: self-finance; PPPs; and/or CIG loans	c.$15m (S-T) c.$85-100m (L-T) Funded through either: self-finance; PPPs; and/or CIG loans	c.$60-85m Funded through either: self-finance; PPPs; and/or CIG loans	c.$100m+ new runway etc Funded through either: self-finance; PPPs; and/or CIG loans
Conclusion	**Carried forward**	**Carried forward**	**Preferred Way Forward**	**Carried forward**	**Discounted**	**Carried forward**	**Discounted**
Preferred Way Forward	Little indicative benefits, with this option failing to meet	Minor improvement on user experience but will not	Materially addresses all SMART objectives/CSFs	Addresses all SMART objectives/CSFs	Addresses all SMART objectives/CSFs	Addresses all SMART objectives/CSFs (perhaps not	Addresses all SMART objectives/CSFs (not

	the SMART objectives/CSFs for this Project.	address all SMART objectives/CSFs.				within target timeframe)	within a reasonable timeframe)

3.2b Project A2 Long List of Options

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
1. Scope	Status quo: business as usual.	Do minimum - minimal upgrades, no expansion to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers.	Moderate upgrades and expansion to current airside and landside infrastructure to cater for moderate growth in aircraft movements and passengers.	Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers.	Upgrades and expansion to current airside and landside infrastructure to cater for growth in aircraft movements and passengers exceeding forecasts.	Relocate the entire airport (e.g. to the East End) to cater for maximum future demand.
2. Service solution	Current services	Refurbish existing airside and landside facilities	Combination of refurbishing existing facilities and purchasing additional land and expanded infrastructure (e.g. aircraft aprons and parking facility).	Combination of refurbishing existing facilities, purchasing more additional land and building new infrastructure (e.g. roads).	Combination of purchasing more additional land and building new infrastructure (e.g. roads).	Combination of purchasing the most additional land and building the most new infrastructure (e.g. roads).
3. Service delivery	Current arrangements	CIAA	CIAA	CIAA	CIAA / Private sector providers, local & international contractors	CIAA / Private sector providers: local & international contractors (most heavily involved)
4. Implementation		Big bang 12 months	Big bang 15 months	5-7 years	5-7 years	6+ years

5. Funding		c.$25m Funded through self-finance and/or CIG loans	c.$100m Funded through self-finance and/or CIG loans	c.$200m Funded through self-finance; PPPs; and/or CIG loans	c.$250m Funded through either: self-finance; PPPs; and/or CIG loans	c.$650m Funded through either: self-finance; PPPs; and/or CIG loans
Conclusion	**Carried forward**	**Carried forward**	**Carried forward**	**Preferred Way Forward**	**Carried forward**	**Discounted**
Preferred Way Forward	Little indicative benefits with this option failing to meet the SMART objectives/CSFs for this Project.	Minor improvement on user experience but may not go far enough to address all SMART objectives/CSFs.	Materially addresses all SMART objectives/CSFs.	Addresses all SMART objectives/CSFs.	Addresses and exceeds SMART objectives/CSFs.	Addresses and exceeds SMART objectives/CSFs.

3.2c Project B Long List of Options

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
1. Scope	Status quo: business as usual.	Do minimum - minimal upgrades (no expansion) to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers. Relinquish International status. Exemptions to regulations continue (regardless of international status).	Minimal upgrades and expansion to current airside and landside infrastructure to cater for low growth in aircraft movements and passengers. Modify lands as needed to meet regulatory requirements and applicable standards.	Moderate upgrades and expansion to current airside and landside infrastructure.	Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers. Acquire lands / meet all applicable regulatory requirements and standards.	Relocate the airport - build an entirely new runway and terminal at a different location to meet all forecast demand and all international regulatory requirements and standards.
2. Service solution	Current services	Refurbish existing facilities	Combination of refurbishing existing facilities and expanded infrastructure (e.g. expand runway strip).	Combination of refurbishing existing facilities, purchasing more additional land and building new infrastructure (e.g. roads).	Combination of purchasing more additional land and building new infrastructure (e.g. roads).	Combination of purchasing the most additional land and building the most new infrastructure (e.g. runway extensions,

						new lands for airport infrastructure).
3. Service delivery	Current arrangements	CIAA	CIAA	CIAA	CIAA	CIAA / Private sector providers: local & international contractors
4. Implementation		Big bang 12-18 months	2-3 years	2-3 years	3-5 years	5-6 years
5. Funding		c.$25m Funded through self-finance and/or CIG loans	c.$40m Funded through self-finance and/or CIG loans	c.$50m Funded through self-finance and/or CIG loans	c.$100m Funded through either: self-finance; PPPs; and/or CIG loans	c.$250m Funded through either: self-finance; PPPs; and/or CIG loans
Conclusion	**Carried forward**	**Carried forward**	**Preferred Way Forward**	**Carried forward**	**Carried forward**	**Discounted**
Preferred Way Forward	Little indicative benefits with this option failing to meet the SMART objectives/CSFs for this Project.	Minor improvement on user experience but may not go far enough to address all SMART objectives/CSFs.	Materially addresses all SMART objectives/CSFs	Materially addresses all SMART objectives/CSFs	Addresses all SMART objectives/CSFs	Addresses and exceeds SMART objectives/CSFs

3.2d Project C Long List of Options

	Option 1	Option 2	Option 3	Option 4	Option 5
1. Scope	Status quo - business as usual.	Do minimum - minimal upgrades / expansion to current airside or landside infrastructure, cater for limited growth in aircraft movements and passengers. Exemptions to regulations continue.	Moderate upgrades and expansion to current airside and landside infrastructure to cater for growth in aircraft movements and passengers. Try to resolve some of the major issues, such as the powerline, un-even runway and public road.	Close Existing Airport and Build New Airport including airside and landside infrastructure to cater for the most-likely forecast growth in aircraft movements and passengers. Build to meet all	Sell or Close Existing Airport, to be replaced by Ferry / Helicopter / Seaplane service

				applicable regulatory requirements and standards.	
2. Service solution	Status quo: business as usual.	Minor improvements to terminal/airstrip in the current location. Remains non-compliant.	Moderate improvements to terminal/airstrip in the current location. Likely still remains non-compliant, but safer.	Close the airport completely and build a new one.	Replace existing airport with a Helipad (same location) for medevac and establish a ferry service from Cayman Brac for passengers.
3. Service delivery	Current arrangements	CIAA	CIAA	CIAA	CIAA / Private sector providers, local & international contractors
4. Implementation		Big bang 12 months	Big bang 15 months	Big bang 6-7 years	Phased - need to establish the ferry service before closing the aerodrome.
5. Funding		c.$5m Funded through self-finance and/or CIG loans	c.$25m Funded through self-finance and/or CIG loans	c.$60-85m Funded through either: self-finance; PPPs; and/or CIG loans	c.$15-25m Funded through either: self-finance; PPPs; and/or CIG loans
Conclusion	Carried forward	Carried forward	Discounted	Preferred Way Forward	Carried forward
Preferred Way Forward	No indicative benefits with this option failing to meet the SMART objectives/CSFs for this Project.	Minimal indicative benefits with this option failing to meet the SMART objectives/CSFs for this Project.	Meets some of the SMART objectives/CSFs but not all	Materially addresses all SMART objectives/CSFs	Materially addresses all SMART objectives/CSFs

The outcome of the extraordinary Steering Committee meeting to approve the short list has been summarised below (approval attached at appendix 8):

3.2.1 Project A1

The committee evaluated each of the options, in doing so it considered whether options 5 and 6 would be viable or not. It was noted that whilst these options would require significant investment, they would remain viable down the line should a less costly option be selected in the shorter term. Ultimately, **Options 1, 2, 3, 4 and 6 were shortlisted**. **Option 3** was considered to be the preferred way forward in light of meeting all of the CFSs/SMART objectives and scoring the highest on the SWOT analysis.

3.2.2 Project A2

The committee evaluated each of the options; however, it was promptly agreed that **Options 1, 2, 3, 4 and 5 were shortlisted**. **Option 4** was selected as the preferred way forward in light of meeting all of the CFSs/SMART objectives and scoring the highest on the SWOT analysis. The steering committee were keen to ensure that any development was able to meet forecast demand at a minimum.

3.2.2.1 Project A2 – further consideration of Option 6

It should be noted that prior to discounting Option 6, the Steering Committee had a further detailed discussion on the option. It was felt by members of the steering committee that the costs of relocating the entire airport to the East End would not represent VfM or be affordable at this time.

Whilst significant benefits were noted (i.e. investment in the East End, in line with CIG's strategic policy objectives), the current lack of infrastructure (e.g. congested roads) would either result in a below par service offering or require more significant investment over and above the already high estimated costs of this option. Furthermore, it was noted that there is currently no overarching infrastructure development plan for the Cayman Islands. Therefore, a change of this magnitude was not considered to be prudent in the absence of a robust strategy for how such a development could work in practice.

3.2.3 Project B

The committee evaluated each of the options, with Option 2 initially being considered as the preferred way forward. However, after deliberation it was agreed that relinquishing the international certification would be a step-back for the island. Whilst it was agreed that Option 2 should be carried forward, **Options 1, 2, 3, 4 and 5 were shortlisted** and **Option 3** was determined as the most appropriate preferred way forward, given this would allow for the continuation of international flights whilst also keeping development to a minimum.

3.2.4 Project C

There was significant discussion surrounding options 4 and 5, with option 5 initially being put forward as the preferred way forward. Option 5 had largely been the preference of the public based on the results of the public outreach sessions and survey, with most residents seeking to keep development and tourism growth in Little Cayman to a minimum. There was a general feeling that restricting air access to Little Cayman would help its sustainability, limit development and maintain its charm and identity as a top international dive site.

During Steering Committee discussions, Project C was acknowledged as being the most contentious of the four Projects with some strong opinions on how it should be addressed. It was also acknowledged that the decision needs to be top down and informed by Cabinet, with a clear intention for what Little Cayman should be (it was suggested that a long-term development plan is needed for Little Cayman in particular).

However, the Steering Committee collectively decided that losing the airport (Option 5) would be considered as a step backwards and that a long term vision should be looking to build on what we have already and be seen as moving forwards. Option 5 was also considered to not be aligned with the Steering Committee's tourism growth aspirations. Therefore, **Options 1, 2, 4 and 5 were shortlisted** and it was agreed that **Option 4** should be presented to Caucus and Cabinet as the Preferred Option, to ensure that connectivity would be improved moving forward.

3.3 Costs and Benefits Appraisal

3.3.1. Methodology

- As per the latest Green Book guidance "At the shortlist stage unmonetisable values should form part of the consideration for determining the Preferred Option. This will involve presenting an assessment of unmonetisable effects alongside estimates of Net Present Social Value ("NPSV") and describing the potential impacts on a decision.
- As such, the costs and benefits of each option by project were set out in a Cost/Benefit matrix, included at Appendix 6. Whilst the NPSV was ultimately the deciding factor (see economic appraisal section below), the unmonetisable benefits were assessed alongside with significant consideration given to each.

3.3.2 Costs and Benefits

The following tables provide summaries of the costs and benefits for each option and project – with option 1 and 2 in each scenario representing the Business as Usual and Do Minimum options. The detailed Cost/Benefit matrix has been included at Appendix 6, which includes the qualitative benefits and costs of each option. Furthermore, environmental impacts have been considered separately using the Green Book 4-Step Natural Capital Assessment, performed by Stantec's environmental team. As a means of quantifying the output from this assessment, a % of each options' direct costs was applied as the environmental impact for each option (within "wider costs"). To reach an appropriate %, the qualitative impacts were ranked and the options with the greatest impact were assigned a greater % of build costs (e.g. 5% of direct costs applied to Option 1). Risk costs were also considered, with the net position of the risks presented below and the detailed analysis in section 3.4 below. Refer to Appendix 7 for the detailed risk register.

There are instances where net benefits identified below become net costs when discounting is considered, this is because the profits generated in the future are worth less after being discounted and therefore the overall cost profile of the Project becomes negative with the capital and other costs outweighing the benefits.

Project A1 – Quantified Costs and Benefits

	Option 1	Option 2	Option 3	Option 4	Option 6
Option	**Status quo: business as usual**	**Upgrade existing terminal building, minor apron expansion**	**Replace existing GA terminal building and expand aircraft parking apron, expand or build new hangars adjacent to GA Terminal and on the existing playground**	**Expand aircraft parking at the North Sound site, replace the existing / new terminal building at existing site.**	**Relocate and upgrade the GA terminal/ aircraft parking to the North Sound site.**
Direct benefits	$68,771,944	$70,648,493	$90,410,129	$86,471,317	$91,323,279
Direct costs	($27,214,829)	($30,723,843)	($67,676,702)	($60,311,403)	($69,384,228)
Wider costs	($1,360,741)	($4,608,576)	($10,151,505)	($9,046,711)	($6,938,423)
Optimism bias	($4,005,189)	($4,851,122)	($9,684,809)	($8,360,862)	($8,995,458)
Risk costs	($11,476,317)	($13,178,797)	($19,019,887)	($14,250,502)	($13,631,932)
Net benefit/(cost)	**$24,714,868**	**$17,286,155**	**($16,122,775)**	**($5,498,160)**	**($7,626,763)**
Discounted benefit/(cost)	**$10,804,520**	**$5,886,830**	**($26,307,170)**	**($18,156,827)**	**($23,405,995)**
Environmental impact %	5%	15%	15%	15%	10%
Optimism bias %	10%	10%	10%	10%	10%

The environmental impact assigned to Option 1 was 5%, which is solely a % of operational costs (as there is no capital expenditure in the "do nothing" option). This was deemed appropriate, as regardless of no development taking place under this option, the airport operations do have an environmental impact.

The environmental impacts assigned to Options 2, 3 and 4 was 15%, which is a % of both capital and operational costs. This was deemed appropriate, as these options were ranked as having the most impact after Option 1 and Option 6 (Option 6 assigned 10%, as the midpoint between the least and most impactful).

The level of optimism bias applied to each project was 10%. This has been discussed in more detail in the Optimism Bias section of this Economic Case.

Project A2 - Quantified Costs and Benefits

	Option 1	Option 2	Option 3	Option 4	Option 5
Option	**Status quo: business as usual.**	**Do minimum - minimal upgrades, no expansion to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers.**	**Moderate upgrades and expansion to current airside and landside infrastructure to cater for moderate growth in aircraft movements and passengers.**	**Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers.**	**Upgrades and expansion to current airside and landside infrastructure to cater for growth in aircraft movements and passengers exceeding forecasts.**
Direct benefits	$2,712,909,217	$2,821,876,955	$3,208,863,644	$3,612,440,940	$3,941,762,897
Direct costs	($2,000,197,500)	($2,068,594,886)	($2,311,500,522)	($2,564,819,828)	($2,771,530,192)
Wider costs	($100,009,875)	($310,289,233)	($346,725,078)	($256,481,983)	($415,729,529)
Optimism bias	($260,226,376)	($295,236,858)	($304,673,723)	($314,883,608)	($357,706,268)
Risk costs	($502,056,383)	($573,484,459)	($388,511,635)	($327,534,270)	($389,802,957)
Net benefit/(cost)	**($149,580,917)**	**($425,728,481)**	**($142,547,314)**	**$148,721,251**	**$6,993,951**
Discounted benefit/(cost)	**($15,214,124)**	**($169,189,619)**	**($161,242,818)**	**($145,085,122)**	**($306,655,944)**
Environmental impact %	5%	15%	15%	10%	15%
Optimism bias %	10%	10%	10%	10%	10%

The environmental impact assigned to Option 1 was 5%, which is solely a % of operational costs (as there is no capital expenditure in the "do nothing" option). This was deemed appropriate, as regardless of no development taking place under this option, the airport operations do have an environmental impact.

The environmental impacts assigned to Options 2, 3 and 6 was 15%, which is a % of both capital and operational costs. This was deemed appropriate, as these options were ranked as having the most impact after Option 1 and Option 4 (Option 4 was assigned 10%, as the midpoint between the least and most impactful).

The level of optimism bias applied to each project was 10%. This has been discussed in more detail in the Optimism Bias section of this Case.

Project B - Quantified Costs and Benefits

	Option 1	Option 2	Option 3	Option 4	Option 5
Option	**Status quo: business as usual.**	**Do minimum - minimal upgrades (no expansion) to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers. Relinquish International status. Exemptions to regulations continue (regardless of international status).**	**Minimal upgrades and expansion to current airside and landside infrastructure to cater for low growth in aircraft movements and passengers. Modify lands as needed to meet regulatory requirements and applicable standards.**	**Moderate upgrades and expansion to current airside and landside infrastructure**	**Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers. Acquire lands / meet all applicable regulatory requirements and standards.**
Direct benefits	$55,940,523	$57,484,346	$58,888,075	$59,988,366	$64,108,748
Direct costs	($220,021,569)	($233,675,495)	($246,383,431)	($256,114,657)	($292,556,258)
Wider costs	($11,001,078)	($35,051,324)	($24,638,343)	($38,417,199)	($43,883,439)
Optimism bias	($25,898,226)	($31,806,171)	($30,272,698)	($32,028,358)	($36,462,123)
Risk costs	($27,959,615)	($49,334,894)	($31,705,208)	($25,751,729)	($28,181,532)
Net benefit/(cost)	**($228,939,966)**	**($292,383,539)**	**($274,111,605)**	**($292,323,577)**	**($336,974,603)**
Discounted benefit/(cost)	**($88,502,452)**	**($120,501,927)**	**($115,830,939)**	**($128,245,613)**	**($159,111,818)**
Environmental impact %	5%	15%	15%	15%	10%
Optimism bias %	10%	10%	10%	10%	10%

The environmental impact assigned to Option 1 was 5%, which is solely a % of operational costs (as there is no capital expenditure in the "do nothing" option). This was deemed appropriate, as regardless of no development taking place under this option, the airport operations do have an environmental impact.

The environmental impacts assigned to Options 2, 3 and 4 was 15%, which is a % of both capital and operational costs. This was deemed appropriate, as these options were ranked as having the most impact after Option 1 and Option 5 (Option 5 was assigned 10%, as the midpoint between the least and most impactful).

The level of optimism bias applied to each project was 10%. This has been discussed in more detail in the Optimism Bias section of this Case.

Project C - Quantified Costs and Benefits

	Option 1	Option 2	Option 4	Option 5
Option	**Status quo: business as usual.**	**Do minimum - minimal upgrades / expansion to current airside or landside infrastructure, cater for limited growth in aircraft movements and passengers. Exemptions to regulations continue.**	**Close Existing Airport and Build New Airport including airside and landside infrastructure to cater for the most-likely forecast growth in aircraft movements and passengers. Build to meet all applicable regulatory requirements and standards.**	**Sell or Close Existing Airport, to be replaced by Ferry / Helicopter / Seaplane service**
Direct benefits	$0	$0	$21,745,622	$8,425,595
Direct costs	$0	($143,500)	($120,187,607)	($46,568,091)
Wider costs	$0	($21,525)	($18,028,141)	($4,656,809)
Optimism bias	($30,135)	($55,851)	($1,159,734)	($434,931)
Risk costs	($301,350)	($558,514)	($11,597,340)	($4,349,314)
Net benefit/(cost)	**($331,485)**	**($779,390)**	**($129,227,200)**	**($47,583,550)**
Discounted benefit/(cost)	**($144,906)**	**($302,142)**	**($72,141,349)**	**($27,200,963)**
Environmental impact %	5%	15%	10%	15%
Optimism bias %	10%	10%	10%	10%

The environmental impact assigned to Option 1 was 5%, which is solely a % of operational costs (as there is no capital expenditure in the "do nothing" option). This was deemed appropriate, as regardless of no development taking place under this option, the airport operations do have an environmental impact.

The environmental impacts assigned to Options 2 and 5 was 15%, which is a % of both capital and operational costs. This was deemed appropriate, as these options were ranked as having the most impact after Option 1 and Option 3 (Option 3 was assigned 10%, as the midpoint between the least and most impactful).

The level of optimism bias applied to each project was 10%. This has been discussed in more detail in the Optimism Bias section of this Case.

3.4 Risk appraisal

3.4.1 Methodology

A risk matrix for each project was prepared collaboratively between the various consultants and CIAA. For the risks identified, each were assigned a probability % and a cost (estimate of the $ impact should the risk materialise), which were multiplied together to provide a quantified risk cost estimate. The options were then ranked based on which provided the lowest total risk cost estimates (i.e. the sum of the risk cost estimates), with the lowest total risk costs being ranked first (i.e. most preferable).

The steering committee reviewed the risk matrix to ensure that all risks had been considered and sufficiently appraised on 2 November 2022. The Steering Committee subsequently approved the risk matrix on the same day, at the end of the workshop.

3.4.2 Risk matrix

The following table provides a summary of the risks identified in the risk matrix. The detailed risk register for each project is included in Appendix 7. The same risks were evaluated for each of the four Projects.

Risks identified

Risk	Description
Service risks probability	
Service risk	Service is not fit for purpose
Design risk	Design cannot deliver services to required standard
Planning risk	Risk planning permission cannot be obtained (or can, at greater than budgeted costs)
Build risk	Risk assets are not completed on time to budget/spec.
Environmental risk	Risk of a major impact on an adjacent area with strong likelihood of objection from the public
Contractual risk	Risk from the contractual arrangement from the two parties
Operational risk	Risk operating costs vary from budget and that performance standards slip, or a service cannot be provided
Availability and performance risk	Risk the service provided is less than required under the contract
Demand risk	Risk the demand for a service does not match the levels planned
Volume risk	Risk actual usage of the service varies from the levels forecast
Maintenance risk	Risk that the costs of keeping the assets in good condition vary from budget
Technology risk	The risk that changes in technology result in services being provided using old technology
Funding risk	Risk the availability of funding leads to delays and reduction in scope
Residual value risk	Risk due to uncertainty of the physical assets at the end of the contract period
Business risks probability	
Risk	Non-transferable risks of failure to the organisation
Business risk	Risk an organisation fails to deliver on its commitments and cannot meet its business objectives
Reputational risk	Risk confidence in an organisation's ability to fulfil its business objectives will be undermined
External risks probability	
External risk	Risks that are not connected to the proposal being considered
Regulatory risks	Risk a change in law or regulations will affect the costs or benefits of a project

3.4.3 Analysis of Risks: Project A1

Project A1: Summary of risk values

		Option 1	Option 2	Option 3	Option 4	Option 6
Scope		**Status quo: All GA traffic served from current location with capacity constraints and a dated facility.**	**Upgrade existing terminal building, minor apron expansion**	**Replace existing GA terminal building and expand aircraft parking apron, expand or build new hangars adjacent to GA Terminal and on the existing playground**	**Expand aircraft parking at the North Sound site, replace the existing / new terminal building at existing site.**	**Relocate and upgrade the GA terminal/ aircraft parking to the North Sound site.**
Service risks probability		**Risk cost**				
Service risk	Service is not fit for purpose	($2,800,000)	($1,750,000)	($350,000)	($350,000)	($175,000)
Design risk	Design cannot deliver services to required standard	($2,800,000)	($1,400,000)	($350,000)	($350,000)	($175,000)
Planning risk	Risk planning permission cannot be obtained (or can, at greater than budgeted costs)	N/A	N/A	N/A	N/A	N/A
Build risk	Risk assets are not completed on time to budget/spec.	N/A	($175,000)	($7,567,114)	($2,475,867)	($2,628,818)
Environmental risk	Risk of a major impact on an adjacent area with strong likelihood of objection from the public	N/A	$0	$0	$0	$0
Contractual risk	Risk from the contractual arrangement	N/A	($55,221)	($55,221)	($55,221)	($27,611)

	from the two parties					
Operational risk	Risk operating costs vary from budget and that performance standards slip or a service cannot be provided.	N/A	($272,148)	($272,148)	($272,148)	($272,148)
Availability and performanc e risk	Risk the service provided is less than required under the contract	N/A	($27,611)	($27,611)	($27,611)	($27,611)
Demand risk	Risk the demand for a service does not match the levels planned.	($2,063,158)	($2,063,158)	($2,063,158)	($2,063,158)	($2,063,158)
Volume risk	Risk actual usage of the service varies from the levels forecast.	($2,063,158)	($2,063,158)	($2,063,158)	($2,063,158)	($2,063,158)
Maintenance risk	Risk that the costs of keeping the assets in good condition vary from budget	($700,000)	($700,000)	($700,000)	($700,000)	($700,000)
Technology risk	The risk that changes in technology result in services being provided using old technology.	($700,000)	($700,000)	($700,000)	($700,000)	($700,000)
Funding risk	Risk the availability of funding leads to delays and reduction in scope	N/A	($87,500)	($2,017,897)	($2,063,223)	($2,628,818)
Residual value risk	Risk due to uncertainty of the physical assets at the end of the contract period	N/A	($35,000)	($403,579)	($330,116)	($420,611)

Business risks probability		**Business risks cost estimate**				
Non-transferable risk	Non-transferable risks of failure to the organisation	N/A	($1,750,000)	($350,000)	($700,000)	($700,000)
Business risk	Risk an organisation fails to deliver on its commitments and cannot meets its business objectives	N/A	($1,750,000)	($1,750,000)	($1,750,000)	($700,000)
Reputational risk	Risk confidence in an organisation's ability to fulfil its business objectives will be undermined	N/A	$0	$0	$0	$0
External risks probability		**External risks cost estimate**				
External risk	Risks that are not connected to the proposal being considered	$0	$0	$0	$0	$0
Regulatory risks	Risk a change in law or regulations will affect the costs or benefits of a project	($350,000)	($350,000)	($350,000)	($350,000)	($350,000)
Total risk cost		($11,476,317)	($13,178,797)	($19,019,887)	($14,250,502)	($13,631,932)

3.4.4 Analysis of Risks: Project A2

Project A1: Summary of risk values

		Option 1	Option 2	Option 3	Option 4	Option 5
Scope		**Status quo: business as usual.**	**Do minimum - minimal upgrades, no expansion to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers.**	**Moderate upgrades and expansion to current airside and landside infrastructure to cater for moderate growth in aircraft movements and passengers.**	**Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers.**	**Upgrades and expansion to current airside and landside infrastructure to cater for growth in aircraft movements and passengers exceeding forecasts.**
Service risks probability		**Risk cost**				
Service risk	Service is not fit for purpose	($47,560,000)	($35,670,000)	($29,725,000)	($5,945,000)	($2,972,500)
Design risk	Design cannot deliver services to required standard	N/A	($35,670,000)	($29,725,000)	($5,945,000)	($2,972,500)
Planning risk	Risk planning permission cannot be obtained (or can, at greater than budgeted costs)	N/A	N/A	N/A	N/A	N/A
Build risk	Risk assets are not completed on time to budget/spec.	N/A	($2,972,500)	($20,293,500)	($36,807,106)	($67,043,101)
Environmental risk	Risk of a major impact on an adjacent area with strong likelihood of objection from the public	N/A	$0	$0	$0	$0

Contractual risk	Risk from the contractual arrangement from the two parties	N/A	($2,343,797)	($2,343,797)	($2,343,797)	($2,343,797)
Operational risk	Risk operating costs vary from budget and that performance standards slip or a service cannot be provided.	N/A	($98,782,507)	($19,756,501)	($19,756,501)	($19,756,501)
Availability and performance risk	Risk the service provided is less than required under the contract	N/A	($11,718,984)	($11,718,984)	($4,687,593)	($4,687,593)
Demand risk	Risk the demand for a service does not match the levels planned.	($203,468,191)	($135,645,461)	($81,387,277)	($81,387,277)	($81,387,277)
Volume risk	Risk actual usage of the service varies from the levels forecast.	($203,468,191)	($135,645,461)	($81,387,277)	($81,387,277)	($81,387,277)
Maintenance risk	Risk that the costs of keeping the assets in good condition vary from budget	($29,725,000)	($23,780,000)	($11,890,000)	($11,890,000)	($11,890,000)
Technology risk	The risk that changes in technology result in services being provided using old technology.	($11,890,000)	($29,725,000)	($11,890,000)	($11,890,000)	($11,890,000)
Funding risk	Risk the availability of funding leads to delays and reduction in scope	N/A	($1,486,250)	($20,293,500)	($36,807,106)	($67,043,101)

Residual value risk	Risk due to uncertainty of the physical assets at the end of the contract period	N/A	($594,500)	($2,705,800)	($4,907,614)	($6,704,310)
Business risks probability		**Business risks cost estimate**				
Non-transferable risk	Non-transferable risks of failure to the organisation	N/A	($29,725,000)	($29,725,000)	($5,945,000)	($11,890,000)
Business risk	Risk an organisation fails to deliver on its commitments and cannot meets its business objectives	N/A	($23,780,000)	($29,725,000)	($11,890,000)	($11,890,000)
Reputational risk	Risk confidence in an organisation's ability to fulfil its business objectives will be undermined	N/A	$0	$0	$0	$0
External risks probability		**External risks cost estimate**				
External risk	Risks that are not connected to the proposal being considered	$0	$0	$0	$0	$0
Regulatory risks	Risk a change in law or regulations will affect the costs or benefits of a project	($5,945,000)	($5,945,000)	($5,945,000)	($5,945,000)	($5,945,000)
Total risk cost		**($502,056,383)**	**($573,484,459)**	**($388,511,635)**	**($327,534,270)**	**($389,802,957)**

3.4.5 Analysis of Risks: Project B

Project B: Summary of risk values

		Option 1	Option 2	Option 3	Option 4	Option 5
Scope		Status quo: business as usual.	Do minimum - minimal upgrades (no expansion) to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers. Relinquish International status. Exemptions to regulations continue (regardless of international status).	Minimal upgrades and expansion to current airside and landside infrastructure to cater for low growth in aircraft movements and passengers. Modify lands as needed to meet regulatory requirements and applicable standards.	Moderate upgrades and expansion to current airside and landside infrastructure.	Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers. Acquire lands / meet all applicable regulatory requirements and standards.
Service risks probability		**Risk cost**				
Service risk	Service is not fit for purpose	($6,989,238)	($5,591,391)	($4,193,543)	($1,397,848)	($698,924)
Design risk	Design cannot deliver services to required standard	N/A	($4,193,543)	($4,193,543)	($1,397,848)	($698,924)
Planning risk	Risk planning permission cannot be obtained (or can, at greater than budgeted costs)	N/A	N/A	N/A	N/A	N/A
Build risk	Risk assets are not completed on time to budget/spec.	N/A	($349,462)	($1,000,818)	($1,832,551)	($4,622,426)

Environmental risk	Risk of a major impact on an adjacent area with strong likelihood of objection from the public	N/A	$0	$0	$0	$0
Contractual risk	Risk from the contractual arrangement from the two parties	N/A	($28,407)	($28,407)	($28,407)	($28,407)
Operational risk	Risk operating costs vary from budget and that performance standards slip or a service cannot be provided.	N/A	($11,001,078)	($2,200,216)	($2,200,216)	($2,200,216)
Availability and performance risk	Risk the service provided is less than required under the contract	N/A	($142,037)	($85,222)	($56,815)	($28,407)
Demand risk	Risk the demand for a service does not match the levels planned.	($2,797,026)	($2,237,621)	($1,678,216)	($1,678,216)	($1,678,216)
Volume risk	Risk actual usage of the service varies from the levels forecast.	($2,797,026)	($2,237,621)	($1,678,216)	($1,678,216)	($1,678,216)
Maintenance risk	Risk that the costs of keeping the assets in good condition vary from budget	($6,989,238)	($5,591,391)	($2,795,695)	($2,795,695)	($2,795,695)
Technology risk	The risk that changes in technology result in services being	($6,989,238)	($5,591,391)	($2,795,695)	($2,795,695)	($2,795,695)

	provided using old technology.					
Funding risk	Risk the availability of funding leads to delays and reduction in scope	N/A	($349,462)	($1,000,818)	($1,832,551)	($4,622,426)
Residual value risk	Risk due to uncertainty of the physical assets at the end of the contract period	N/A	($139,785)	($269,885)	($369,510)	($742,588)
Business risks probability		**Business risks cost estimate**				
Non-transferable risk	Non-transferable risks of failure to the organisation	N/A	-$3,494,619	-$2,795,695	-$2,096,772	-$1,397,848
Business risk	Risk an organisation fails to deliver on its commitments and cannot meets its business objectives	N/A	-$6,989,238	-$5,591,391	-$4,193,543	-$2,795,695
Reputational risk	Risk confidence in an organisation's ability to fulfil its business objectives will be undermined	N/A	$0	$0	$0	$0
External risks probability		**External risks cost estimate**				
External risk	Risks that are not connected to the proposal being considered	$0	$0	$0	$0	$0

Regulatory risks	Risk a change in law or regulations will affect the costs or benefits of a project	($1,397,848)	($1,397,848)	($1,397,848)	($1,397,848)	($1,397,848)
Total risk cost		**($27,959,615)**	**($49,334,894)**	**($31,705,208)**	**($25,751,729)**	**($28,181,532)**

3.4.6 Analysis of Risks: Project C

Project C: Summary of risk values

		Option 1	Option 2	Option 4	Option 5
Scope		**Status quo - business as usual.**	**Do minimum - minimal upgrades / expansion to current airside or landside infrastructure, cater for limited growth in aircraft movements and passengers. Exemptions to regulations continue.**	**Close Existing Airport and Build New Airport including airside and landside infrastructure to cater for the most-likely forecast growth in aircraft movements and passengers. Build to meet all applicable regulatory requirements and standards.**	**Sell or Close Existing Airport, to be replaced by Ferry / Helicopter / Seaplane service**
Service risks probability		**Service risks cost estimate**			
Service risk	Service is not fit for purpose	($114,800)	($71,750)	($14,350)	($35,875)
Design risk	Design cannot deliver services to required standard	N/A	($71,750)	($28,700)	($43,050)
Planning risk	Risk planning permission cannot be obtained (or can, at greater than budgeted costs)	N/A	N/A	N/A	N/A
Build risk	Risk assets are not completed on time to budget/spec.	N/A	($3,588)	($3,460,600)	($2,234,750)

Environmental risk	Risk of a major impact on an adjacent area with strong likelihood of objection from the public	N/A	$0	$0	$0
Contractual risk	Risk from the contractual arrangement from the two parties	N/A	($17,509)	($17,509)	($17,509)
Operational risk	Risk operating costs vary from budget and that performance standards slip or a service cannot be provided.	N/A	$0	($1,480,925)	($573,802)
Availability and performance risk	Risk the service provided is less than required under the contract	N/A	($87,545)	($35,018)	($35,018)
Demand risk	Risk the demand for a service does not match the levels planned.	$0	$0	$0	$0
Volume risk	Risk actual usage of the service varies from the levels forecast.	$0	$0	$0	$0
Maintenance risk	Risk that the costs of keeping the assets in good condition vary from budget	($71,750)	($57,400)	($28,700)	($28,700)
Technology risk	The risk that changes in technology result in services being provided using old technology.	($43,050)	($43,050)	($28,700)	($28,700)
Funding risk	Risk the availability of funding leads to delays and reduction in scope	N/A	($3,588)	($4,614,134)	($893,900)

Residual value risk	Risk due to uncertainty of the physical assets at the end of the contract period	N/A	($1,435)	($1,845,654)	($357,560)
Business risks probability		**Business risks cost estimate**			
Non-transferable risk	Non-transferable risks of failure to the organisation	N/A	($71,750)	($14,350)	($43,050)
Business risk	Risk an organisation fails to deliver on its commitments and cannot meets its business objectives	N/A	($71,750)	($14,350)	($43,050)
Reputational risk	Risk confidence in an organisation's ability to fulfil its business objectives will be undermined	N/A	$0	$0	$0
External risks probability		**External risks cost estimate**			
External risk	Risks that are not connected to the proposal being considered	$0	$0	$0	$0
Regulatory risks	Risk a change in law or regulations will affect the costs or benefits of a project	($71,750)	($57,400)	($14,350)	($14,350)
Total risk cost		**($301,350)**	**($558,514)**	**($11,597,340)**	**($4,349,314)**

3.5 Economic Appraisal: Costs

This section appraises the financial implications, both initial and ongoing, of the short-listed options.

The Green Book provides a framework for the economic appraisal calculations. Salient points have been summarised below:

- Cash flows are projected in constant/ base year terms (i.e. adjustments for inflation are excluded from the economic analysis.
- Cash flows are discounted to their Net Present Value ('NPV'). This is to account for the time value of money.
- Opportunity costs are considered.
- Depreciation and capital charges are excluded.

The following inputs are consistent across all projects and all options:

Economic case major inputs and assumption

Input	Description
Base year	Projection estimates are presented in base year dollar terms. This has been chosen as 2022.
Projection period	This represents the period over which the analysis has been performed. As per the latest Green Book guidance: • "Costs and benefits should be calculated over the lifetime of the proposal. Proposals involving infrastructure such as roads, railways and new buildings are appraised over a 60-year period."
Discount rate	The inputs noted in the models are provided in nominal terms and a nominal discount factor of 3.5% was used between 0 and 30 years, with a rate of 3.0% between 31 and 60 years. The purpose of this is to discount the cash flows over the projection period to base year prices, as stipulated by the Green Book.
Inflation	All values in the economic dimension are expressed in base year prices. This means that the average inflation rate is removed. Refer to the financial case for figures presented in real terms (i.e. inclusive of inflation).

3.5.1 Optimism Bias

Optimism bias is the demonstrated systematic tendency for appraisers to be over-optimistic about key project parameters, including capital costs, operating costs, project duration and benefits delivery. Over-optimistic estimates can lock in undeliverable targets. To reduce this tendency appraisals should make explicit adjustments for optimism bias. The Green Book recommends applying overall percentage adjustments at the outset of an appraisal.

Areas impacted by optimism bias adjustment

Area	Optimism bias adjustment
Capital costs Our adjustment percentage was determined after discussions with the aviation consultants, cost consultants and the CIAA. Furthermore, we have also considered the optimism bias of other major capital projects in the Cayman Islands; it is our understanding that the optimism biases ranged from 10% to 25%. **10% was selected since contingencies have already been built into the capital costs estimates by the cost consultants.**	10%
Operating costs Representatives from the CIAA have provided a range of staffing models based on the current operations and proposed Projects. Consideration has been given to the potential for additional training of staff and the possibility of having to recruit from abroad for new positions.	10%

3.5.2 Cost estimates for the Shortlisted Options

Forecast revenue for each option has been prepared using the average revenue per passenger for 2018 and 2019 for each airport, multiplied by the forecast passenger levels as prepared by DKMA (aside from Project A,1, where a pro-rata calculation was applied to ORIA's P&L to split this Project out in the absence of separate financial information for the GA facility). 2018 and 2019 were used as the basis for this calculation, given FY20 and FY21 were distorted by the impact of Covid-19.

Variable operating costs have been forecast with reference to forecast revenue with fixed operating costs being forecast using historical averages (increasing in line with DKMA forecast annual average demand growth of 1.5% to reflect the gradual increase in fixed costs that is expected over time). Again, Project A1 was calculated separately based on a pro-rata calculation of ORIA. Capital expenditure relates to the costs provided by BCQS (cost consultants) and Stantec, which have been phased over the forecast period by Stantec, according to the order of priority as stipulated by the Project Team and Steering Committee. The costs are presented in base year prices.

The methodology behind the calculation of wider costs, risk costs and optimism bias adjustments have been discussed earlier in this section. Assumptions underpinning the financial information presented below have been discussed in more detail within the Financial Case. In line with the Green Book Guidance, options 1 and 2 have been carried forward for Project (i.e. Business as Usual and Do Nothing). However, options 1 and 2 have been marked as N/A in the analysis below (and elsewhere in this section) as they do not meet the investment objectives stipulated at the Short List Evaluation stage. Therefore, they have been included in the tables below for comparative purposes only. A detailed breakdown of the quantified benefits and costs summarised below have been included at appendix 6 along with the benefits register included within the Management Case section.

Project A1: Summary of the Quantitative Analysis of Options

	$(000)'s	$(000)'s	$(000)'s	$(000)'s	$(000)'s
Options	1	2	3	4	6
60-year nominal costs					
Revenue	$68,772	$70,648	$90,410	$86,471	$91,323
Operating costs	($27,215)	($27,224)	($27,319)	($27,300)	($27,323)
EBITDA	**$41,557**	**$43,425**	**$63,091**	**$59,171**	**$64,000**
Capital expenditure	$0	($3,500)	($40,358)	($33,012)	($42,061)
Wider costs	($1,361)	($4,609)	($10,152)	($9,047)	($6,938)
Risk costs	($11,476)	($13,179)	($19,020)	($14,251)	($13,632)
Optimism bias	($4,005)	($4,851)	($9,685)	($8,361)	($8,995)
Total benefits/(costs)	**$24,715**	**$17,286**	**($16,123)**	**($5,498)**	**($7,627)**
60-year costs discounted at 3.5% (0-30yrs) and 3.0% (31-60yrs)					
Revenue	$28,598	$29,268	$36,332	$34,924	$36,659
Operating costs	($10,431)	($10,432)	($10,443)	($10,440)	($10,443)
EBITDA	**$18,167**	**$18,837**	**$25,890**	**$24,484**	**$26,216**
Capital expenditure	$0	($3,054)	($35,211)	($28,802)	($36,660)
Wider costs	($595)	($2,015)	($4,438)	($3,955)	($3,033)
Risk costs	($1,751)	($2,121)	($4,234)	($3,655)	($3,932)
Optimism bias	($5,017)	($5,761)	($8,314)	($6,229)	($5,959)
Net total benefits/(costs)	**$10,805**	**$5,887**	**($26,307)**	**($18,157)**	**($23,369)**
Rank*	**N/A**	**N/A**	**3**	**1**	**2**

*A rank of 1 has the Highest NPSV

Project A2: Summary of the Quantitative Analysis of Options

	$(000)'s	$(000)'s	$(000)'s	$(000)'s	$(000)'s
Options	1	2	3	4	5
60-year nominal costs					
Revenue	$2,712,909	$2,821,877	$3,208,864	$3,612,441	$3,941,763
Operating costs	($2,000,198)	($2,009,145)	($2,040,921)	($2,074,058)	($2,101,099)
EBITDA	**$712,712**	**$812,732**	**$1,167,943**	**$1,538,383**	**$1,840,664**
Capital expenditure	$0	($59,450)	($270,580)	($490,761)	($670,431)
Wider costs	($100,010)	($310,289)	($346,725)	($256,482)	($415,730)
Risk costs	($502,056)	($573,484)	($388,512)	($327,534)	($389,803)
Optimism bias	($260,226)	($295,237)	($304,674)	($314,884)	($357,706)
Total benefits/(costs)	**($149,581)**	**($425,728)**	**($142,547)**	**$148,721**	**$6,994**
60-year costs discounted at 3.5% (0-30yrs) and 3.0% (31-60yrs)					
Revenue	$1,127,712	$1,166,762	$1,305,442	$1,450,067	$1,568,083
Operating costs	($767,109)	($770,411)	($782,138)	($794,367)	($804,346)
EBITDA	**$360,603**	**$396,350**	**$523,304**	**$655,700**	**$763,736**
Capital expenditure	$0	($51,869)	($233,417)	($412,577)	($568,637)
Wider costs	($43,718)	($135,640)	($151,568)	($112,119)	($181,733)
Risk costs	($112,629)	($127,338)	($129,727)	($132,610)	($149,623)
Optimism bias	($219,470)	($250,694)	($169,834)	($143,179)	($170,399)
Net total benefits/(costs)	**($15,214)**	**($169,190)**	**($161,243)**	**($144,784)**	**($306,656)**
Rank*	**N/A**	**N/A**	**2**	**1**	**3**

*A rank of 1 has the highest NPSV

Project B: Summary of the Quantitative Analysis of Options

	$(000)'s	$(000)'s	$(000)'s	$(000)'s	$(000)'s
Options	1	2	3	4	5
60-year nominal costs					
Revenue	$55,941	$57,386	$58,731	$59,761	$64,109
Operating costs	($220,022)	($219,717)	($219,433)	($219,215)	($218,297)
EBITDA	**($164,081)**	**($162,331)**	**($160,702)**	**($159,455)**	**($154,189)**

Capital expenditure	$0	($13,978)	($26,988)	($36,951)	($79,009)
Wider costs	($11,001)	($35,051)	($24,609)	($38,373)	($43,838)
Risk costs	($27,960)	($48,994)	($28,679)	($25,578)	($28,065)
Optimism bias	($25,898)	($31,772)	($29,938)	($31,977)	($36,416)
Total benefits/(costs)	**($228,940)**	**($292,126)**	**($270,916)**	**($292,334)**	**($341,517)**
60-year costs discounted at 3.5% (0-30yrs) and 3.0% (31-60yrs)					
Revenue	$23,671	$24,042	$24,386	$24,650	$25,765
Operating costs	($83,821)	($83,681)	($83,551)	($83,452)	($83,031)
EBITDA	**($60,150)**	**($59,640)**	**($59,165)**	**($58,801)**	**($57,266)**
Capital expenditure	$0	($10,269)	($20,602)	($27,852)	($54,007)
Wider costs	($4,809)	($15,322)	($10,758)	($16,774)	($19,164)
Risk costs	($11,321)	($13,904)	($13,233)	($14,001)	($15,939)
Optimism bias	($12,222)	($21,566)	($13,860)	($11,257)	($12,319)
Net total benefits/(costs)	**($88,502)**	**($120,701)**	**($117,618)**	**($128,686)**	**($158,695)**
Rank*	**N/A**	**N/A**	**1**	**2**	**3**

*A rank of 1 has the highest NPSV

Project C: Summary of the Quantitative Analysis of Options

	$(000)'s	$(000)'s	$(000)'s	$(000)'s
Options	1	2	4	5
60-year nominal costs				
Revenue	$0	$0	$21,746	$8,426
Operating costs	$0	$0	($74,046)	($28,690)
EBITDA	**$0**	**$0**	**($52,301)**	**($20,264)**
Capital expenditure	$0	($144)	($46,141)	($17,878)
Wider costs	$0	($22)	($18,028)	($4,657)
Risk costs	($301)	($348)	($11,492)	($4,244)
Optimism bias	($30)	($35)	($1,149)	($424)
Total benefits/(costs)	**($331)**	**($548)**	**($129,112)**	**($47,468)**
60-year costs discounted at 3.5% (0-30yrs) and 3.0% (31-60yrs)				
Revenue	$0	$0	$8,739	$3,386
Operating costs	$0	$0	($28,164)	($10,912)
EBITDA	**$0**	**$0**	**($19,425)**	**($7,526)**

Capital expenditure	$0	($125)	($39,784)	($15,598)
Wider costs	$0	($9)	($7,881)	($2,036)
Risk costs	($13)	($24)	($507)	($190)
Optimism bias	($132)	($244)	($5,070)	($1,901)
Net total benefits/(costs)	**($145)**	**($403)**	**($72,666)**	**($27,251)**
Rank*	**N/A**	**N/A**	**2**	**1**

*A rank of 1 has the highest NPSV

3.6 Economic Appraisal Conclusions

In selecting the Preferred Option for each Project, the Steering Committee considered the Risks, Costs and Benefits of the shortlisted options as outlined above. A detailed assessment was presented and discussed. The findings are presented below:

3.6.1 Project A1 – Selection of the Preferred Option

Project A1 Selection of the Preferred Option

$'000	Option 1	Option 2	Option 3	Option 4	Option 6
Undiscounted cost	$24,715	$17,286	($16,123)	($5,498)	($7,627)
Economic appraisal (NPSV)	**$10,805**	**$5,887**	**($26,307)**	**($18,157)**	**($23,369)**
Ranking	N/A	N/A	3	1	2
Significant Unquantifiable benefits				Higher GA terminal satisfaction, which may lead to increased tourism (i.e. higher revenues for businesses in Cayman)	Further increased capacity for future air traffic growth (i.e. potentially less costly in the long term) Greater revenue opportunity for CIAA or 3rd party operator if hangar, g/a terminal and aprons are collated Majority of east-end apron is to be constructed on brownfield / cleared lands. Hangars, GA terminal together will enable reduction in aircraft fuel burn and emissions Would allow for boat transfers/water taxis, which would drastically improve the user experience for HNWIs.

					Higher GA terminal satisfaction, which may lead to increased tourism (i.e. higher revenues for businesses in Cayman)
Significant Unquantifiable benefits ranking	N/A	N/A	3	2	1

Ordinarily, the quantification of more costs and benefits would be sought; however, due to evidence constraints this was not possible; therefore, greater emphasis has been placed on the significant unquantifiable benefits than would be typical. Option 4 has the most economically advantageous undiscounted cost profile and the most economically advantageous Net Present Social Value (NPSV). However, Option 6 provided significant unquantifiable benefits which the Steering Committee deemed to outweigh the difference in the NPSV. As a result, Option 6 scored the highest in the overall ranking and has been designated as the Preferred Option.

Option 6 is the Preferred Option for Project A1

3.6.2 Project A2 – Selection of the Preferred Option

Project A2 Selection of the Preferred Option

$'000	Option 1	Option 2	Option 3	Option 4	Option 5
Undiscounted benefit/(cost)	($149,581)	($425,728)	($142,547)	$148,721	$6,994
Economic appraisal (NPSV)	**($15,214)**	**($169,190)**	**($161,243)**	**($144,784)**	**($306,656)**
Ranking	N/A	N/A	2	1	3
Significant Unquantifiable benefits				Increased capacity for future air traffic growth (i.e. potentially less costly in the long term) Improved facilitation of movement of people, goods and services, due to reduced time, lower costs from development of innovative, technology-based solutions which benefit airlines, cargo and mail shippers, and consumers	Increased capacity for future air traffic growth (i.e. potentially less costly in the long term)
Significant Unquantifiable benefits ranking	N/A	N/A	2	1	3

Ordinarily, the quantification of more costs and benefits would be sought; however, due to evidence constraints this was not possible; therefore, greater emphasis has been placed on the significant unquantifiable benefits than would be typical. Option 4

has both the most economically advantageous undiscounted benefit/(cost) profile and the most economically advantageous Net Present Social Value (NPSV), as well as having significant unquantifiable benefits.

Option 4 is the Preferred Option for Project A2

3.6.3 Project B – Selection of the Preferred Option

Project B Selection of the Preferred Option

$'000	Option 1	Option 2	Option 3	Option 4	Option 5
Undiscounted benefit/(cost)	($228,940)	($292,126)	($270,916)	($292,334)	($341,517)
Economic appraisal (NPSV)	**($60,150)**	**($59,640)**	**($59,165)**	**($58,801)**	**($57,266)**
Ranking	N/A	N/A	3	2	1
Significant Unquantifiable benefits				Further terminal satisfaction, which is expected to lead to increased tourism (i.e. higher revenues for businesses in Cayman) Further improved efficiency from the upgrades/expansion	Further terminal satisfaction, which is expected to lead to increased tourism (i.e. higher revenues for businesses in Cayman) Further improved efficiency from the upgrades/expansion Further increased capacity for future air traffic growth (i.e. potentially less costly in the long term) Improvements in facilitation will lead to more efficient airport operations, benefiting the airlines, passengers and shippers, and aircraft operators
Significant Unquantifiable benefits ranking	N/A	N/A	3	2	1

Ordinarily, the quantification of more costs and benefits would be sought; however, due to evidence constraints this was not possible; therefore, greater emphasis has been placed on the significant unquantifiable benefits than would be typical. Option 5 has the most economically advantageous undiscounted cost profile and the most economically advantageous Net Present Social Value (NPSV). Furthermore, option 5 also has significant unquantifiable benefits, scoring the highest in the overall ranking and has been designated as the Preferred Option. This is driven largely by the desire of the Steering Committee to ensure the highest level of interconnectivity between the islands, placing safety and efficiency at the heart of any future development. Therefore, the increased costs associated with this Option have been deemed necessary to facilitate such development and ensure a "step forward" for the sister islands.

Option 5 is the Preferred Option for Project B

3.6.4 Project C – Selection of the Preferred Option

Project C Selection of the Preferred Option

$'000	Option 1	Option 2	Option 4	Option 5
Undiscounted benefit/(cost)	($331)	($548)	($129,112)	($47,468)
Economic appraisal (NPSV)	**($145)**	**($403)**	**($72,666)**	**($27,251)**
Ranking	N/A	N/A	2	1
Significant Unquantifiable benefits			Increased capacity for future air traffic growth (i.e. potentially less costly in the long term) Further reduced risk of accidents and therefore associated costs May lead to increased revenues (i.e. higher airport revenues and increase in revenues for businesses in Little Cayman) Would facilitate more efficient medevac/ hurricane evacuation services as well as night-time flights Would allow for a better quality of service (i.e. larger planes) Reduced risk of accidents	Controlled/restricted tourism, reducing environmental impact on the Islands The "hard to reach" nature of the island may increase its allure, thereby potentially leading to increased tourism revenues for local businesses Reduced risk of accidents
Significant Unquantifiable benefits ranking	N/A	N/A	1	2

Ordinarily, the quantification of more costs and benefits would be sought; however, due to evidence constraints this was not possible; therefore, greater emphasis has been placed on the significant unquantifiable benefits than would be typical. Option 5 has the most economically advantageous undiscounted cost profile and the most economically advantageous Net Present Social Value (NPSV). However, Option 4 provided significant unquantifiable benefits which the steering committee feel outweighs the difference in the NPSV. As a result, Option 4 scored the highest in the overall ranking and has been designated as the Preferred Option. This is driven largely by the desire of the Steering Committee to ensure the highest level of interconnectivity between the islands, placing safety and efficiency at the heart of any future development. Therefore, the increased costs associated with this option have been deemed necessary to facilitate such development and ensure a "step forward" for the sister islands.

Option 4 is the Preferred Option for Project C

3.6.5 Tourism Impact

Further to the significant unquantifiable benefits noted above, the estimated economic impact of increased visitor numbers on the tourism industry has also been calculated. Based on 2019 stayover visitor and visitor spend data provided by Visit Caymans Islands and the forecast passenger data provided by DKMA (i.e. assuming forecast demand is met for each of the airports), it is estimated that the Preferred Options could lead to an additional 17 million visitors over the 60 year forecast period. The increase in visitors is estimated to lead to an increase in tourism spend of c.$6 billion over the respective period (i.e. c$100m per annum) or $2 billion after discounting. Given the high-level nature of the assumptions used for this calculation, this impact has not been quantified in the analysis above.

3.7 Value for Money Assessment of the Preferred Options for Projects A1, A2, B and C

3.7.1 VfM Assessment

As the Project developed, a number of specific requirements were put in place by the Steering Committee that had the potential to constrain value for money. The specific requirements were as follows:

1) The GA facility was to be placed in close proximity to the North Sound, to allow for the future development of a marine dock to facilitate marine taxis between the airport and Seven Mile Beach;

2) The redevelopment of ORIA was to be of sufficient scale such that further redevelopments would not be required in the medium term. In practice, this meant that the runway length should be maximised to facilitate larger payloads and aircrafts (i.e. 8,000ft, as stipulated by Virgin Atlantic) and the terminal building should be two-story to allow for the use of jet bridges; and

3) The highest level of interconnectivity between the islands has been designated as a priority, placing safety and efficiency at the heart of any future development. Therefore, increased costs associated with meeting forecast demand and regulatory concerns on the sister islands have been deemed as necessary to ensure a "step forward" for the sister islands.

VfM Assessment Summary

The table below analyses both nominal and discounted net present social values (i.e. including the quantitative benefits, costs and risks as well as capital costs).

Preferred option by project	Costs ($'000)	
	Nominal costs	**NPSV discounted (3.5% / 3.0%)**
Project A1	($7,627)	($23,369)
Project A2	$148,721	($144,784)
Project B	($341,517)	($158,695)
Project C	($129,227)	($72,666)
Total costs	**($329,534)**	**($399,514)**

Conclusion on VfM

- The Preferred Option for each project has been selected to ensure that the base case passenger forecasts (prepared by DKMA) have been met, for each island.
- It is the Steering Committee's assessment that the planned facilities are required to cater for forecast demand and to provide quality facilities that present the Cayman Islands in the best light and meet regulatory requirements, enabling the islands to compete with neighboring jurisdictions.
- The conceptual design team has ensured that the designs optimise space allowances in light of existing constraints and user requirements.
- Overall, it is noted that the Preferred Options for Projects B and C may not necessarily represent the best VfM of the options, given the limited passenger numbers that each island services (i.e. both airports are loss making); the Steering Committee selected the Preferred Options for each of these airports based not upon VfM, but rather on the on the importance of certain qualitative benefits:

    - The choice of Preferred Options for Projects B and C is driven largely by the desire of the Steering Committee to ensure the high-quality brand image of the Cayman Islands and to ensure the highest level of interconnectivity between the islands, placing safety and efficiency at the heart of any future development. Therefore, the increased costs associated with options B and C have been deemed necessary to facilitate such development and ensure a "step forward" for the Cayman Islands.
- Given the parameters set by the Steering Committee, it is believed that the Preferred Options for Project A1 and A2 have been optimised and as such can be considered in this context to represent value for money.
- The overall capital cost of CI$658m for all four projects will be used to set the affordability envelope going forward (after considering inflation, as discussed in the Financial Case section).

4.0 Commercial Case

4.1 Introduction

This section of the OBC describes the four Projects ("Projects A1, A2, B and C") and the procurement and deliver methods available for the delivery of each Project, under the assumption that the Preferred Options are proceeded with in their entirety. The section also examines the potential options for packaging of services for procurement and identifies the outline specifications for the delivery of services. A key element of the procurement process is the ability to drive competition since this can have a material impact on VfM. Each Project is expected to be procured under a separate contract (with the potential exception of elements of Projects A1 and A2 which may be procured together to maximise VfM). The following commentary needs to be considered individually for each Project during the next stage.

The scope of work for Project A1 (the GA terminal at ORIA) includes:

Works	Term	Estimated capital costs (base year prices)
New GA Terminal east side, North Sound site	2026 - 2028	$11,657,940
New Hangar next to GA terminal	2026 - 2028	$9,049,520
New apron, north-sound	2023 - 2029	$21,353,620
Total estimate		**$42,061,080**

The scope of work for Project A2 (ORIA) includes:

Works	Term	Estimated capital costs (base year prices)
Land acquisition	2029 - 2033	$29,910,000
Terminal Expansion	2025 - 2033	$335,528,481
Apron expansion, and rehabilitation	2029 – 2038	$25,153,718
Runway extension (8,000 ft.)	2023 - 2026	$27,707,707
Full Parallel taxiway	2033 - 2035	$14,924,000
Cargo / Future MRO/Engine Run-up Aprons	2039 - 2041	$8,610,000
Marine Dock / Seawall for water taxi services interface with airport	2033 - 2035	$5,000,360
Landside works	2031 - 2034	$24,627,231
Heliport, Medevac/Police/Tourism Centre	2033 – 2035	$1,230,000
New ATC Tower and ATM System	2023 - 2034	$9,840,000
Airfield drainage improvements and pumping station	2029 - 2033	$8,229,913
Total estimate		**$490,761,409**

The scope of work for Project B (CKIA) includes:

Works	Term	Estimated capital costs (base year prices)
Landside expansion to accommodate 30m set-back security regulation	2033	$7,510,000
Terminal expansion, meets future requirements	2033 - 2037	$31,244,348
Acquisition and maintenance facility expansion	2037 - 2039	$1,230,000
Runway strip and RESA works	2023 - 2026	$1,146,360
Rehabilitate Runway, Taxiway, Apron	2034 - 2036	$13,568,477
Site Works, fencing, contingency, fees, etc.	2032 - 2041	$18,635,961
Apron expansion and 2nd taxiway to runway from apron	2034 - 2037	$2,628,914
General Aviation apron	2039 - 2041	$994,758
ATC Tower	2038 - 2040	$2,050,000
Total estimate		**$79,008,819**

The scope of work for Project C (EBA) includes:

Works	Term	Estimated capital costs (base year prices)
Environmental Impact Assessment	2023 - 2024	1,384,000
Runway, short taxiway, apron	2025 - 2030	14,033,814
Access road, terminal curb road and parking lot	2025 - 2028	2,472,506
Airport perimeter road and fence	2027 - 2029	4,866,805
Site Clearing	2025 - 2026	17,896,671
Terminal	2028 - 2031	6,871,543
Total estimate		**47,525,339**

Illustrations of the scope of works for each of the Projects in the overall Master Plan is included in Appendix 9. The proposed final solutions are shown below:

Illustrations of the scope of Projects A1, A2, B and C

Project A1

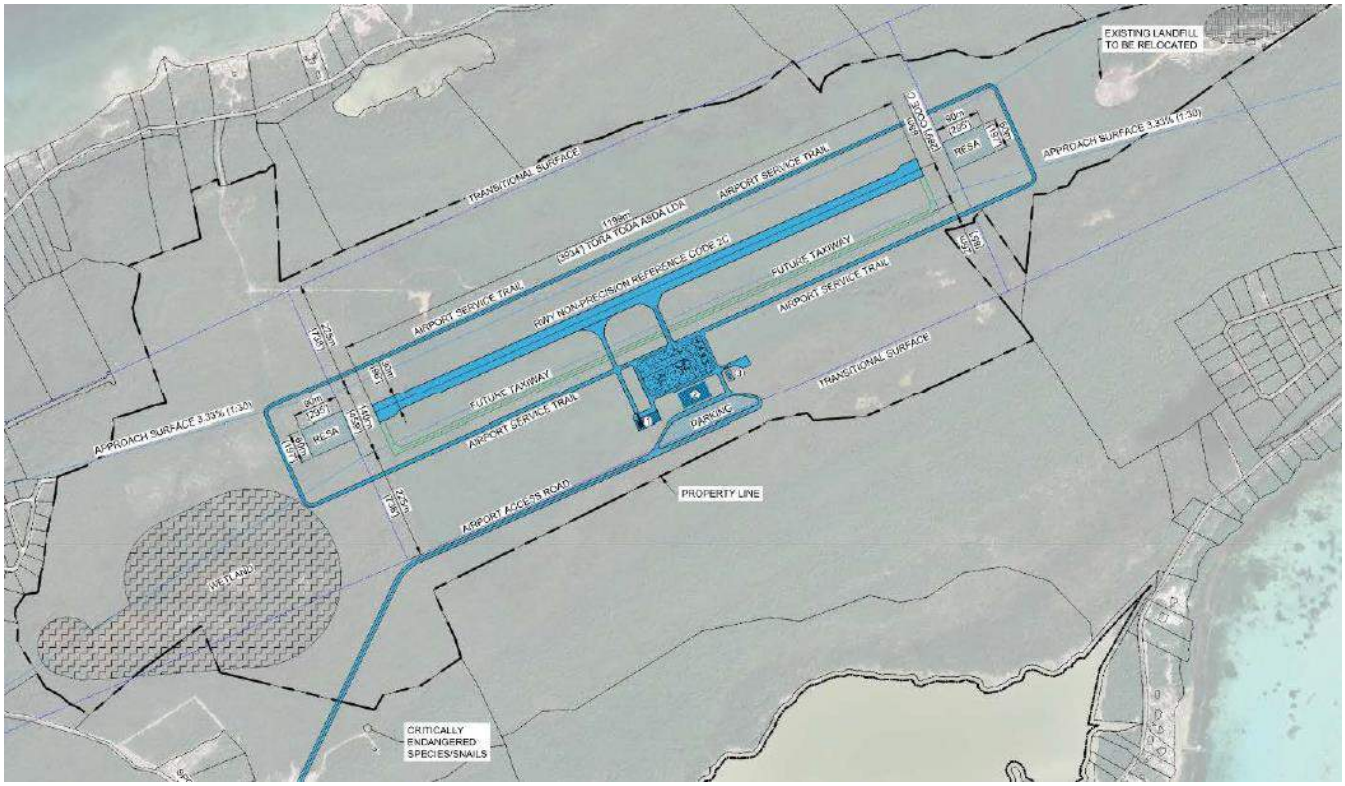
**Refer to Project A2 below for the ORIA airport layout plan, which also includes the GA facility*

Project A2

Project B


NEW ACCESS ROAD
NEW PARKING LOT 1293m²
NEW PARKING LOT 1903m²
CLEARWAY
150m x 150m
RESA GRADING AND DRAINAGE WORKS
RESA
90m x 90m
TWY A
NEW TWY
RUNWAY 09-27
TURTLE HABITAT
CLEARWAY
150m x 150m
RESA SHIFTED EASTWARD 75.6m
RESA
90m x 90m
1753.8m
RWY 09 LDA (5754')
1753.8m
RWY 27 TORA, ASDA, LDA (5754')
1829.3m
RWY 09 TORA, ASDA (6000')
1829.3m
RWY 09 TODA (6440')
1963.0m
RWY 27 TODA (6243')

Project C


EXISTING LANDFILL TO BE RELOCATED
TRANSITIONAL SURFACE
AIRPORT SERVICE TRAIL
1190m (3934') TORA TODA ASDA LDA
AIRPORT SERVICE TRAIL
FUTURE TAXIWAY
RWY NON-PRECISION REFERENCE CODE 2C
AIRPORT SERVICE TRAIL
TRANSITIONAL SURFACE
APPROACH SURFACE 3.33% (1:30)
RESA
APPROACH SURFACE 3.33% (1:30)
RESA
FUTURE TAXIWAY
AIRPORT SERVICE TRAIL
PARKING
PROPERTY LINE
AIRPORT ACCESS ROAD
WETLAND
CRITICALLY ENDANGERED SPECIES/SNAILS

There has been (and continues to be) a full consultation exercise with the relevant users and stakeholders, with a view to ensuring that the masterplans for each Project meet the requirements of the users.

The completion of each Project will require a full range of design and build professional expertise together with that of experienced planning and project management.

Potential consultancy services required to deliver each Project include:

- Quantity Surveying Support – to provide iterative cost plans;
- Project Management Support – to assist with the development process;
- Design and Architecture support – to assist the design team in their final choice of layout and design and provide services as defined by the RIBA outline plan of works;
- Construction and build support – to build the new facilities, in line with CIG's preferred design;
- Business assurance support – to develop and validate the full/final business case for the Projects;
- Environment and Ground Investigation Survey support – to ensure that the land earmarked for development (Preferred Options) is suitable for the development.
- Civil and Structural Engineers; Building Services Engineers and Mechanical, Electrical, Plumbing and Fire consultants.

4.2 Delivery methods – PPP vs Public sector Delivery

In keeping with general best practice standards, we have performed a qualitative evaluation of delivery methods using traditional methods (i.e. using CIG capital resources and a typical Design Bid / Design Bid Build Contract structure) versus Public Private Partnership (P3) models.

There are multiple options available to finance a project, including using available cash flow, reallocating funds or taking out additional debt. CIAA is unable to raise its own debt and so if additional debt was to be taken out this would need to be raised/provided through CIG. Alternatively, there is an opportunity to use a P3 delivery model to leverage private sector investment. P3 delivery models are structured so that the public sector retains ownership of the asset while sharing many of the project risks with the private sector.

A P3 delivery model may be beneficial when there are constraints on the public sector, such as scarcity of funding, lack of budgetary commitments, or lack of expertise that may prevent Government from achieving its objectives. Essentially, P3 delivery models enable the public sector to undertake projects that may not be timely, efficient, or even possible under conventional financing approaches. These delivery models allow the Government to share the risks of a project while at the same time facilitating greater accountability for performance by the private sector.

Having the option to transfer responsibilities, such as design and construction and / or ongoing operations and maintenance, allows Government ministries or agencies to focus internal resources on their "core business" while overseeing the project and setting policy objectives from the outset that would apply throughout the project life cycle.

Additionally, the transfer of responsibilities generally implies a transfer of risks, which limits the Government's exposure to cost overruns and other unexpected risks that may occur. In order to maximise return on investment, private sector partners have incentives to make appropriate up-front and life cycle cost trade-offs and take advantage of commercial opportunities. With appropriate performance-based contracts it is in the private partner's best interest to pursue innovations that will improve the efficiency of the asset's operations and enhance the services offered to end users.

An important characteristic of P3 delivery models is that the Government can benefit from private sector efficiencies while retaining public ownership of an asset and ensuring that performance is maintained at the required standard.

Qualitative considerations in selecting the most appropriate delivery model for the Reference Projects need to consider the following key criteria:

- Technical impacts
- Maintenance and lifecycle impacts
- Acceptability impacts
- Implementation impacts
- Timing impacts
- Financial Impacts

Note that the relative importance of each category may differ and that assessing the relative merits of each delivery model requires professional judgment based on a thorough assessment of all available facts and circumstances. To the extent possible, qualitative impacts provide a context to help assess the relative importance and linkages between individual impacts.

While this section identifies some negative impacts associated with the various delivery models, none of these impacts appear significant enough to eliminate a delivery model from further consideration. These potential issues would, however, need to be addressed in further planning for the project depending on the delivery model selected.

The results of the qualitative analysis are largely driven by consultation with the Project Team and reflect the team's professional judgement based on market knowledge and experience with similar projects in other jurisdictions. As shown in the following sections, the process involved posing a series of questions to the project team for each qualitative category and using the answers to those questions to determine the potential impact under each delivery model. It should be noted that not all questions result in an "impact" – rather, in some cases the question leads to the identification of opportunities and challenges that should be considered as the CIAA proceeds with a given delivery model.

4.3 Technical Impacts

Technical impacts refer to the potential challenges and opportunities for designing and constructing the Projects. Regarding technical impacts, the following questions were asked in order to assess impacts under each of the business models:

- Are there major technical challenges in design and construction for the project? Are there any challenges that would prove difficult for the contracting community to manage?
- Can any of these challenges be better addressed by the public sector delivery vs. the P3 delivery?

Technical Impacts - Comparison of Traditional Delivery vs P3

	Public Sector (DBB or DB Contract)	P3
Technical challenges for design and construction	Medium impact: proven technology will be used in building and installation requirements. There is some complexity involved in terms of having to utilise existing structures in the design. There are also technical, structural and engineering considerations based upon international standards, given the scrutiny around health and safety requirements for airports.	
Public vs. private	CIAA has recently executed the completion of the new terminal at ORIA (completed in 2019) which involved the use of an existing structure. This was completed using a traditional delivery method, using local architects and local contractors.	Private sector delivery may not necessarily help CIAA in addressing technical challenges related to design and construction. It is likely that the private sector would price risk into certain elements of the Projects, leading to higher costs.

4.4 Maintenance and Lifecycle Impacts

Maintenance and lifecycle impacts refer to the potential challenges and opportunities, on a technical level, for maintaining the facilities and performing requisite major maintenance/lifecycle work. Regarding maintenance and lifecycle impacts the following questions were asked in order to assess impacts under each of the business models:

- Are there major technical maintenance and lifecycle challenges for the project?
- Can any of these challenges be better-addressed by the public sector vs. the private sector?
- What is the potential impact of budgetary constraints on maintenance and lifecycle activities?

Maintenance and Lifecycle Impacts - Comparison of Traditional Delivery vs P3

	Public Sector (DBB or DB Contract)	P3
Technical challenges for maintenance and lifecycle	Medium impact: proven technology will be used in building and installation requirements. However, the use of legacy equipment purchased several years ago may result in some challenges relating to manufacturer's warranties. There may be more value for money from the public sector managing these risks. With a P3, the private sector may insist on the legacy equipment being scrapped.	
Public vs. private	As CIAA is familiar with the equipment that has been purchased, mostly due to the use of such equipment at the existing facilities, CIAA may be better positioned to address challenges relating to the use of legacy equipment.	If the private sector are responsible for whole life costs of the project, they may insist on higher quality build upfront. The aim of doing this will be to minimise the risk of higher than expected costs during the operational period. It is almost certain

		that use of the legacy equipment would not be consistent with such a strategy.
Potential impact of budgetary constraints	High impact on the initial cost of the project; potential to defer major maintenance for budgetary reasons.	The overall impact on cost over the life of the project is unknown but it is reasonable to expect a higher initial capital cost. This will be aimed at reducing maintenance and lifecycle cost risks during the operational period of the contract.

4.5 Acceptability Impacts

Acceptability impacts refer to the potential opportunities and challenges associated with stakeholder impacts and perception under each delivery model. This is a particularly important category, given that CIG has not previously undertaken a P3 approach for the development of its airport facilities. Regarding acceptability impacts the following table identifies items of potential concern to each stakeholder based on the assessment of representatives to the project team.

Acceptability Impacts - Comparison of Traditional Delivery vs P3

	Public Sector (DBB or DB Contract)	P3
Key users and general public	Low impact: CIAA currently operates ORIA and CKIA, but not EBA which is operated by Cayman Airways.	Medium impact: stakeholder groups may question a private party's involvement in administering essential infrastructure, especially ORIA.
Public vs. private	CIAA currently operates ORIA and CKIA. Therefore, there is public acceptability of this model.	There may be some resistance to enabling a private party to administer essential infrastructure.

4.6 Implementation Impacts

Implementation impacts refer to the challenges and opportunities associated with procuring and delivering the Projects under each delivery model. Regarding implementation impacts, the following questions were asked in order to assess impacts under each of the business models:

- What is the track record for each delivery model (locally and beyond)?
- How complex is the procurement process for each delivery model?
- How complex is project management under each delivery model?
- What are the capabilities of the contracting market for working within each delivery model?

Implementation Impacts - Comparison of Traditional Delivery vs P3

	Public Sector (DBB or DB Contract)	P3
Track record	Commonly used delivery model	Not a commonly used delivery model in the Cayman Islands and therefore there is no track-record or experience to draw on. In addition, there is no in-house expertise or lessons learned with regards to the procurement process or for monitoring the implementation phase.
Complexity of procurement	Low impact: relatively simple procurement	High impact: requirement for new procurement and contract documents and procedures; additional complexity for including operations.
Complexity for public sector project management	Low impact: experienced with managing similar projects	High impact: requirement for project governance, project team and project management protocols;

		additional complexity for including existing operations.
Capabilities of contracting market	Low impact: high degree of familiarity with this model	Medium-high impact: financing, equity, operations capacity and 25-year commitment can create barriers to entry for some contractors resulting in reduced competition and an undermining of Value for Money as a consequence.

4.7 Timing Impacts

Timing impacts refer to the potential opportunities and challenges related to meeting project timelines. Regarding timing impacts the following questions were asked in order to assess impacts under each of the business models:

- Will the timeline to the opening of the new facilities be impacted by the choice of delivery model?
- If the delivery model impacts timelines, then how are various stakeholder groups affected by the different timelines?

Note that the risk of delays during the selection process (e.g. higher project development costs and higher construction costs due to increases in material and labor costs due to a prolonged procurement) and the risk of time and cost overruns during construction (e.g. higher construction costs due to increases in material and labor costs during an extended construction period) have been quantified in the risk assessment.

Timing Impacts - Comparison of Traditional Delivery vs P3

	Public Sector (DBB or DB Contract)	P3
Delivery timelines	Low impact as procurement timeline is shorter for a traditional structure	Medium impact as procurement timeline is longer for a P3 structure due to the impact of greater contractual complexity and the need to organise long term private sector finance. Secondly, Projects B and C would need to be packaged with Project A because neither sister island airport would be financially viable by itself and so this may limit the delivery timeline for overall project delivery.
Impact on stakeholders	Low impact as stakeholders desire a shorter timeline	Medium impact as P3 delivery involves a longer procurement timeline.

4.8 Financial Impacts

Financial impacts refer to the potential opportunities and challenges from cash flow and cost management perspectives. Regarding financial impacts the following questions were asked in order to assess impacts under each of the business models:

- What are the implications for short-term vs. long-term cash outflows?
- What are the implications for cost certainty during construction and operations?

Implementation Impacts - Comparison of Traditional Delivery vs P3

	Public Sector (DBB or DB Contract)	P3
Short-term vs. long-term cash outflows	Requires largest up-front payment from public funds; however, all profits from the operations would be retained by CIAA.	Cost of the project is spread over the life of the project, thus saving CIAA from incurring up-front capital expenditure. However, one of the consequences of this is the need to commit to a long-term fixed revenue charge, and providing a return to the private sector partner, which would reduce the profits of CIAA.

Cost certainty	Some cost uncertainty during construction and operations. CIG can reasonably expect the bidder to claim for additional works and unforeseen circumstances.	Higher degree of cost certainty for construction, maintenance, lifecycle and operations.

4.9 Preliminary Assessments on Traditional vs. P3 procurement strategies

In summary, it appears that the following assertions support the use of traditional procurement methods for the execution of the Project as opposed to the P3 structure:

- The project is expected to be delivered using proven design and construction concepts. While some innovation is expected from the bidders, there is limited expertise that a private delivery model can provide over and above what would be available through a traditional model.
- Technical complexities relate primarily to the need to use existing buildings in the design and to adhere to latest international standards and regulations. This constraint is unlikely to be mitigated by the use of a private delivery model.
- CIAA has recently completed the construction of the new terminal at ORIA that was delivered using traditional delivery methods (discussed in more detail below and valuable lessons were learned).
- Long term lifecycle and maintenance requirements are expected to be routine in nature. CIAA has experience in procuring relevant solutions. The option to use legacy equipment as a means of reducing upfront costs also favors the use of the traditional contract structure.
- A P3 procurement process involves lengthier procurement timelines in comparison with a traditional process. It is the project sponsor's stated need to complete the Projects as a matter of national priority, especially Project A1, which is intended to be undertaken first.

Factors that may support the use of a P3 structure for the execution of the Projects, as opposed to traditional procurement:

- Capital requirements are expected to be very high. Although CIG has a strong fiscal position and has also recently drawn down a $450m debt facility (at a relatively low interest rate), there are a number of other infrastructure projects underway and on the horizon which will require significant capital. Using a P3 approach for the development of the airports could free up capital for more of the other projects.
- Given the low passenger volumes in Cayman Brac and Little Cayman, it will be very difficult to justify value for money on these Projects in their own right. If Projects B and C were bundled up with Project A under a P3 approach, then collectively from a Cayman Islands perspective, it may become more justifiable.

At this stage, it is understood that CIG is committed to funding the capital expenditure and ongoing lifecycle and maintenance expenditure of the Projects, the latter being funded by CIAA's own revenue streams. Further commentary on this matter can be found in the financial case. That said, should CIG not have sufficient funds available for these Projects, there may be a need to either adjust the phasing to ensure that the Projects can be funded by CIG and CIAA, or if the capital requirements cannot be sufficiently reduced then a P3 approach might become the favored option.

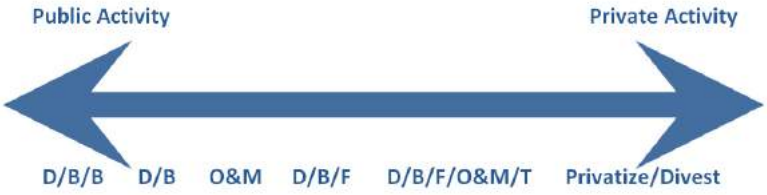
4.10 Principal contracting options

Based on commonly used contracting structures for the delivery of similar projects, a list was compiled of potential procurement methods that the Steering Committee could consider for the implementation of the Project. The table below summarises the various options that were considered:

Principal Contracting options

Contracting Options	Type of Contract	Notes
1	Design and Build (DB)	In this procurement method, the contractor takes all the responsibilities, risks, and management of both the design and build phases. This usually requires that the contractor has a large internal staff with an excellent facility management staff to manage all the aspects of the design and build. An alternative would be a company with a solid and coordinated partnership with design contractors to complete the job. Construction can begin even when the design team is ironing out certain aspects of the design. Typically, a faster process, but risk ownership is blurrier and pricing competition is harder to generate as designs are not fixed.
2	Two-Stage Process (TSP)	This option is used to allow the early appointment of a contractor, prior to the completion of all the information required to enable them to offer a fixed price. In the first stage, CIAA would agree a limited appointment allowing the contractor to begin work and in the second stage a fixed price is negotiated for the contract.

Contracting Options	Type of Contract	Notes
3	Design, Bid Build (DBB)	This is the traditional construction project delivery method that involves the completion of three distinct phases in sequence. Construction does not begin until the design process is complete (and a bid accepted), so there is no overlap between design and construction. The project owner contracts a design engineer or architect to develop a comprehensive set of construction drawings that forms the basis of the subsequent bidding process. More control, but more risk remains with the project owner. Higher competition on pricing.
4	Design, Build, Finance, Operate and Maintain (DBFOM)	This option involves projects where the contractor is required to finance the capital investment required to facilitate all works needed to deliver the services. This may be done on balance sheet or through project finance and appropriate bank loans. CIAA would set out outline service requirements (as an outline specification) and the contractor would design and build facilities required to deliver the service requirement (usually sub-contracting the engineering, procurement and construction part of the works to specialist suppliers). The contractor will then operate (and maintain) the facilities and provide the relevant services, for which CIAA would pay a monthly sum). Due to the period required for the payback of capital investment, DBFOM contracts typically have periods of between 15 and 30 years (depending on the scale of the capital investment for facilities being constructed). This is considered a form of PPP (P3).
5	Public Private Partnership	There is no single definition of a P3, however, it usually involves the private sector partner investing a substantial amount of cash / equity in the project and having a very active role in the construction. PPPs usually take the form of a DBF or DBFOM contract. They are more complex and more time consuming than traditional procurement methods and they are ultimately more expensive in the long run than traditional methods, since the private sector partner usually requires a return. They are typically used where the Public entity has either: 1. Insufficient capital to fund the capital expenditure of the project; and / or 2. Insufficient technical knowledge / capability / capacity to undertake the project. In a PPP, risks can be better shared between the public and private sectors, with the private sector taking on more risk (construction, operational) than typically in a traditional procurement.
6	Hybrid/Refinanced	It is possible to use a conventional DBFOM approach but with planned refinancing (e.g. using Government borrowing) of the capital element of the project at a planned point in time, accompanied by the transfer of asset ownership. This is typically planned for Service Commencement following the construction and commissioning of the relevant facilities. This approach offers the potential to provide overall cost efficiencies (by reducing the period of private sector borrowing), improved allocation of risk, improved revenue sharing and enhanced operational flexibility/public sector control.



D/B/B	Public Design/Bid/Build
D/B	Design/Build
O&M	Operate and Maintain
F	Finance
T	Transfer to Public Ownership

Source: NCPPP

Each procurement method set out above was considered against the following criteria:

- Familiarity of the contracting form in the Cayman Islands
- In house capacity and capability within CIAA (and PWD) to execute the Project
- Complexity of contracting form and associated timing implications
- Lessons learned from previous projects

Project parameters include: the need to include the existing building in the designs; limited ability to transfer demand risk to a private party; the cost ceiling to be set by caucus; and CIAA's desire for early engagement with the contractors.

The following options were selected for further consideration in the procurement short list:

- Design Build
- Design Bid Build
- Public Private Partnership

Guidance available from the UK Cabinet Office and its Efficiency and Reform Group envisages the following key stages and payment considerations for a Two Stage Process:

1) Consultants and Tier 1 contractors bid for the Project in response to a project brief, concept design and project budget cost ceiling.
2) The contracting authority selects consultants and the Tier 1 contractor on the basis of their appropriate skills, approach, capacity, capability, stability, experience and the strength of their supply chain.
3) At the point of selection of the Consultants and Tier 1 Contractor, Two Stage Open Book provides the basis for a transparent competitive process in respect of their fees/profit/overheads, and any other components of the project for which it is appropriate to test costing, such as risk contingencies and the provisional cost of particular proposals submitted. Evaluation of fees/profit/overheads and such other costs need to be balanced appropriately against evaluation of qualitative proposals and the proven ability of the Consultants and Tier 1 Contractor to deliver the project/programme within the Project Budget cost ceiling.
4) Amounts payable to the Tier 1 contractor as fees during the Pre-Construction Phase are agreed in advance.
5) At the point of selection of Tier 2/3 Subcontractors and Suppliers, Two Stage Open Book provides the basis for further transparent competition based on accurate costing and additional qualitative proposals.
6) Prior approval from the contracting authority is needed for the costs of any early works.
7) Approval from the contracting authority and agreement of the consultant and contractor team, to a fixed price or target cost, supported by a full transparent breakdown of costs, is required prior to authorising the Construction Phase of the project to proceed.
8) As the project proceeds, payments are made in accordance with the industry convention such as percentage of completion.

4.11 Lessons learned from previous projects

Two redevelopments have taken place in CIAA's recent history – a Terminal Expansion and Renovation Project and an Airfield Upgrades Project, with both Projects having significantly different outcomes. A summary of both Projects has been set out below (as per the lessons learned documents):

Comparison of recent projects

Item	Terminal Expansion and Renovation Project	Airfields Upgrades Project
Description	To renovate and expand the existing Owen Roberts International Airport. Construction completed in two phases.	The Owen Roberts International Airport (ORIA) Airfield Upgrades project consisted of 6 sub-projects. It specifically aimed to enhance the operations and safety of the airfield, increase efficiency for aircraft parking and increase runway strength and length to satisfy ICAO/CAA regulations. It also included the removal of the ponds and increased engineered drainage to reduce wildlife and potential danger to aircraft movements. In addition, it provided a re-surfaced perimeter access road to aid vehicular movements on the airfield and facilitate emergency access.

Construction period	30th June 2015 – 31st July 2019	14th October 2019 – 21st February 2021
Original contract values	Phase 1 $3,833,800 Baggage handling works $2,640,000 Consultant labor $5,000,000 FF&E $1,100,000 Phase 2 $44,046,200 **Total** **$56,620,000**	**Total** **$45,719,797**
Final cost	Phase 1 $3,787,648 Baggage handling works $2,808,063 Consultant labor $4,425,924 FF&E $1,040,000 Phase 2 $61,902,458 **Total** **$73,964,093**	IDL Contract Value $31,666,135 Change Order #001 - Code E taxiway $7,305,239 Total Change Orders $2,739,228 Provisional Sum #2 - Security $345,174 Estimated final CIAA Soft Costs $254,528 Construction Administration $363,060 Construction Contingency $18,153 Construction Administration Overrun $427,683 Insurance $170,000 Insurance Overrun $136,575 **Total** **$43,425,775**
Procurement method	Design / Bid / Build	Design / Bid / Build
Key findings	Phase 2 Design Documents at time of tender were not complete and revisions were made throughout the project. Project scope was not clearly defined. Prime Consultant changes in staff added to instability of the project. Slow delivery of responses to RFIs and revised drawings caused many issues. The construction budget was inaccurate and did not follow the recommendations of the Outline Business Case. Insufficient team resources were in place prior and during construction period. Project setup was insufficient which led to	There were two major delays to the project: The first delay was a combination of a claim for time and additional shipping charges due to the inclusion of a variation. The second delay refers to the Contractor-incurred costs due to delay caused by wet weather and indirect COVID impacts. During the course of the construction, the project was exposed to a number of rain day delays due to severe wet weather.

	adversarial conditions during the project. The Baggage handling System was 10 months behind schedule which was the core reason for most delays to the project. No FBC was prepared.	
Key lessons learned	It was identified that scope was not properly defined which led to many variations. Deficiencies were also identified in how the project was monitored and controlled during the design phase. No stage checks were performed to ensure the design met the client's expectations. It was identified that the procurement process of the Baggage Handling System was inadequate and led to many issues during the project delivery. The choice of contractor was predominantly made on price and for a highly sophisticated system the choice should have been made on the technical aspects of the system. Correct programming during the design stages would allow the client to voice any concerns with any relevant documentation to ensure that all decisions are recorded. Better communication to their client would have identified problems early on and these could have been addressed.	There was inadequate oversight of project upper management and resource support throughout the project. It was identified that there was/is no standard documentation for projects, which resulted in valuable time spent on creating/reinventing standard forms (contracts, templates etc.) for use on the project.

4.12 Comparison of procurement methods

Comparison of procurement methods

	DBB		DB		PPP	
Item	**For**	**Against**	**For**	**Against**	**For**	**Against**
All projects	CIAA would be able to retain all profits generated. The project would be less costly overall, with CIG likely having access to cheaper financing than the private sector (e.g. the recent draw down on the $450m facility @ 3.5%) plus cash reserves. Valuable lessons were learned in the recent developments, which could be put into practice to increase the chances of a favorable outcome vs budget. Would allow for greater flexibility in terms of phasing (i.e. CIAA/CIG would have control over when the project can begin) and the procurement process would likely be much shorter. CIAA would retain control over safety and maintenance aspects. Commonly used delivery model in the Cayman Islands, therefore the bidding process should	CIAA would retain a significant portion of the risks associated with construction and operation. Significant upfront investment required for capital expenditure.	CIAA would be able to retain all profits generated. The project would be less costly overall, with CIG likely having access to cheaper financing than the private sector (e.g. the recent draw down on a $450m facility @ 3.5%) plus cash reserves. CIAA would retain control over safety and maintenance aspects.	CIAA would retain a significant portion of the risks associated with construction and operation and some risks might fall between CIAA and the contractor and become contentious. Lower degree of cost certainty for construction, maintenance, lifecycle and operations. Slightly less control over design process. Significant upfront investment required for capital expenditure.	Would reduce the initial CIAA capital outlay, with costs being spread over the life of the project, or potentially just financed through existing and new revenues, lease of land, concessions etc. Higher degree of cost certainty for the whole project, with potentially fixed (or largely fixed) fees over the life, which are easier to budget for. More risks (construction and operating) can be passed over to the private sector.	Not a commonly used delivery model in the Cayman Islands and therefore there is no track-record or experience to draw on. CIAA would need to commit to a long-term revenue charge (which would likely be significant in the current climate of high interest rates etc.). Revenue stream might be insufficient to cover all capex, operating expenses and return to private sector, so a top-up would be required from CIG. Greater administrative burden and procurement programme to set up a PPP (e.g. complicated legal contracts etc), which may also create delays. If the private sector are responsible for whole life costs of the project, they may insist on higher quality build upfront. The aim of doing this will be to minimise the risk of higher-than-

	facilitate greater competition and therefore better VfM.					expected costs during the operational period. It is almost certain that use of the legacy equipment would not be consistent with such a strategy (i.e. the project would become more costly overall). Risk that a private operator may not prioritise security and maintenance, to save costs.

Key comparisons of procurement methods by Project

	DBB		DB		PPP	
Project	**For**	**Against**	**For**	**Against**	**For**	**Against**
Project A1	Could transform into a profitable revenue stream for the CIAA if retained.		Could transform into a profitable revenue stream for the CIAA if retained.		Would allow the CIAA to focus on its core business. Could be an area of specialism for a private operator, which would drive an improved service offering.	Likely to be a limited number of viable/ interested parties, which would limit competition. Significantly more pre-construction time (and expense) is required to formulate a PPP, which conflicts with CIG's objectives to complete the GA facility in the short term.
Project A2	The public sector would retain control over an important national asset.		The public sector would retain control over an important national asset.		Could be an area of specialism for a private operator, which would drive an improved service offering e.g. Heathrow privatised and now seen as a top airport, globally.	Loss of control over an important national asset. Could be perceived very negatively by public. CIAA's most (only) profitable revenue stream would be lost and so the organisation

						would likely require more longer-term support from CIG.
Project B	The public sector would retain control over an important national asset. CIAA and local contractors are likely to be more familiar with the difficulties and nuances of large-scale construction projects on the Brac.		The public sector would retain control over an important national asset. CIAA and local contractors are likely to be more familiar with the difficulties and nuances of large-scale construction projects on the Brac.			Loss of control over an important national asset. Size of investment required and loss-making airport would significantly inhibit private sector interest – not financially viable as a standalone project. The number of interested parties (i.e. competition and therefore VfM) is likely to be lower for airports on the Brac or Little Cayman due to the limited number of visitors.
Project C	The public sector would retain control over an important national asset. CIAA and local contractors are likely to be more familiar with the difficulties and nuances of large-scale construction projects in Little Cayman.		The public sector would retain control over an important national asset. CIAA and local contractors are likely to be more familiar with the difficulties and nuances of large-scale construction projects in Little Cayman.			Loss of control over an important national asset. Size of investment required and loss-making airpors would significantly inhibit private sector interest – not financially viable as a standalone project. The number of interested parties (i.e. competition and therefore VfM) is likely to be lower for airports on the Brac or Little Cayman due to the limited number of visitors.

4.13 Procurement considerations

There are a number of generic procurement procedures that could be used for the award of the contract(s):

- The Open Procedure;
- The Restricted Procedure;
- Competitive Procedure with Negotiation;
- Competitive Dialogue; and
- Negotiated Procedure (without prior publication).

The adoption and use of the Open and Restricted procedures are generally used for relatively simple procurement exercises where the works and services being procured can be specified in detail or the services are being re-procured without substantial change. The Competitive Procedure with Negotiation and Competitive Dialogue procedures are generally employed in circumstances where the procuring entity is unable or does not wish to fully specify its requirements and/or where there are considerable risks and uncertainties on how the project may be delivered and/or financed. Although once a more commonly used approach, the Negotiated Procedure is now only used in very limited circumstances, for example where the initial approach to a procurement has failed. This is primarily because the approach tended to result in lengthy and protracted negotiations late in the process once a single bidder had been selected.

4.14 Steering Committee's guidance for the OBC

Further to the comparisons above, lessons learned from previous projects and after consideration of the desired timetable and availability of funding and competition, the Steering Committee has decided to proceed with the following procurement routes for each project. A summary by project has been set out below:

Item	Project A1	Project A2	Project B	Project C
Delivery method	1. Design Build 2. PPP	1. Design Bid Build	1. Design Bid Build	1. Design Bid Build 2. PPP
Procurement method	Open or restricted procedure	Open or restricted procedure	Open or restricted procedure	Open or restricted procedure
Summary	The steering committee noted their preference would be to build the apron themselves and retain ownership, with a third party building and operating the terminal on their behalf. However, given the low costs involved with the construction of the terminal (c.$12m), it was felt unlikely that sufficient competition or interest would be generated to proceed with this approach. Therefore, a Design Build approach was selected as the preferred route as this would allow for the project to be completed in the shortest possible time frame (aligned with CIG's strategic policies) and could lead to a third party	On the basis that a PPP approach would relinquish control over one of the nation's most important assets, a PPP was discounted. Not only would this approach hand control over the asset over to the private sector, it would likely be very poorly received by the public. A Design Bid Build approach was instead chosen, as this would give the CIAA more control over the process (vs a DB approach) and allow different elements of the development to be packaged together and implemented separately in line with the proposed phasing of the project.	A PPP approach was discounted because the Steering Committee felt that the project would not generate significant enough returns to attract sufficient interest from the private sector. A Design Bid Build approach was instead chosen, as this would give the CIAA more control over the process (vs a DB approach) and allow different elements of the development to be packaged together and implemented separately in line with the proposed phasing of the project.	The steering committee noted that a PPP could be a viable option if the airports development was packaged up with a wider development plan for the island (i.e. an eco-tourism package that seeks to transform the island to fully electric, with a new airport and other infrastructure, etc.). However, such a plan is not on the immediate horizon and so it was felt that this may not be a viable option given the time constraints (i.e. the need to address regulatory and health and safety concerns in the short term). Therefore, a Design Bid Build approach was instead chosen, as this would give the CIAA more control over the process (vs a DB approach). Whilst it was noted that a DB

	operating the terminal on a concession basis. PPP was retained as a secondary option, should an option to proceed with this approach present itself.			approach would be marginally faster, the difference was not considered to be material given the small size of the project. PPP was retained as a secondary option.

Refer to the meeting minutes of the Steering Committee meeting on 17 November for evidence of Steering Committee approval, attached at Appendix 14.

A summary project schedule is included below:

Summary of Project Milestones

Project Milestones
Outline Business Case (OBC)
Environmental Impact Assessment
Develop the Preferred Options (DPO)
Planning Permission
BCU Approval
Tender of Main Works
Final Business Case (FBC) Including placement of contract
Implementation; Completion & Handover of each Project
Construction begins
Ready for use

The detailed phasing spreadsheet (see section 5.2.2) sets out the expected timeline for each of the Projects. The spreadsheet has been prepared by CIAA and Stantec, based on costings provided by BCQS. Each of the milestones noted above have been factored into the phasing.

4.15 Local laws and regulations

Local procurement processes are governed by "A Law to provide the framework for the procurement of goods and services by the Cayman Islands Government; to establish the central procurement office and for incidental and connected purposes" (the 'Procurement Law 2016'). The Procurement Regulations 2018 provide directives on the implementation of the Procurement Law 2016.

For projects with a value of $250,000 or greater, the following procurement options are permissible:

i. open tendering;
ii. restricted tendering;
iii. request for quotations;
iv. request for proposals without negotiation;
v. two-stage tendering;
vi. requests for proposals with dialogue;
vii. request for proposals with consecutive negotiations;
viii. competitive negotiations; and
ix. electronic reverse auction.

4.16 Procurement documents and processes

The procurement processes will require careful administration with the timely delivery of information and responses to questions and queries. In addition, there are likely to be requirements for interviews, dialogue and meetings with potential contractors and potentially site visits to be organised and fairly administered. The clarification of some issues may require input from technical, financial and legal specialists and this will have to be efficiently administered to ensure that an accurate and timely response can be given.

Tender Documentation

The contract documentation will need to be developed and agreed prior to the issue of an invitation to tender and must be supplied either with the invitation or soon after any request from potential service providers. Draft documents will need to undergo technical and legal review by CIAA prior to their endorsement and authorisation for issue.

The contract documents will normally include:

- Introduction and Context;
- Background Information;
- Instruction to Tenderers;
- Administrative Forms;
- Project Agreement or Conditions of Contract;
- Technical and Performance Specifications;
- Pricing Schedules & Bid Forms;
- Payment Mechanism;
- Evaluation Criteria; and
- Risk Allocation Matrix.

Broad principles governing the development of business requirements and detailed specifications are set out in the Procurement Law 2016.

Clarification of Queries and/or pre-tender submission meeting

There is likely to be a series of queries and questions posed by potential service providers prior to the submission of their tenders. CIAA will be expected to deal with these promptly and fairly.

Return of Tenders

The date for the return of tenders must be specified in the documents issued with the invitation to tender. The receipt of tenders and official opening of these documents will need to comply with standing orders set by CIAA.

Tender Evaluation Process

It is very important that the evaluation of tenders adheres to the pre-defined selection criteria and is conducted in a fair and even manner. This requires the development and sign-off of a completed evaluation methodology as early as possible, and ideally prior to the issue of the invitation to tender. It is recommended that the method and personnel to be used in the tender evaluation process is also established before the invitation to tender is issued and that the administration of this activity ensures that the evaluation is both open and auditable.

Principles governing the retention of documents, exclusion of bidders, communications to bidders and required approvals are detailed in the Procurement Law 2016.

Appropriate personnel and governance structures must be put in place to facilitate a transparent and fair procurement process that is in accordance with the Procurement Law 2016.

4.17 Project risk register

The lessons learned from the previous projects (see 4.11 above) were taken into consideration when developing the project risk register, especially as it pertains to many the existing buildings and facilities.

The Project Risk Register identifies all the foreseeable project risks and potential consequences and identifies a strategy for managing and mitigating those risks.

Risk events that may occur over the life of the Projects should be identified (as far as is practicable), and either allocated to one of the contracting parties (e.g. CIAA or the private sector contractor) or shared between the two parties. It is an accepted principle that value for money will be maximised when risk is transferred to the party best able to manage it.

Each risk, once identified, is scored against the likelihood of occurrence and the severity of the risk if it occurred. A risk management strategy and risk owner will be developed for each risk. The management strategy could take one of the following forms:

- Mitigate risk
- Accept risk
- Transfer risk
  Evaluate risk further

The Project Risk Register is a "live" document and the owner of the register will be responsible for updating and amending the register as the project develops over time.

Please refer to Appendix 7 for the project risk register.

A summary of the broad risk allocations is presented in the table below:

Potential Risk Allocation under a DB or DBB structure

Risk category	Potential allocation		
	Public	Private	Shared
Design risk			X
Construction and development risk			X
Transition and implementation risk (Construction related)			X
Availability and performance risk (Construction)			X
Operating risk	X		
Demand risk	X		
Termination risk	X		
Technology and obsolescence risk	X		
Control risk	X		
Residual value risk	X		
Financing risk	X		
Legislative risk	X		

4.18 Outline potential payment arrangements

The payment arrangements will reflect the contract structure. It is envisaged that there will be stage payments made to reflect the work completed in accordance with a pre-agreed payment schedule. A clerk of works will sign off the work completed at each milestone prior to any payment being made by CIAA.

If it is properly constructed, the payment schedule will incentivise the service provider to deliver the design services and construction stages in accordance with the business imperatives of the public sector.

It is anticipated that workforce requirements would grow in line with demand, as in the historical period. Increases in workforce requirements have been reflected in the financial model.

4.19.1 Contractual Issues

Legal counsel are not part of the OBC development team. Any issues relating to contracting, including, but not limited to the selection of the relevant contracting form, need to be developed in conjunction with CIAA's legal advisors for each Project.

4.19.2 Accounting treatment.

The financial statements of CIAA are prepared in accordance with International Financial Report Standards, as issued by the International Accounting Standards Board.

No information relating to the impairment of legacy assets, funding allocations received for depreciation, etc. has been included in this OBC. This will be explored further in the Final Business Case.

5.0 Financial Case

5.1 Introduction

This section examines the affordability of the Projects – to assess whether the Preferred Options will result in fundable and affordable Projects. It also sets out the capital and revenue requirements over the expected life span of the Projects and assesses how the Projects will impact upon the balance sheet, income and expenditure account of CIAA.

A summary of the definition of the Preferred Options is set out below:

Project	Description
Project A1 (option 6)	Relocate and upgrade the G/A terminal, hangar and aircraft parking apron to North Sound site (east side of airport).
Project A2 (option 4)	Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers.
Project B (option 5)	Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers. Acquire lands / meet all applicable regulatory requirements and standards.
Project C (option 4)	Close Existing Airport, Build New Airport including airside and landside infrastructure to cater for the most-likely forecast growth in aircraft movements and passengers. Build to meet all applicable regulatory requirements and standards.

5.2 Capital Affordability Assessment of the Preferred Options

5.2.1 Capital Costs Affordability Assessment

An initial affordability target for the Projects was not set out in the SOC. As a result, during the OBC process, the consultant team explored the high-level cost estimates of the short-listed options for each Project with the Steering Committee and then more detailed capital cost estimates for the Preferred Options were created by the cost consultants.

The capital affordability target for each Project has been set based on the projected capital costs, provided by the cost consultants as follows:

Base Capital Costs

Base year prices ($'000)	*Project A1*	*Project A2*	*Project B*	*Project C*
New G/A Terminal east side, North Sound site	11,658			
New Hangar next to g/a terminal	9,050			
New apron, north-sound	21,354			
Project A1 total	**42,061**			
Land acquisition		29,910		
Terminal Expansion		335,528		
Apron expansion, and rehabilitation		25,154		

Runway extension	27,708		
Full Parallel taxiway	14,924		
Cargo / Future MRO/Engine Run-up Aprons	8,610		
Marine Dock / Seawall for water taxi services interface with airport	5,000		
Landside works	24,627		
Heliport, Medevac/Police/Tourism Centre	1,230		
New ATC Tower and ATM System	9,840		
Airfield drainage improvements and pumping station	8,230		
Project A2 total	**490,761**		
Landside expansion to allow 30m set-back security regulation		7,510	
Terminal expansion, meets future requirements		31,244	
Acquisition and maintenance facility expansion		1,230	
Runway strip and RESA works		1,146	
Rehabilitate Runway, Taxiway, Apron		13,568	
Site Works, fencing, contingency, fees, etc.		18,636	
Apron expansion and 2nd taxiway to runway from apron		2,629	
General Aviation apron		995	
ATC Tower		2,050	
Project B total		**79,009**	
Environmental Impact Assessment			1,384
Runway, short taxiway, apron			14,034
Access road, terminal curb road and parking lot			2,473
Airport perimeter road and fence			4,867
Site Clearing			17,897
Terminal			6,872
Project C total			**47,525**
Total			**659,357**

Within the base costs of $659m is a contingency of approximately $62m, comprising a 10% contingency on all BCQS costings and a 15% contingency on land acquisition costs. This is further broken down by Project as follows: A1 - $3.8m; A2 - $46.2m; B - $7.5m; and $4.3m.

It should also be noted that although it is outside the scope of this OBC, within Project A2, we have included in the above estimated capital outlay figures a sum of approximately $5m for the new Air Traffic Management Surveillance ("ATM") Project, since this cost will impact the overall availability of funding for Project A2 (and the other Projects covered within this OBC). For further details and information on the ATM Project, please refer to Appendix 10. Similarly, an estimate of $5m for a Marine Dock and Seawall (for water taxi services interface with airport) has also been included within the costings for Project A2 despite this not being within the scope of this OBC.

Furthermore, it has not been possible to quantify the cost of environmental offsets that the project team are looking to implement as part of this project, despite attempting to do so through conversations with Stantec's environmental team. Without environmental impact assessments or more detailed designs, the environmental impact cannot be accurately determined and therefore neither can the environmental offsets that would be required. The project team instead intend to instead utilise a portion of the contingencies built into each Project.

5.2.2 Phasing and inflation

It should be noted that the total costs (and funding requirements) of the Projects will be materially different based on the phasing of each Project and each sub-development. At present, the phasing is estimated as follows:

Project phasing (base year prices) spreadsheet

To develop the phasing spreadsheet below, the project team have worked to balance funding availability with the need to improve health and safety standards (Project C) as well as considering which sub-projects would generate the most revenue (Project A2: terminal and runway expansion) to reduce the overall funding requirement.

**Note: if the decision is made to add a Primary Surveillance Radar in the future, the ATM system may increase by a range of $2.75M – $4M. It is unknown at this time when that decision will be made.*

The objective of the phasing outlined above is to ensure that the short-term investments, particularly at the ORIA terminal, are meant to alleviate peak hour congestion (additional CUSS / improved / digitised check-in processes), implement self-bag drops and improvements (added redundancy) to baggage conveyor systems and HBS devices downstream, improve security processing and equipment along with necessary legal / regulatory changes to enable improved processes, and to improve departure hold rooms and cover for passengers walking to/from aircraft during wet /windy weather.

After factoring in the phasing above and forecast inflation over the period (assumed to be 3.0% p/a from 2025 onwards, refer to financial assumptions for further detail), the capital costs in real prices are as follows:

Nominal vs Real Costs

Year	*Project A1*	*Project A2*	*Project B*	*Project C*	*Total*
Phasing	Short term (0-5yrs)	Short/Medium term (0-10yrs)	Short/Medium term (0-10yrs)	Short/Medium term (0-10yrs)	
Nominal prices ($'000)					
FY23	$641	$849	$23	$512	$2,025
FY24	$854	$4,790	$11	$872	$6,528
FY25	-	$18,509	-	$5,299	$23,809
FY26	$207	$18,348	$1,112	$14,248	$33,915
FY27	$11,000	$6,711	-	$3,868	$21,578
FY28	$29,359	$16,776	-	$7,234	$53,370
FY29	-	$42,700	-	$7,904	$50,603
FY30	-	$63,330	-	$4,152	$67,482
FY31	-	$86,345	-	$3,436	$89,781
FY32	-	$95,137	$1,864	-	$97,001

FY33	-	$72,779	$12,498	-	$85,277
FY34-43	-	$64,488	$63,501	-	$127,989
Total	**$42,061**	**$490,761**	**$79,009**	**$47,525**	**$659,357**
Real prices ($'000)					
FY23	$641	$849	$23	$512	$2,025
FY24	$897	$5,030	$12	$916	$6,854
FY25	-	$20,018	-	$5,731	$25,749
FY26	$231	$20,438	$1,239	$15,871	$37,779
FY27	$12,621	$7,699	-	$4,438	$24,758
FY28	$34,696	$19,826	-	$8,549	$63,072
FY29	-	$51,975	-	$9,621	$61,596
FY30	-	$79,400	-	$5,206	$84,605
FY31	-	$111,503	-	$4,437	$115,940
FY32	-	$126,543	$2,479	-	$129,022
FY33	-	$99,708	$17,122	-	$116,830
FY34-43	-	$95,842	$95,994	-	$191,835
Total	**$49,085**	**$638,831**	**$116,869**	**$55,281**	**$860,066**

Project B sees the largest proportional increase in prices paid between nominal and real prices, this is because this Project is phased much later than the other Projects in line with the priorities of the project team and the Ministry of Tourism.

5.2.3 Preliminary Conclusions on the capital affordability of the Preferred Options

The Preferred Options above represent the best VfM achievable given the constraints imposed on the consultant team. However, it is recognised that, from a capital cost perspective, none of the Preferred Options represented the least costly of the options.

Overall, the project costs of the Preferred Options set the basis of the affordability targets, since no targets were set in the SOC. It is understood that a portion of the capital requirements of the Projects could be financed through a CIG loan to the CIAA, which would be based upon the financial requirements identified as part of this OBC and the master planning exercise. CIAA had approximately $18m of cash on hand as at 31 December 2022 (as per the *draft, unaudited,* management accounts), with $11m left to be drawn down in 2023 from an existing $50m facility with CIG. This cash could, in part, be used to finance the developments; however, a significantly larger loan will be needed to fund the balance of the Projects in the later periods, if the intended phasing is to be proceeded with.

5.2.4 Guidance obtained from Caucus

In view of the position reached, the Steering Committee requested Caucus to set the capital affordability target of the Projects at a total of $830m - $890m.

A presentation was made by Stantec, its subconsultants and the Client Project team to Caucus on 24 January, 2023 with regards to the capital affordability of the Projects. However, the capital affordability of the projects was since revised to accommodate a change to the planned phasing of the projects, which resulted in a number of projects being delayed, therefore, leading to increased capital costs in real prices (i.e. after factoring in inflation).

The approval of this OBC by Caucus is deemed to be approval of the Preferred Options, as outlined above. **Note, however, that approval at this stage only represents approval to proceed with the sub-projects detailed in the Approved Works section. The remaining sub-projects will require a further approval to proceed, based upon their deemed affordability at the time that approval is requested by the Project team.** See Appendix 8 for

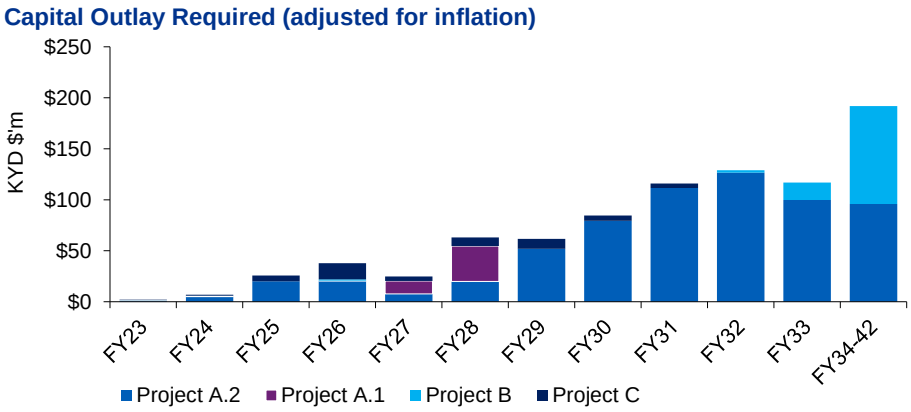
documentation of the Short List by the Steering Committee. The budget affordability range for each of the Preferred Options is reflected in the table below.

Capital Affordability limit approved by Caucus for the Preferred option

Projects (CI$'000)	Base year prices	Costs approved (real prices)
Project A1: New GA Terminal at ORIA	$40,000 - $45,000	$45,000 - $50,000
Project A2: ORIA Master Plan	$470,000 - $510,000	$625,000 -$660,000
Project B: CKIA Master Plan	$75,000 - $85,000	$110,000 - $120,000
Project C: EBA Master Plan	$45,000 - $50,000	$50,000 - $60,000
Total	**$630,000 - $690,000**	**$830,000 - $890,000**

The proposed capital cash outflow for each project is presented in the chart below:

Capital Outlay Required for Projects A1, A2, B and C



The chart above has been prepared using the phasing spreadsheet (section 5.2.2) and illustrates the capital outlay required for all of the Projects, again highlighting that Projects A1, A2 and C are a priority.

5.3 Revenue Affordability Assessment of the Preferred Option

To determine the revenue requirements, illustrative financial statements were prepared, incorporating each of the Projects. Please refer below for the illustrative financial statements, which have been prepared on the basis that the entirety of each project is undertaken, however, only the increase in fees and $5m equity injection referenced above are modelled, meaning that the additional funding requirements for the remainder of the projects are simply shown as a funding gap at this stage. As such, the financial statements are for illustrative purposes only:

Combined P&L

Preferred option

CI$'000	Actual FY19	Actual FY20	Actual FY21	Actual FY22	Budget FY23	Budget FY24	Budget FY25	F'cast FY26	F'cast FY27	F'cast FY28	F'cast FY29	F'cast FY30	Cumulative FY19-FY82
Revenue	**41,110**	**11,804**	**4,188**	**25,656**	**36,228**	**55,417**	**58,282**	**59,823**	**61,409**	**62,929**	**64,386**	**52,754**	**5,178,342**
Salaries and Wages	-11,946	-12,155	-11,750	-12,553	-14,122	-16,281	-18,551	-18,830	-19,112	-19,399	-19,690	-19,985	-1,786,314
Other Staff Costs & Benefits	-1981	-2,340	-1486	-2,721	-3,047	-3,397	-3,410	-3,461	-3,513	-3,566	-3,619	-3,674	-318,819
Utilities	-1,750	-1,235	-1,469	-1,886	-2,428	-2,086	-2,244	-2,277	-2,312	-2,346	-2,382	-2,417	-215,116
CAA Regulatory Fees	-1,000	-283	0	-328	-1,303	-1,303	-1,300	-667	-756	-774	-792	-809	-61,177
Repairs & Maintenance	-2,158	-1406	-1,512	-1,865	-2,857	-2,467	-2,457	-3,695	-3,792	-3,885	-3,974	-4,060	-362,216
Contracted Services	-3,534	-2,032	-3,616	-3,240	-4,083	-3,758	-3,847	-3,904	-3,963	-4,022	-4,083	-4,144	-365,714
General Insurance	-636	-851	-721	-841	-845	-847	-847	-860	-872	-886	-899	-912	-81,096
Professional /Consultancy Fees	-272	-149	-344	-726	-100	-169	-105	-707	-725	-743	-760	-776	-68,247
EBITDA contingency	0	0	0	0	0	0	0	0	-5,000	-5,000	-5,000	-5,000	-275,000
Other expenses	-953	-684	-654	-1,056	-1,071	-1,394	-1,412	-1,654	-1,679	-1,705	-1,729	-1,754	-145,210
Total Expenses	**-24,232**	**-21,134**	**-21,552**	**-25,215**	**-29,857**	**-31,702**	**-34,172**	**-36,055**	**-41,724**	**-42,325**	**-42,928**	**-43,531**	**-3,678,909**
EBITDA	**16,879**	**-9,330**	**-17,364**	**441**	**6,371**	**23,715**	**24,109**	**23,768**	**19,684**	**20,603**	**21,458**	**9,224**	**1,536,222**

Business As Usual

CI$'000	Actual FY19	Actual FY20	Actual FY21	Actual FY22	Budget FY23	Budget FY24	Budget FY25	F'cast FY26	F'cast FY27	F'cast FY28	F'cast FY29	F'cast FY30	Cumulative FY19-FY82
Revenue	**41,110**	**11,804**	**4,188**	**25,656**	**36,228**	**44,289**	**46,797**	**42,249**	**43,557**	**44,839**	**46,097**	**47,330**	**3,696,885**
Salaries and Wages	-11,946	-12,155	-11,750	-12,553	-14,122	-16,281	-18,551	-18,830	-19,112	-19,399	-19,690	-19,985	-1,775,064
Other Staff Costs & Benefits	-1,981	-2,340	-1,486	-2,721	-3,047	-3,397	-3,410	-3,461	-3,513	-3,566	-3,619	-3,674	-326,787
Utilities	-1,750	-1,235	-1,469	-1,886	-2,428	-2,086	-2,244	-2,277	-2,312	-2,346	-2,382	-2,417	-216,020
CAA Regulatory Fees	-1,000	-283	0	-328	-1,303	-1,303	-1,300	-692	-707	-721	-734	-747	-54,837
Repairs & Maintenance	-2,158	-1,406	-1,512	-1,865	-2,857	-2,467	-2,457	-3,484	-3,592	-3,698	-3,801	-3,903	-302,260
Contracted Services	-3,534	-2,032	-3,616	-3,240	-4,083	-3,758	-3,847	-3,904	-3,963	-4,022	-4,083	-4,144	-371,976
General Insurance	-636	-851	-721	-841	-845	-847	-847	-860	-872	-886	-899	-912	-82,172
Professional /Consultancy Fees	-272	-149	-344	-726	-100	-169	-105	-665	-686	-706	-726	-746	-56,932
EBITDA contingency	0	0	0	0	0	0	0	0	0	0	0	0	0
Other expenses	-953	-684	-654	-1,056	-1,071	-1,394	-1,412	-1,322	-1,349	-1,376	-1,403	-1,430	-122,147
Total Expenses	**-24,232**	**-21,134**	**-21,552**	**-25,215**	**-29,857**	**-31,702**	**-34,172**	**-35,496**	**-36,106**	**-36,719**	**-37,336**	**-37,957**	**-3,308,197**
EBITDA	**16,879**	**-9,330**	**-17,364**	**441**	**6,371**	**12,587**	**12,625**	**6,753**	**7,451**	**8,120**	**8,760**	**9,372**	**388,688**

**FY23 includes 5 months of actual financial results to May-23 with the remaining 7 months of the financial year relating to the CIAA approved budget.*
*** Working capital movements have been assumed to be $nil from FY26 onwards given the working capital assumptions included in the CIAA approved budget are deemed to be prudent.*

Combined Cash Flow

Preferred Option

CI$'000	Actual FY19	Actual FY20	Actual FY21	Actual FY22	Budget FY24	Budget FY24	Budget FY25	F'cast FY26	F'cast FY27	F'cast FY28	F'cast FY29	F'cast FY30	Cumulative FY19-FY82
EBITDA	**16,879**	**-9,330**	**-17,364**	**441**	**6,371**	**23,715**	**24,109**	**23,768**	**19,684**	**20,603**	**21,458**	**9,224**	**1,536,222**
Less: interest	-124	-37	-30	-84	-35	-30	-30	0	0	0	0	0	-370
Working capital													
Decrease/(increase) in trade debtors	5,484	2,396	3,165	-3,005	-2,264	-5,672	-2,243	0	0	0	0	0	-2,140
Decrease/(increase) in other debtors	-3,093	3,995	-850	-3,575	-3,016	0	0	0	0	0	0	0	-6,539
(Decrease)/increase in trade creditors and accrua	-4,473	3,377	-2,014	-1,111	-291	-2,388	4,653	0	0	0	0	0	-2,247
(Decrease)/increase in other creditors	5,187	1,958	2,347	2,173	424	0	0	0	0	0	0	0	12,089
Movement in NWC	**3,105**	**11,726**	**2,647**	**-5,517**	**-5,147**	**-8,060**	**2,410**	**0**	**0**	**0**	**0**	**0**	**1,164**
Operating cash flow	**19,860**	**2,359**	**-14,746**	**-5,161**	**1,190**	**15,625**	**26,490**	**23,768**	**19,684**	**20,603**	**21,458**	**9,224**	**1,537,016**
(Purchase)/sale of fixed assets	-16,166	-37,613	-2,774	-1,566	-3,871	-22,330	-32,121	-40,564	-27,627	-66,027	-64,639	-87,740	-1,349,552
Free cash flow	**3,694**	**-35,254**	**-17,521**	**-6,726**	**-2,681**	**-6,705**	**-5,631**	**-16,796**	**-7,943**	**-45,423**	**-43,181**	**-78,516**	**187,465**
Other cash flows													
(Decrease)/increase in loans	0	13,000	7,900	18,100	11,000	-3,333	-3,333	-3,333	-3,333	-3,333	-3,333	-3,333	0
Decrease/(increase) in term deposits	-9	2,074	0	0	0	0	0	0	0	0	0	0	2,065
Other comprehensive income/(loss)	-3,884	0	0	0	-770	0	0	0	0	0	0	0	-4,654
Capital contributions	0	154	10,000	0	0	5,000	0	0	0	0	0	0	15,154
Unreconciled variance	36	13	2	0	0	0	0	0	0	0	0	0	51
Non-operating cash flows	**-3,857**	**15,242**	**17,902**	**18,100**	**10,230**	**1,667**	**-3,333**	**-3,333**	**-3,333**	**-3,333**	**-3,333**	**-3,333**	**12,616**
Total cash movement	**-164**	**-20,013**	**382**	**11,373**	**7,549**	**-5,038**	**-8,964**	**-20,129**	**-11,276**	**-48,757**	**-46,515**	**-81,849**	**200,081**
Opening cash balance	26,442	26,279	6,266	6,648	18,021	25,570	20,531	11,567	-8,562	-19,838	-68,595	-115,109	26,442
Closing cash balance	26,279	6,266	6,648	18,021	25,570	20,531	11,567	-8,562	-19,838	-68,595	-115,109	-196,959	226,523

**FY23 includes 5 months of actual financial results to May-23 with the remaining 7 months of the financial year relating to the CIAA approved budget.*
*** Working capital movements have been assumed to be $nil from FY26 onwards given the working capital assumptions included in the CIAA approved budget are deemed to be prudent.*

Business As Usual

CI$'000	Actual FY19	Actual FY20	Actual FY21	Actual FY22	Budget FY23	Budget FY24	Budget FY25	F'cast FY26	F'cast FY27	F'cast FY28	F'cast FY29	F'cast FY30	Cumulative FY19-FY82
EBITDA	**16,879**	**-9,330**	**-17,364**	**441**	**6,371**	**12,587**	**12,625**	**6,753**	**7,451**	**8,120**	**8,760**	**9,372**	**388,688**
Less: interest	-124	-37	-30	-84	-35	-30	-30	0	0	0	0	0	-370
Working capital													
Decrease/(increase) in trade debtors	5,484	2,396	3,165	-3,005	-2,264	-5,672	-2,243	0	0	0	0	0	-2,140
Decrease/(increase) in other debtors	-3,093	3,995	-850	-3,575	-3,016	0	0	0	0	0	0	0	-6,539
(Decrease)/increase in trade creditors and accrua	-4,473	3,377	-2,014	-1,111	-291	-2,388	4,653	0	0	0	0	0	-2,247
(Decrease)/increase in other creditors	5,187	1,958	2,347	2,173	424	0	0	0	0	0	0	0	12,089
Movement in NWC	**3,105**	**11,726**	**2,647**	**-5,517**	**-5,147**	**-8,060**	**2,410**	**0**	**0**	**0**	**0**	**0**	**1,164**
Operating cash flow	**19,860**	**2,359**	**-14,746**	**-5,161**	**1,190**	**4,497**	**15,005**	**6,753**	**7,451**	**8,120**	**8,760**	**9,372**	**389,483**
(Purchase)/sale of fixed assets	-16,166	-37,613	-2,774	-1,566	-1,846	-15,476	-6,371	-2,785	-2,868	-2,954	-3,043	-3,134	-489,485
Free cash flow	**3,694**	**-35,254**	**-17,521**	**-6,726**	**-656**	**-10,979**	**8,634**	**3,968**	**4,583**	**5,165**	**5,717**	**6,238**	**-100,002**
Other cash flows													
(Decrease)/increase in loans	0	13,000	7,900	18,100	11,000	-4,220	-4,220	-3,333	-3,333	-3,333	-3,333	-3,333	0
Decrease/(increase) in term deposits	-9	2,074	0	0	0	0	0	0	0	0	0	0	2,065
Other comprehensive income/(loss)	-3,884	0	0	0	-770	0	0	0	0	0	0	0	-4,654
Capital contributions	0	154	10,000	0	0	5,000	0	0	0	0	0	0	15,154
Unreconciled variance	36	13	2	0	0	0	0	0	0	0	0	0	52
Non-operating cash flows	**-3,857**	**15,242**	**17,902**	**18,100**	**10,230**	**780**	**-4,220**	**-3,333**	**-3,333**	**-3,333**	**-3,333**	**-3,333**	**12,617**
Total cash movement	**-164**	**-20,013**	**382**	**11,373**	**9,574**	**-10,199**	**4,414**	**635**	**1,249**	**1,832**	**2,384**	**2,905**	**-87,386**
Opening cash balance	26,442	26,279	6,266	6,648	18,021	27,595	17,396	21,809	22,444	23,693	25,525	27,909	26,442
Closing cash balance	26,279	6,266	6,648	18,021	27,595	17,396	21,809	22,444	23,693	25,525	27,909	30,814	-60,943

Combined Balance Sheet

Preferred option

$'000 KYD	Actual FY19	Actual FY20	Actual FY21	Actual FY22	Budget FY23	Budget FY24	Budget FY25	F'cast FY26	F'cast FY27	F'cast FY28	F'cast FY29	F'cast FY30	F'cast FY82
Assets													
Current assets													
Cash and cash equivalents	26,279	6,266	6,648	18,021	25,570	20,531	11,567	-8,562	-19,838	-68,595	-115,109	-196,959	226,523
Term deposits	2,074	0	0	0	0	0	0	0	0	0	0	0	0
Accounts receivable	8,019	5,623	2,458	5,463	7,727	13,399	15,642	15,642	15,642	15,642	15,642	15,642	15,642
Other receivables and prepaid expenses	3,600	-396	455	4,030	7,045	7,045	7,045	7,045	7,045	7,045	7,045	7,045	7,045
	39,972	**11,494**	**9,561**	**27,514**	**40,342**	**40,976**	**34,255**	**14,126**	**2,850**	**-45,907**	**-92,422**	**-174,271**	**249,211**
Non current assets													
Property, plant and equipment	168,244	201,357	199,632	196,702	196,388	213,689	241,533	282,097	309,724	375,751	440,390	528,130	1,474,643
Intangible assets	500	500	500	500	506	2,006	3,256	3,256	3,256	3,256	3,256	3,256	3,256
Total assets	**208,716**	**213,351**	**209,693**	**224,716**	**237,237**	**256,672**	**279,044**	**299,480**	**315,830**	**333,100**	**351,225**	**357,115**	**1,727,110**
Liabilities and equity													
Current liabilities													
Current portion of long-term debt	0	13,000	20,900	39,000	50,000	46,667	43,333	40,000	36,667	33,333	30,000	26,667	0
Accounts payable and accrued expenses	3,143	6,520	4,506	3,395	3,104	716	5,369	5,369	5,369	5,369	5,369	5,369	5,369
	3,143	**19,520**	**25,406**	**42,395**	**53,104**	**47,382**	**48,703**	**45,369**	**42,036**	**38,703**	**35,369**	**32,036**	**5,369**
Non current liabilities													
Long-term debt	0	0	0	0	0	0	0	0	0	0	0	0	0
Unfunded pension laibility	9,380	9,876	10,436	10,992	10,647	10,647	10,647	10,647	10,647	10,647	10,647	10,647	10,647
Unfunded health care obligations	18,183	19,645	21,432	23,049	23,819	23,819	23,819	23,819	23,819	23,819	23,819	23,819	23,819
	27,563	**29,521**	**31,868**	**34,041**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**
Total Liabilities	**30,706**	**49,041**	**57,274**	**76,436**	**87,569**	**81,848**	**83,168**	**79,835**	**76,501**	**73,168**	**69,835**	**66,501**	**39,835**
Net assets	**178,010**	**164,310**	**152,419**	**148,280**	**149,668**	**174,824**	**195,877**	**219,645**	**239,329**	**259,932**	**281,390**	**290,614**	**1,687,276**
Equity													
Contributed capital	34,675	34,829	44,829	44,829	44,829	49,829	49,829	49,829	49,829	49,829	49,829	49,829	49,829
Retained earnings	48,530	60,821	46,967	25,076	20,937	23,095	43,251	64,304	88,072	107,756	128,359	149,817	1,518,914
Asset revaluation	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649
Retained OCI	1,865	1,865	1,865	1,865	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095
Current year surplus	12,291	-13,854	-21,891	-4,139	2,158	20,156	21,053	23,768	19,684	20,603	21,458	9,224	36,789
	178,010	**164,310**	**152,419**	**148,280**	**149,668**	**174,824**	**195,877**	**219,645**	**239,330**	**259,933**	**281,391**	**290,614**	**1,687,276**
Total liabilities and equity	**208,716**	**213,351**	**209,693**	**224,716**	**237,237**	**256,672**	**279,045**	**299,480**	**315,831**	**333,101**	**351,225**	**357,116**	**1,727,111**

**FY23 includes 5 months of actual financial results to May-23 with the remaining 7 months of the financial year relating to the CIAA approved budget.*

*** Working capital movements have been assumed to be $nil from FY26 onwards given the working capital assumptions included in the CIAA approved budget are deemed to be prudent.*

Business As Usual

$'000 KYD	Actual FY19	Actual FY20	Actual FY21	Actual FY22	Budget FY23	Budget FY24	Budget FY25	F'cast FY26	F'cast FY27	F'cast FY28	F'cast FY29	F'cast FY30	F'cast FY82
Assets													
Current assets													
Cash and cash equivalents	26,279	6,266	6,648	18,021	27,595	17,396	21,809	22,444	23,693	25,525	27,909	30,814	-60,943
Term deposits	2,074	0	0	0	0	0	0	0	0	0	0	0	0
Accounts receivable	8,019	5,623	2,458	5,463	7,727	13,399	15,642	15,642	15,642	15,642	15,642	15,642	15,642
Other receivables and prepaid expenses	3,600	-396	455	4,030	7,045	7,045	7,045	7,045	7,045	7,045	7,045	7,045	7,045
	39,972	**11,494**	**9,561**	**27,514**	**42,367**	**37,840**	**44,497**	**45,132**	**46,381**	**48,213**	**50,597**	**53,502**	**-38,255**
Non current assets													
Property, plant and equipment	168,244	201,357	199,632	196,702	194,363	204,810	206,905	209,690	212,558	215,513	218,556	221,690	614,576
Intangible assets	500	500	500	500	506	2,006	3,256	3,256	3,256	3,256	3,256	3,256	3,256
Total assets	**208,716**	**213,351**	**209,693**	**224,716**	**237,237**	**244,657**	**254,658**	**258,078**	**262,196**	**266,982**	**272,409**	**278,449**	**579,577**
Liabilities and equity													
Current liabilities													
Current portion of long-term debt	0	13,000	20,900	39,000	50,000	45,780	41,560	38,227	34,893	31,560	28,227	24,893	0
Accounts payable and accrued expenses	3,143	6,520	4,506	3,395	3,104	716	5,369	5,369	5,369	5,369	5,369	5,369	5,369
	3,143	**19,520**	**25,406**	**42,395**	**53,104**	**46,496**	**46,929**	**43,596**	**40,263**	**36,929**	**33,596**	**30,263**	**5,369**
Non current liabilities													
Long-term debt	0	0	0	0	0	0	0	0	0	0	0	0	0
Unfunded pension laibility	9,380	9,876	10,436	10,992	10,647	10,647	10,647	10,647	10,647	10,647	10,647	10,647	10,647
Unfunded health care obligations	18,183	19,645	21,432	23,049	23,819	23,819	23,819	23,819	23,819	23,819	23,819	23,819	23,819
	27,563	**29,521**	**31,868**	**34,041**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**
Total Liabilities	**30,706**	**49,041**	**57,274**	**76,436**	**87,569**	**80,961**	**81,395**	**78,061**	**74,728**	**71,395**	**68,061**	**64,728**	**39,835**
Net assets	**178,010**	**164,310**	**152,419**	**148,280**	**149,668**	**163,696**	**173,264**	**180,017**	**187,468**	**195,588**	**204,348**	**213,721**	**539,743**
Equity													
Contributed capital	34,675	34,829	44,829	44,829	44,829	49,829	49,829	49,829	49,829	49,829	49,829	49,829	49,829
Retained earnings	48,530	60,821	46,967	25,076	20,937	23,095	32,123	41,691	48,444	55,895	64,015	72,775	412,175
Asset revaluation	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649
Retained OCI	1,865	1,865	1,865	1,865	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095
Current year surplus	12,291	-13,854	-21,891	-4,139	2,158	9,028	9,568	6,753	7,451	8,120	8,760	9,372	-4,005
	178,010	**164,310**	**152,419**	**148,280**	**149,668**	**163,696**	**173,264**	**180,017**	**187,468**	**195,588**	**204,349**	**213,721**	**539,743**
Total liabilities and equity	**208,716**	**213,351**	**209,693**	**224,716**	**237,237**	**244,657**	**254,659**	**258,079**	**262,196**	**266,983**	**272,410**	**278,449**	**579,578**

****The financial statements presented above are provided for illustrative purposes only. The historical financial information provided has not been audited and is therefore draft; furthermore, multiple revisions have been made to the historical numbers during the preparation of this OBC, as well a number of unreconciled cash flow items being identified between FY19 and FY22. Therefore, the forecasts presented may be inaccurate due to unreconciled or incorrect historical financial information and furthermore, they are dependent on CIAA achieving the budgets prepared by management. Refer to the detailed list of assumptions and caveats included within the Financial Case.***

5.3.1 Financial Statements Assumptions and Methodology Applied

The financial statements to assess the overall affordability of the Project have been prepared using the cash flows set out in the Financial Model. This has been achieved through consultation with the financial representatives of CIAA through various iterations of information request lists.

The following assumptions and methodologies were agreed and applied in preparing the financial statements:

- Whilst CIAA financial statements are prepared in accordance with IFRS, as issued by the International Accounting Standards Board, the financial statements in this OBC have been prepared for illustrative purposes and are therefore not IFRS compliant due to the limited and unaudited financial information available.
- The financial model assumes that all operational costs are funded by CIAA's own revenue streams, rather than on a reimbursement basis from CIG.
- Cash flow projections are based on real prices.
- No discounting has been applied.
- Only cash releasing benefits are considered.
- Capital charges – The capital charge assumed by CIAA is currently 0% (i.e. on the existing $50m facility with CIG), no capital charges have been included in the financial models.
- The FY23, FY24 and FY25 CIAA budgets have been used as the basis for the financial model, with forecasts overlayed from FY26 onwards. As such, the viability of the projects is largely dependent on CIAA achieving the budgets prepared by management. Actual management accounts up to December 2022 have been used to calculate estimated operating costs for the forecast period; however, it is noted that the management accounts are draft and unaudited and so any changes to the historical financial information could have a material impact on the forecasts and conclusions presented in this OBC.
- Construction periods are based on the phasing spreadsheet provided (see section 5.2.2), which has been prepared by Stantec and CIAA based on the costings provided by BCQS. The phasing spreadsheet splits costs into "short term" (1-5yrs), "medium term" (6-10yrs) and "long term" (11-20yrs) and is split out by year. These costs were provided in base year prices.
- The forecasts have been prepared using the average revenue per passenger for 2019 - 2022, multiplied by the forecast base case passenger levels as prepared by DKMA. Under the Preferred Option, revenue inflates by 0.5% per annum from 2039 to reflect the additional revenues generated by the completion of the GA facility (Project A1) and the ORIA terminal and runway (A2); this is deemed to be a conservative estimate, given the revenue-generating opportunities that both of these projects bring.
- Variable costs have been forecast with reference to forecast revenue. Fixed costs have been forecast using historical averages (increasing in line with DKMA forecast annual average demand growth of 1.5% to reflect the gradual increase in fixed costs that is expected over time).
- The Preferred Options use the base case passenger demand forecasts as prepared by DKMA as it assumed that this is what is achievable should the Preferred Options be followed (i.e. infrastructure will be adequate to facilitate expected demand).
- The BAU forecast has been prepared under the assumption that 2019 represents the maximum capacity of the airport and so demand has been modelled using the DKMA forecasts up to this point (allowing for an annual increase of 1.75% p/a after this point to reflect price increases).
- The BAU forecast includes a revenue deflator of 0.5% per annum from FY23 onwards to reflect a loss of market share to neighboring islands if the airports are not developed (a specific concern addressed in the SOC).
- The DKMA forecasts were prepared for a 20-year period to FY41; however, this financial model extends to a 60-year period (to FY82). Therefore, a run rate from the forecasts has been used to extend the forecasts to FY82.
- Balance sheets have been forecast using simplistic assumptions (i.e. no working capital movements from the latest budgeted position) due to the limited nature of the financial information available and the volatility of working capital in the forecast and budgeted periods. However, given that working capital movements are purely timing, and due to working capital assumptions being prudent in the final budgeted period, this is not deemed to have a material impact on the conclusions of the financial model.
- Cash flow forecasts have been prepared using the cost phasing spreadsheet to model the capital costs associated with this Project, with CIAA's recent $50m loan repayment being modelled using the loan agreement with CIG. Again, no movement in working capital has been assumed in the period. The loan repayments have been modelled from FY24 for a period of 15 years, as per discussions with CIAA.
- Due to the limited financial information that has been provided, additions, depreciation and disposals in the historical and forecast periods have not been shown separately. Therefore, capital expenditure has simply been forecast as follows:
    - Using the costing and phasing spreadsheet provided by Stantec/BCQS (costings provided by BCQS were provided in Q4 2022 prices and subsequently increased for the impact of inflation);
    - Assumed level of annual capex from FY26 has been set at $2.5m, which has been increased for inflation
    - Forecast repair and maintenance spend has been accounted for within the profit and loss account
- In line with the phasing spreadsheet provided, capital costs have been increased for the effects of inflation. Forecast inflation has been modelled as follows: 2024 – 5%; and 2025 to 2082– 3%, as per Trading Economics global macro models and analyst expectations for the Cayman Islands.

- Historical financial information does not split out the general aviation facility from CIAA financial information and so a business case prepared for CIAA in 2021 as well as FY19 standalone GA revenue information has been used to estimate the revenues/costs attributable to the GA facility.
- As Little Cayman has not been owned or operated by the CIAA historically, the Little Cayman forecasts have been prepared with reference to the DKMA passenger numbers for 2019-2021 as a proportion of Cayman Brac's P&L (i.e. Little Cayman saw 33.9% of the passenger numbers that CYB saw and so this % has been applied to the P&L for CYB).
- Cash flow statements for the historical period were not available and so a cash flow statement was constructed as part of the financial model preparation. Unreconciled items in the historical period were noted (FY19-FY22) of <$75k p/a.
- No account has been taken of Project financing in the financial model (aside from the Approved Works), to highlight the level and timing of the funding required for the Projects. Funding requirements have been modelled separately, as discussed later in this section.
- The timing of payments for contractors and consultants is assumed to be commensurate with the delivery of goods/services and has there been modelled on an even basis across each year.
- An optimism bias/contingency of 10% has been built into the BCQS costings, with an optimism bias/contingency of 15% being applied to land acquisition costs.

The key worksheets from the financial models including the indicative financial statements of each Project have been presented in Appendix 11. Note that these are based upon the high-level cost, revenue and cash flow assumptions that have been made at this stage, in the absence financial forecasts being prepared. They are for indicative purposes only and no reliance should be placed upon them.

5.3.2 Revenue Requirements for each Project

Given CIAA generates its own revenues, which are expected to fully fund the continued operations of the airports, post development, there are no expected revenue requirements of the Projects (funding from CIG). This would apply to all of the shortlisted options for Projects A1 and A2 given that the operational costs of the airports under each scenario would be expected to be outweighed by the revenues generated by CIAA (through ORIA).

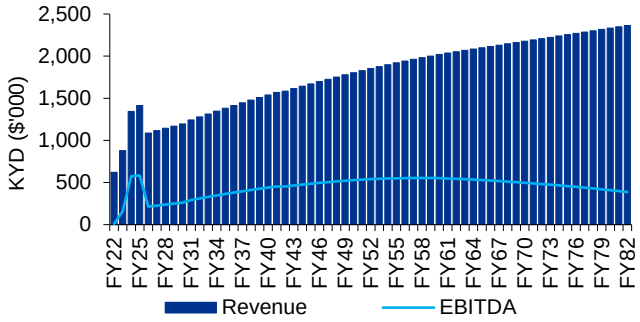
However, Projects B and C need further consideration, because the revenues generated in respect of CKIA and EBA, specifically, are very low (no historical financial information available for EBA as this aerodrome is not currently operated by the CIAA; however, see a summary of CKIA below, based on actual passenger movements to December 2021):

CKIA Historical Financial Summary			
CI$'000	**FY19 (pre-Covid)**	**FY20**	**FY21**
Revenue	829	320	188
Expenses	(2,156)	(2,377)	(2,220)
EBITDA	**(1,327)**	**(2,057)**	**(2,032)**

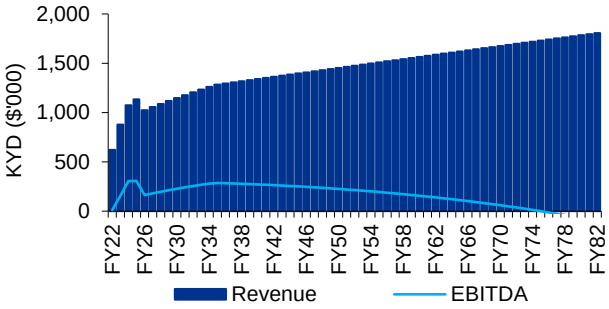
This means that even under the status quo (Option 1 for Project B), the revenues generated at ORIA effectively subsidise the operation of CKIA (as would be the case for EBA if it was owned by CIAA). The sister islands' airports are considered to be vital infrastructure and therefore the Steering Committee determined that the operating costs of the three airports need to be considered as a whole and that since CIAA does not require funding from CIG under normal operating conditions (excluding natural disasters and pandemics), as a group the airports collectively have no revenue requirements from CIG. A further complication is that EBA is operated and maintained by Cayman Airways due to its failure to meet the required standards to operate as a domestic airport, so CIAA does not have full visibility over the current operating costs of the aerodrome. For the purposes of the financial model and the financial statements, the operating costs of EBA have been estimated on the basis of passenger numbers as a proportion of the revenue and costs of CKIA. Similarly, the standalone revenues and costs of the GA facility have also been estimated as a proportion of the total CIAA revenues and costs (as noted in the assumptions above). Whilst it would typically be expected that a reasonably accurate breakdown of projected additional revenues and costs for all projects would be available at the OBC stage, the limited historical and forecast financial data has restricted this process.

The above is reflected in the financial model and Financial Statements in Appendix 11.

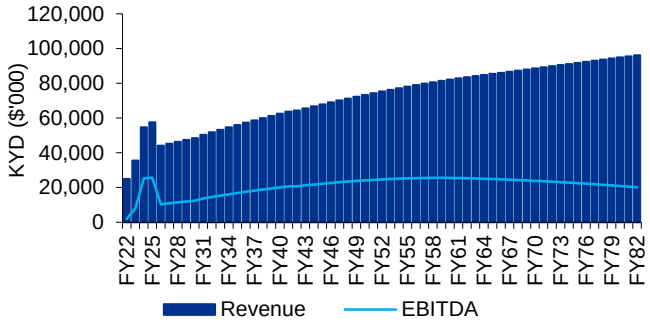
Project A.1 - preferred option



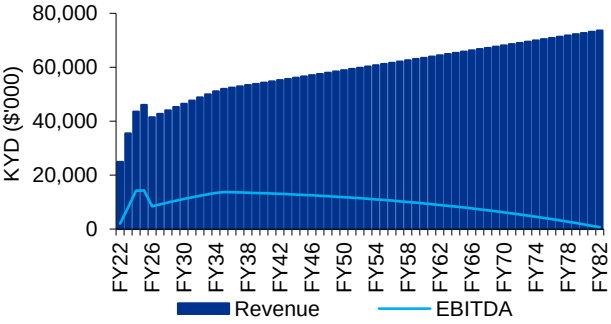
Project A.1 - base case



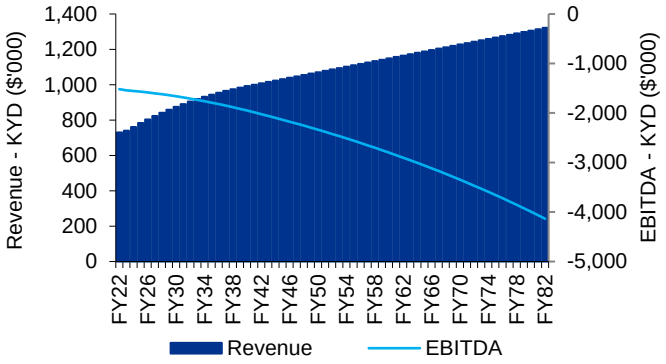
Project A.2 - preferred option



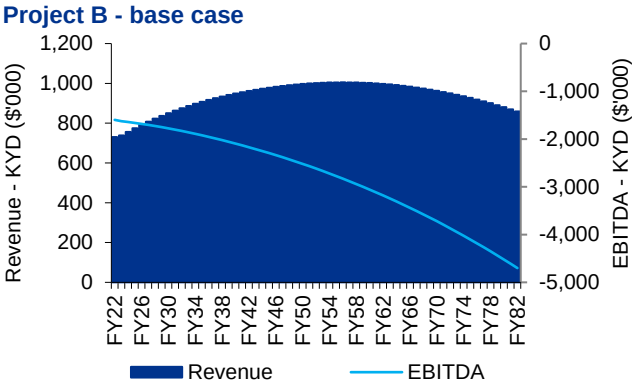
Project A.2 - base case



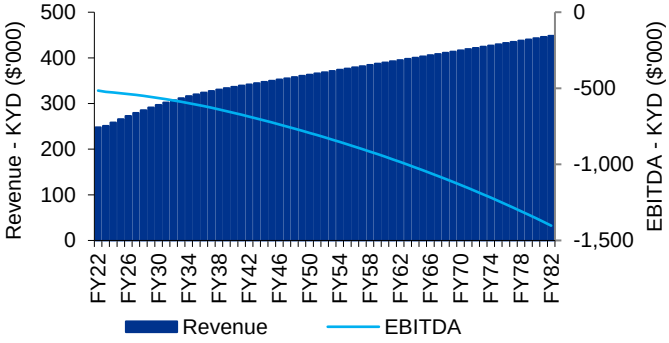
Project B - preferred option



Project B - base case



Project C - preferred option



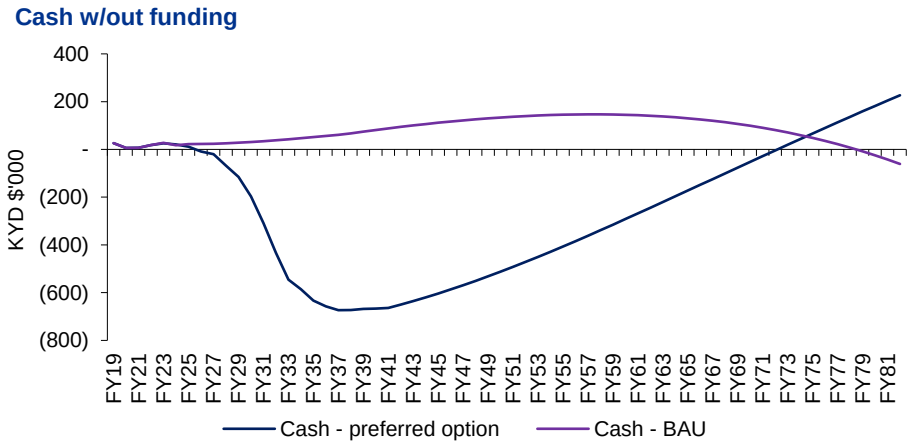
**As LCY is not currently operated by the CIAA, no BAU case has been included above.*

***The charts above cover a 60-year period; therefore, EBITDA tails off in all scenarios towards the end of this period to reflect rising costs and a decrease in revenue, should further master planning exercises no be undertaken in the future (in both the Preferred Option and Business as Usual scenarios).*

As evidenced in the charts above, the Preferred Options are expected to lead to significantly higher levels of both revenues and EBITDA (assuming the DKMA passenger forecasts are accurate) than the base case (BAU). The increase in revenues generated is expected to outpace the increase in associated costs (due to increased demand and capacity) and so it is not anticipated that any CIG funding will be required in respect of the operations, post completion.

5.3.3 Funding requirements

The chart below has been prepared excluding any additional funding in relation to this development to illustrate the capital cost profile of the Projects:



CIAA's additional cash requirement is expected to peak in 2037 at the end of the short- and medium-term works which would see Projects A2 and B materially complete, and Projects A1 and C entirely complete. However, there are numerous high-level assumptions underpinning this (as discussed above) and so the actual funding requirement may be materially different in practice, depending on the financial performance of CIAA in the interim period, as well as other factors.

5.3.3.1 Considerations for increasing CIAA's revenue-generating capacity

CIAA does not have complete autonomy over day-to-day operations, with CIG having to approve many of CIAA's operational decisions which impact the public.

Since CIAA generates its own revenues, a portion of the CAPEX requirements are forecast to be internally funded. This still leaves a funding requirement from CIG (which varies depending on the funding scenarios discussed below).

Key ways of reducing this funding requirement include:

1. **Increase CIAA revenue streams**. See analysis below.
2. **CIG loans to be interest-free** or interest to be rolled up until CIAA resumes generating positive cash flows (post construction works). Applying interest during the construction phases will simply increase the loan amounts required by CIAA.
3. Adjust the **programme of the Projects to an "optimal" level**. There is a balance between delaying projects to reduce the CAPEX requirements in the initial years, versus inflation meaning that projects in the future are more expensive. Revenue-accretive projects should therefore be prioritised.

Increase CIAA revenue streams

It is the view of the consultant team that the users should bear the brunt of cost, over time. It is expected that the users would be willing to pay a small premium to come to a premium destination. This is currently true, in that the fees per passenger in the Cayman Islands are higher on average compared to an international passenger fee paid at a US or Canadian airport.

For example, undervaluing parking service fees in the future (e.g. once a covered parking facility is in place) would be to CIAA's detriment; however, this can be avoided when a premium price is charged for a premium service (e.g. undercover parking with a concierge service). To offset the costs of these Projects, CIAA must focus on growing the non-aeronautical revenue, which is largely from overseas users. Along with improved concessions and expanding non-aeronautical revenue on the landside (30m set back to include a plaza of shops, F&B options, air-conditioned cafes, children's playground, dog relief area, etc.), CIAA need to focus on ***new*** revenues in addition to those that exist, which will grow with passenger growth.

Aeronautical revenue does need to be competitive, particularly in the region, but CIAA could also have a reduced rate for the small population of Cayman Islands residents. International fees will need to be held at a higher rate for the use of new facilities and are required to offset the improved processes (both internal and external) and capital investments that are being implemented mostly to process users in the peak hours, many of whom originate outside of the Cayman Islands.

Two areas have been identified that could be optimised to drive CIAA's revenue growth:

Non-aeronautical revenue

- Long-stay customer parking – currently priced at $7 per day in ORIA, which is well below market rate in other regions. The current rates also lead to capacity issues during peak hours; consider in-depth review of parking charges;
- Passenger drop off charges – ORIA currently does not charge for passenger drop offs, which is a practice that has been implemented in many other airports;
- Licensing of a ground transportation system – the licensing of taxi and bus services at the airport would generate additional revenues for the CIAA;
- Commercial land development and new terminal revenues – additional restaurants, bars, shops and other concessions would contribute significantly higher revenues than the existing options, particularly if premium rates were charged; and
- Car rental concessions – expanding ORIA such that car rental concessions become part of the terminal would generate higher revenues in comparison with the current model;
- Additional land leases for restaurant / lounge / viewing point;
- Significant revenues from landside concessionaires, including hotel, food and beverage and retail; and
- Revenues from overflights and ATM managed flights over the Cayman Islands.

Aeronautical revenue

- Peak-hour landing fees – premium rates could be charged to airlines for landing during peak hours (both commercial and general aviation), which would increase revenues, may ease congestion during peak hours (i.e. airlines incentivised to land outside of peak hours) and may attract additional airlines (i.e. non-peak landing slots may be priced low enough to attract budget or cheaper airlines);
- Operating charges and fees – an improved service offering (i.e. more efficient airside infrastructure and improved terminal) would allow for higher operating charges and fees to be charged;
- Development fees could be introduced to fund a portion of the developments at the airports as is seen in several other comparable airports (e.g. St. Maarten; Panama City; Kingston and Belize City);
- Additional fees from sales of aviation fuel (AvGas, Jet-A fuels);
- Additional fees from aircraft parking (hourly rates during peak hours, daily/overnights off peak);
- Additional revenues from Ground Handling Companies from land leases (offices, equipment maintenance garages, storage and staging areas on aprons);
- Revenues from administrative equipment licensing (operating rights to be located at the airport requires safe, modern equipment);
- Higher landing fees for late night flights (noise disturbance) and Stage 3 or older aircraft models;
- Revenues from aircraft engine runup facilities;
- Revenues from aircraft storage (hangarage) and power use on airside (i.e.: charging stations for GSE); and
- Pavement / building lease areas (cargo handling, military and/or other aviation equipment storage / staging).

Furthermore, CIAA is unable to raise its own finance, which limits the capacity for self-funded projects. If CIAA was able to raise its own finance, this may create opportunities in private sector debt financing and municipal bonds.

An analysis of Aeronautical fees against comparable countries has been presented below.

Aeronautical fees of comparable countries

Per unit fees

The table below presents a comparison of aeronautical fees based on analysis prepared by Stantec (refer to Appendix 18 for the detailed table from which the data below is derived):

Region and Country	**Average per unit fee (US$)**
Caribbean (avg)	**$94.97**
Antigua	$56.00

Bahamas	$99.00
Barbados	$182.20
Cayman Islands	$65.40
Cuba	$0.00
Dominican Republic	$137.02
Guadeloupe	$89.09
Jamaica	$114.65
Martinique	$154.40
Puerto Rico	$102.56
St. Maarten	$90.57
Trinidad and Tobago	$48.75
Central (avg)	**$35.14**
Belize	$55.50
Costa Rica	$14.77
Guatemala	$33.25
Honduras	$50.44
Nicaragua	$3.00
Panama	$53.88
Average	**$75.03**

**The table above presents the sum of the per unit fees charged at each airport for each country (e.g. Service; Development; Environmental; Facility; Processing; Clearance Fees; etc.) as well as the average fees for each region. We note this analysis is high-level and that appendix 18 should be reviewed for further detail.*

As illustrated above, the per unit fees of the Cayman Islands (ORIA only) total US$65.40, which is below the US$75.03 average of the Caribbean and Central regions and well below the US$94.97 average of the Caribbean region. However, most notably, the total fees per unit of the Cayman Islands are significantly below primary competitor countries, such as: Barbados US$182.20; Jamaica US$114.65; and the Bahamas US$99.00.

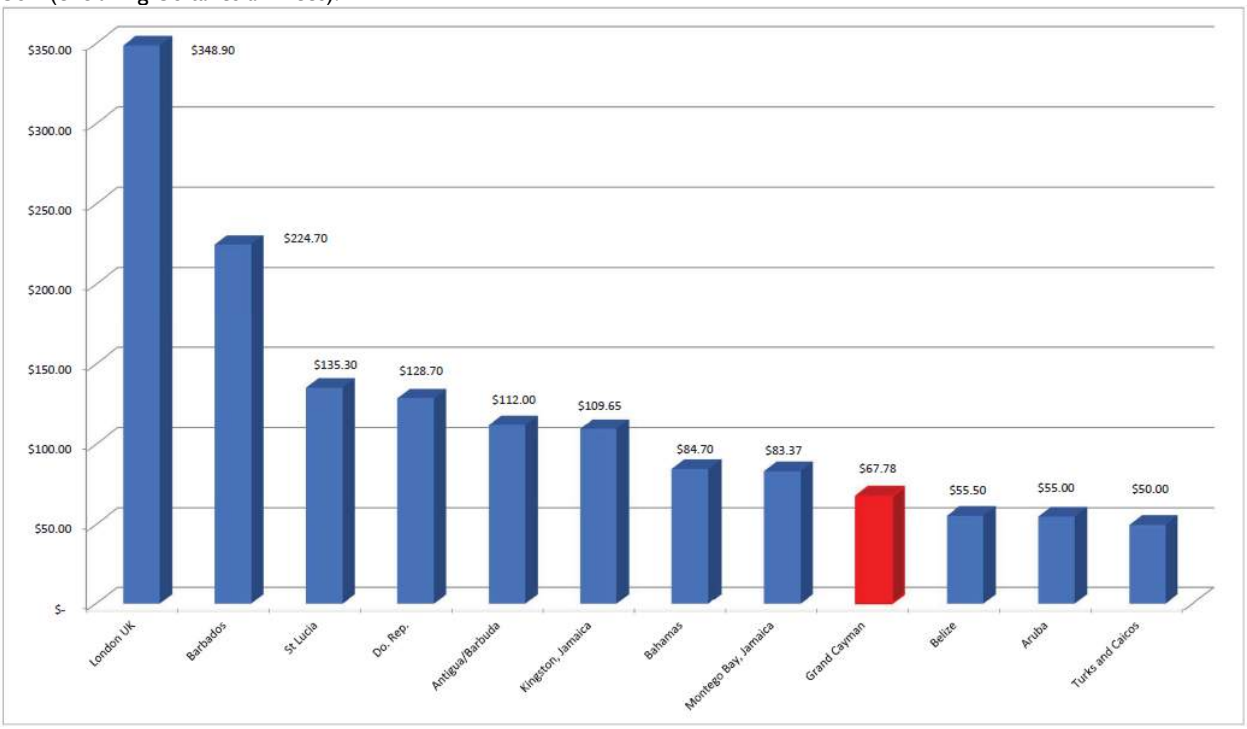
The per unit fees (USD$) included for the Cayman Islands comprise

- Passenger service fees - $36.00
- Passenger facility charges - $15.60
- Security charges - $12.00
- Terminal charges - $1.20 (however, we note this is anticipated to increase to $6.00 during 2023 and there is also a fixed charge element of $217 for landings between 02:00 and 12:00)

Therefore, there is ample scope to increase fees for the Cayman Islands to align with the closest competitor countries in the region. This can be further justified in the context of Cayman's desired branding (i.e. high-end and luxury tourism).

Total fees

The chart below presents total airport taxes, fees and other charges using a return flight from each originating airport to Miami, USA (excluding US taxes and fees):



**The chart above is based on analysis prepared jointly by CIAA and Stantec. We note that the amounts presented in the chart above do not directly align with the amounts presented in the per unit fee analysis above, this is due to the chart above: (i) accounting for fixed fees as well as per unit fees; (ii) being based specifically on a return trip to Miami; and (iii) the exclusion of taxes.*

On a total fee basis, ORIA is considerably cheaper than the majority of comparable island nations in the region. As such, this further supports the proposition of fee increases to supplement the development of the airports as part of this Project.

Approved funding method (the "Approved Works")

Given the budgetary constraints of CIG; Caucus are not in a financial position to approve funding of the entirety of Projects A1, A2, B and C at this stage. As such, approval has been given for the following projects to proceed initially:

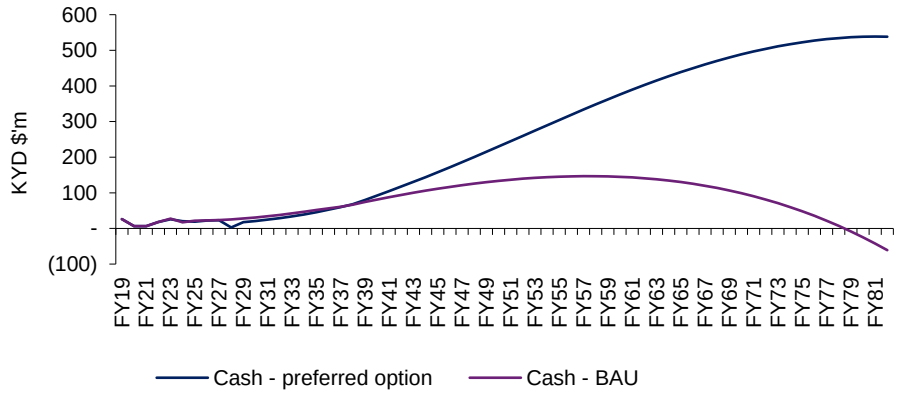
- Project A.1 – The GA facility is to be built in its entirety by 2028;
- Project A.2 – The runway extension and ATM system have been approved along with the conceptional design and EIA costs associated with the terminal expansion;
- Project B – Essential runway strip and RESA works only;
- Project C – EIA costs associated with the new Airport only;

The associated costs that have been approved are shown in the table below:

KYD $'000	**Nominal prices**	**Real prices**
Project A.1	42,061	49,085
Project A.2	34,109	37,046
Project B	1,146	1,274
Project C	1,384	1,428
Total	**78,700**	**88,833**

Assuming only the Approved Works are proceeded with, an illustrative cash position over the life of the project has been presented below:

Cash



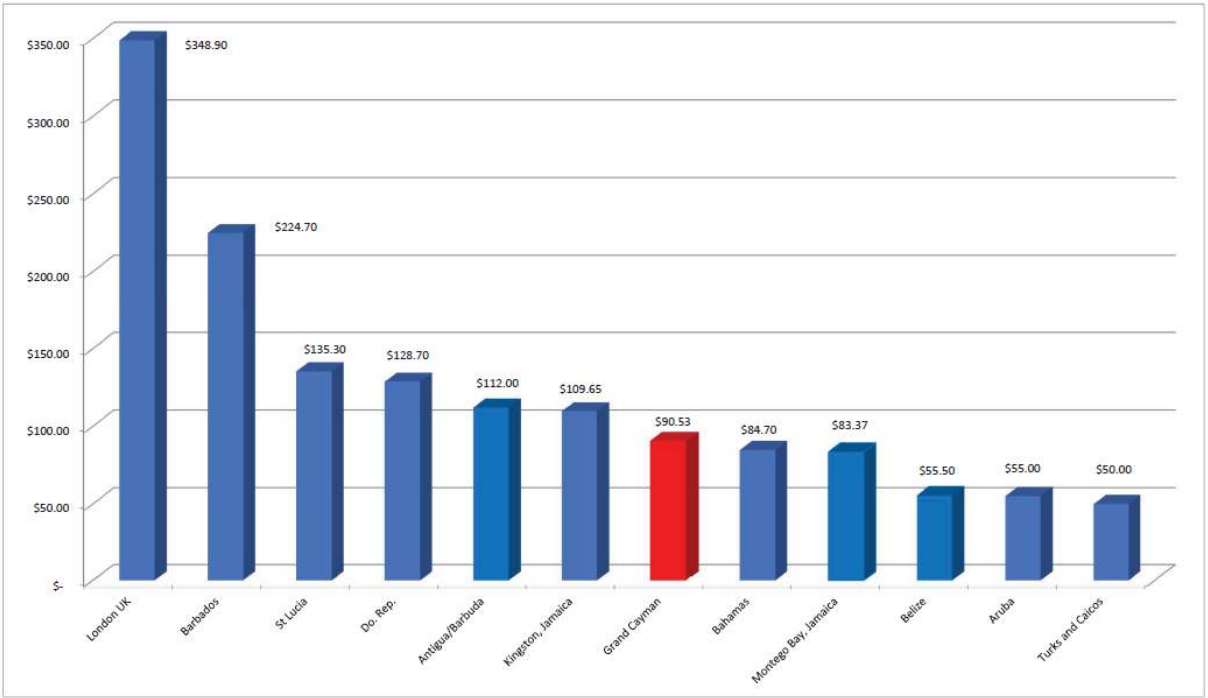
Note: cash generation tails off under the Preferred Option to reflect the need for continued development over the forecast period (i.e. if the airport is not expanded or improved again in 40 years, cost increases will begin to outpace revenue); however, the next Airport Master Plan and development is beyond the scope of this OBC. This also applies to the BAU scenario; albeit at a much faster rate, in the absence of any near time development recommended in this OBC.

The proposed funding method for the Approved Works is as follows:

- Terminal fee – increase from CI$1.00pp to CI$5.00pp;
- Airport development fee – introduction of a CI$15.00pp development fee during the construction period (2024 – 2029);
- In 2024, CIG will invest $5m into CIAA (as equity) to fund the conceptual design (and associated EIAs) of the new ORIA terminal and the Little Cayman EIA costs; and
- Ongoing operating profits of CIAA.

Note: no loss of passengers has been assumed as a result of the fee increases proposed above.

As a result of the funding method noted above, it is not expected that CIAA will require any additional CIG or external funding (aside from the $5m equity injection noted above). The remaining projects have been approved in principle, subject to future funding availability. Should CIAA's financial performance worsen in the forecast period, the repayment terms on the $50m COVID support loan that is currently in place (which is forecast to be repaid equally over 15 years from 2024 onwards) could be renegotiated to avoid CIAA requiring any additional CIG funding. After accounting for the fee increases above, the Cayman Islands ranks as follows against regional competitor countries:



5.4 Conclusions on the revenue affordability of the Preferred Options

As outlined above, the Preferred Options are expected to result in operating costs being outweighed by CIAA revenues.

Consequently, no funding gaps with regards to operational cash flows have been identified at this stage.

5.5 Financial Statements

The complete financial model (i.e. financial statements) has been presented in Appendix 11. To determine the revenue requirements, illustrative financial statements were prepared, incorporating each of the Projects. CIAA prepare their financial statements under the International Financial Reporting Standards ("IFRS") framework; however, due to the limitations of the underlying financial information, the illustrative financial statements have not been checked for compliance with the applicable IFRS standards.

Given the size and complexity of these projects and the likelihood of there being material project and phasing changes, more detailed illustrative financial statements should be produced during the FBC stage when details of each project are better known. The illustrative financial statements prepared at the FBC stage should be produced in accordance with IFRS standards.

6.0 Management Case

6.1 Introduction

This section of the OBC focuses on the strategy, framework and plans required for the successful delivery of the Projects. The management case demonstrates that there are robust arrangements in place for change management and contract management, the delivery of benefits and the management and mitigation of risk.

The success of the Projects requires that they deliver quality results by predefined parameters, in the pre-arranged timelines and on budget.

6.1.1 Project Management Arrangements

The Projects are an integral part of the Strategic Policy Initiatives of CIG. In the wake of Covid-19, CIG has made clear that one of its main priorities is to rebuild the and improve the tourism industry. More specifically, the exact priority with regards to the Ministry of Travel and Tourism is as follows:

"Continued enhancement of tourism marketing to high value source markets while ensuring a safe and stable recovery plan when the country initiates a phased reopening of borders; diversification of tourism products along with a greater focus on sustainable Ecotourism; reintegration of Caymanians within the Tourism sector to fill the void of expatriate workers who returned home due to the pandemic; continuing service by Cayman Airways to strategic tourism markets; ***continued enhancement of the air and sea port to meet the growth of the country****; revision of public transport legislation in order to enhance and better regulate public transport; utilisation of environmentally cleaner modes of public transport; and the continued implementation of the National Tourism Plan."*

It is expected that the Projects will be completed under the aegis of CIAA and the Ministry of Tourism.

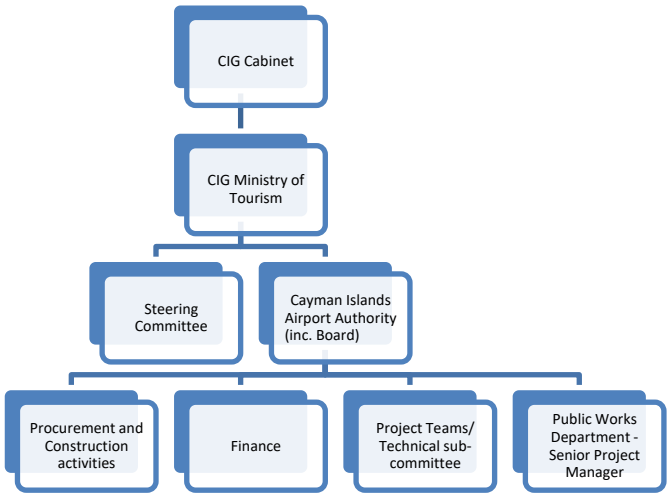
The primary objectives of the project management process are to ensure:

- Construction and refurbishment of the landside and airside facilities on time, budget and in accordance with the design briefs
- To establish effective and proactive lines of accountability and responsibility for the project deliverables
- Effective user involvement at all stages of the Projects going forward

6.1.2 Project Framework

A proposed project structure and associated responsibilities are provided in this section.

Proposed Governance arrangements



The constituents, roles and responsibilities of each group in the programme management structure are reflected in the table below:

Constituents, roles and responsibilities of each group in the programme management structure

Group	Constituents, roles and responsibilities
CIG Cabinet	The Cabinet has the authority to approve this OBC. The Cabinet is also expected to provide any policy directives that they deem to be relevant
CIG – Ministry of Tourism	It is expected that the Project will operate under the aegis of the MOT. The Chief Officer of the MOT is therefore responsible for presenting the OBC to the Cabinet for approval. The Chief Officer will also present initial and annual ongoing funding requirements to CIG for appropriations. The Chief Officer has assumed the role of the Senior Responsible Officer of the Projects
CIAA Board	The board is responsible for the monitoring and review of the Project, with board approval required prior to the presentation of the OBC to the Ministry of Tourism.
Steering Committee	The Steering Committee will be responsible for providing oversight of the programme and will continue to provide stakeholder input during the implementation of the Projects. The role includes the following: — Monitoring the Projects' progress, resolving issues and initiating corrective action as appropriate; — Defining the governance framework; — Managing the Projects' budgets on behalf of the MOT, monitoring the expenditure and costs against benefits that are realised as the Projects progress; — Facilitating the appointment of individuals to the Project delivery teams; — Ensuring maximum efficiency in the allocation of resources and skills within the Project Portfolios; — Managing any third-party contributions to the Projects; — Managing communications with stakeholders; — Managing the dependencies and interfaces between the Projects; — Managing risks to the Projects' successful outcomes; — Reporting progress of the programme to the relevant CIG Cabinet members; — Any additional Change Management responsibilities are absorbed into the role; — Identifying and tracking the benefits, risks and related outcomes required of the Projects; and — Leading any transitional requirements.
Project Manager	The Major Projects Office of the PWD is expected to identify a Project Manager. The Project Manager reports to the Steering Committee and provides overall strategic direction for the Projects. The Project Manager actively drives the Projects forward and is accountable for delivering the programme as agreed. The Project Manager will provide regular updates to the Chief Officer and MOT on the progress of the Projects. The Project Manager will present summary reports from the Project team to the Steering Committee and the Sponsor, at least monthly.

Project Teams/ Technical Sub-Committees	The Project team is ultimately responsible for the Projects and for providing the assurance that they remain on course to deliver the desired outcomes of the Business Case. The Project Team activities include: • Ultimate responsibility and accountability for the project delivery; • To provide strategic guidance in line with strategic objectives; • To report project progress to the Steering Committee and MOT; • Approving any major changes in scope of the Projects; • Contribute to the negotiations with key stakeholders to ensure that they are fully informed in respect to changes that will take place; • To review the risk register from inception to completion of the Projects; • Ensure the Projects produce outputs that deliver the user requirements; • Ensure the Project provides the expected stakeholder benefits; and • Formally close the Projects ensuring lessons learned are documented and ensure that a comprehensive post project review is completed. The Project team lead will present a report to the Project Manager at Project Team Meetings at least monthly. Significant specific activities are listed below: a) Procurement and construction activities – as noted in the Commercial Case, this Project is expected to be procured through public sector delivery methods. Representatives from PWD will be responsible for overseeing the procurement process and liaising with the Public Procurement Committee of CIG. PWD representatives could also provide oversight over the progress of the development works. b) Finance – Representatives of the MoF along with CIAA/MOT finance representatives can provide oversight over budgeted funding and financing requirements of the Projects. c) Recruitment and staffing – Representatives of CIAA can further refine the staffing plan (for continued operations of the airports. These individuals can also develop staffing plans for recruitment, training and retention of staff.

As the Projects progress, external consultants who could assist the teams listed above may need to be engaged.

6.1.3 Project Timetables

The following are the timetables relating to the actions required to ensure the Projects will be delivered and be operational within the desired timeframes.

Projects A1, A2, B and C Timetable

Stage Description	Time Frame				Processes/Outputs Decisions
	Project A1	Project A2	Project B	Project C	
Review of OBC and Cabinet Approval	Dec 2022 - June 2023				• Review OBC by Steering Committee. • Approval of OBC by Caucus
Develop the Preferred Options	2023	2023 - 2027	2032 - 2033(i)	2023 - 2027	• Procurement of consultancy services for the Preferred Options • Develop the Preferred Options design • Planning permission, BCU Approval
Final Business Case	2026	2023 - 2028	2032 - 2033(i)	2026	• Prepare FBC • Submit FBC for approval • Cabinet approval of FBC
Main works – ready for use	2029	2023 - 2038(ii)	2033 - 2041	2028 - 2031	• Mobilisation • Frame and envelope complete • Internals Substantially complete • MEPF inspection, testing, balancing • Ready for use

(i) Minor development planned for runway strip and RESA works planned for 2023 with the bulk beginning in 2033
(ii) Main works to occur primarily between 2029 and 2038; however, the works in relation to cargo/future MRO/engine run-up aprons is modelled to take place between 2039 and 2041. The runway expansion is planned to occur from 2023-2026.

6.2 Change and Contract Management Arrangements

This section reviews the proposed changes to the culture, systems, processes and people. It focuses on the specific actions to ensure the Preferred Options are a working success.

Change and Contract Management

Change Group	Commentary
Person Responsible	Chief Officer, MOT, Board, Steering Committee CEO, CIAA
Project team	PWD for construction. CIAA for operations (including reviewing the performance of contracts etc.).
Responsibilities	To oversee the implementation of the Preferred Options. To set and track key performance indices for the Preferred Options. To determine if any new processes are required that are currently not in place at the existing facilities. To report to the Project Management team.
Significant outcomes required	To monitor and minimise the impact of the transition for the Preferred Options (minimise disruption during construction). To identify new processes to ensure that the Preferred Options are managed in accordance with CIAA protocol. Improve processing times and reduce wait times for travelers.

	Improve quality of experience for passengers. Ensure sufficient space and capacity to meet future estimated demand. Improve safety and reduce/eliminate passenger mixing (especially international vs domestic).
Actions required to achieve outcomes	Engagement of key stakeholders throughout the process to ensure that there is "buy in" for the planned works as well as an understanding of changes required to ensure successful delivery.
Resources Required	Minimal additional resources anticipated.

6.3 Benefits realisation arrangements

The anticipated benefits to be derived include financial and qualitative benefits. The Benefits Management Strategy will be integrated into the project plans and will address the following issues:

- Identification of potential benefits. The benefits will be grouped, based on the key user requirements for each group
- Communication of benefits across the Project team to ensure these are clearly understood
- The Project teams are required to monitor the benefits and report on progress in realising them at each Project Team meeting (i.e. the benefit owners). Once the projects become operational, CIAA will ultimately be responsible for monitoring and reporting on the benefits.

A Benefits Realisation Register that links the key user requirements to the expected targets and measures is included below:

Benefits Realisation Register

Key User Requirement	Measures	Targets
Project A1		
Cement Cayman's "Luxury" brand, putting Cayman level with or above regional competitors, leading to increased visitors and therefore revenues	10% Increase in GA aircraft movements 30% Increase in aircraft parking capacity 50% Improvement of Airport Revenues from GA Services 100% Increased in rentable hanger space for GA Aircraft An upgraded Terminal Facility with larger capacity and amenities	Minimum of 5.7% increase in GA traffic growth per annum 50% Increase in overnight parking Industry standard increases in Air Navigation Facility Charge/Landing Fees/Parking Fees/Passenger Facility Charge/Security Tax/Terminal Charge/Terminal Surcharge / GA Travel Tax/Petrol throughput / Rent and an apron ground lease 75% Development of increased revenue from hanger rentals within 24 months Development of revenue lands, including rental space for flying club, restaurant concessionaire, F&B concession for GA Aircraft within 24 months
Additional capacity to send/receive cargo, resulting in improvements for Caymanians and residents	Potential to improve cargo facilities to include bonded warehousing/ cold storage/landside access 75% Improvement of Airport Revenues from cargo Services	Within 60 months develop a partnership with major cargo carrier Within 60 months develop a new hi-tech cargo center with temperature-controlled storage (pharma / agri) and secure, bonded warehouses / logistics center including CBC customs clearing centers and time-sensitive cargo processing innovations (overnight / same-day couriers).

Improved efficiency from the apron expansion, additional hangar(s) and terminal	30% Improved apron parking for GA aircraft Hanger availability with expansion capability Consolidated ground handlers Increase in Fuel sales	Within 24 months of the new facilities opening: 35% Increase in GA aircraft parking RONs 100% occupancy in hanger rentals in peak months One ground handler to manage the GA Apron 30 % increase in revenues
Project A2		
Decreased wait times during peak hours	Obtain an Optimum Level of Service for queuing in all areas of the terminal. Typical processing times not to exceed 20 mins.	Within 60 months to meet the IATA Optimum LOS identifies wait times, space guidelines and seating capacities
Ability to handle increased demand (beyond that of the 2019 peaks)	Land acquisition (ATC Tower location, Andy's and Car Rental properties, Budget and lot near CAL plot (LT) Terminal Expansion to increase capacity by 30% in departures and immigration Apron expansion, and rehabilitation Runway extension to attract long distance carriers To improve runway efficiencies and completion of the Parallel taxiway Improved landside public approach roads and increased undercover parking capacities	Within 24 months complete appropriate land acquisition to allow for future infrastructure development Within 60 months the capacity issues are addressed by expanding the current terminal area and incorporating innovative solutions to manage typical peak hour capacity Within 72 months expand number commercial parking stands on terminal Within 36 months complete the runway extension Medium term project to be completed by 2029 dependent on Air traffic increases By 2031 a new multilevel parking garage to be completed with associated new airport approach roads. Initial design and environmental conditions met prior to end of 2024.
Improved first and last impressions of the Cayman Islands	Authentic Caymanian ambiance / art / experience within the terminal Marine Dock / Seawall for water taxi services interface with airport Installation of inclement weather cover form parking to aircraft	Within 60 months renovations to the existing terminal and the extension to include Caymanian styled interior decoration, art and experiences Within 60 months complete an inter-modal marine dock and small terminal for passenger use, both commercial and GA. To include options to connect with ground transportation to their destination (main or g/a terminal, other) Varies. Within 60 months cover from terminal to aircraft. Within 120 months cover from parking to terminal
Security improvements	Procurement of new high-technology screening equipment that will reduce wait times through the SSCP Segregation of arriving and departing passengers	Reduce passenger queue times in typical peak hour to under 20 minutes Within 60 months the separation of passengers is completed with use of air bridges and a multi-level terminal function.

Improved facilities and aviation systems, leading to efficiencies and increased safety	New ATC Tower and ATM System Information Technology upgrades to passenger processing systems such as an improved common use passenger Check-in process Airfield drainage improvements and pumping station to reduce the influx of bird populations and potential for bird strikes Heliport, Medevac/Police/Tourism Center. Will reduce the need to occupy the main runway and improve efficiency and safety Environmental Objectives Set (noise impact reduction, air and ground water quality monitoring, expanded wildlife management innovations and solutions to long-standing concerns and issues.	Within 36 months a new Tower with integrated ATM system to be constructed, installed and commissioned Within 60 months completion and commissioning of a conversion to state of the art technology systems to improve passenger experience and throughput Design and EIA to be completed within 24 months. Completion of a storm water management system to be completed by 2030. Consideration to be given for for recycling water. Design to be completed in 2033 and facility certified and operational by 2035. Drainage and water recycling facilities to enable CIAA to meet environmental objectives to reduce impacts of aviation activities to the surrounding environments, including air, ground water and wildlife.
Improved retail and F&B options	Offer a more diverse selection of retail to include Caymanian themes for food options	Within 60 months improved F&B options on the extended second level and develop landside options between parking and terminal
Project B		
Increased safety and satisfaction of requirements to meet regulations (e.g. lengthened runway, security improvements, etc.)	Complete Environmental Assessment for the RESA and runway strip expansion Future parking capacity restraints due to the 30M rule and removal of the road within the strip Rehabilitate Runway, Taxiway, Apron,	Within 12 months complete required environmental approvals for the RESAs and expansion of runway strip into north edge of the ponds. Within 24 months complete the RESA and runway strip expansion. Complete required land appropriation within the next 36 months By 2030 an expanded apron, 2nd apron exit taxiway, and resurfaced runway will be required depending on passenger growth
Ability to handle increased demand	Predicted passenger growth of 1.9% pa	Monitor growth patterns on a year by year basis. Expected terminal expansion in year 2033
Project C		
Increased safety and satisfaction of requirements to meet regulations (e.g. lengthened runway, runway lighting, perimeter, and security improvements, etc.)	Complete Environmental Assessment for new location Satisfy Public Opinion Complete design of new airport and terminal that would include a Caymanian feel. Environmental Offsets	Within 24 months: Complete all environmental regulations and approvals Completion of a new airport design that meets applicable regulatory requirements within 24 months. Construction and completion of new airport within 72 months. Removals of existing strip and reestablish natural environment and ground cover. Repurpose air terminal building and ARFF shed. Relocate ARFF equipment to new airport.
Improved facilities and user experience	Larger Terminal with amenities Improved aircraft apron parking	During the design process ensure the public share their input on the terminal layout, décor, cultural experience to be incorporated.

		Little Cayman Airport to achieve high standards for environmental stewardship, reduction in carbon footprint, and an example of innovation and technological advancement (i.e. electric aircraft charging stations, electric shuttle vans to ferry pax between airport and resort, LED lighting and green powered infrastructure (solar / wind).
Considered to be a "step forward" for the island	Encourage public acceptance of a new airport Promote and support Little Cayman Island development and planning laws Develop a Model Environmentally Sustainable Airport that Meets Emergency / Urgent Care Goals	Within the next 60 months, the CIAA will arrange regular public promotion of the new airport outlining all the benefits of having a certified airport. Little Cayman Airport to achieve high standards for environmental stewardship, reduction in carbon footprint, and an example of innovation and technological advancement (i.e. electric aircraft charging stations, electric shuttle vans to ferry pax between airport and resort, LED lighting and green powered infrastructure (solar / wind).

6.4 Risk Management arrangements

The risk matrix was shared with the steering committee on 31 October 2022 and ultimately approved on 02 November 2022, with the Steering Committee assessing and understanding the risks associated with the Preferred Option for each Project. The quantified impact of the risk values was taken into account when the Preferred Option for each Project was approved on the same date.

6.4.1 Risk Assessment Process

The first step in the project risk assessment process was to identify and define a number of key project specific risks. A list of project risks were identified covering categories related to legal, operations, maintenance, design/build, commercial and financial matters. Throughout the process, each risk identified for each project was discussed, assigned an appropriate allocation between parties, assigned a probability of occurring and an associated cost impact. Furthermore, mitigation measures were addressed for each risk item. The register will be a "live" document.

Risk Allocation

Each risk was allocated to one of the following:

- the Cayman Islands Government (CIG) – it is the responsibility of the Government (or CIAA) to manage the risk;
- the Private Partner (Contractor) – responsibility for managing the risk is transferred to the private sector; or
- Shared – CIG and the private partner share responsibility for managing the risk (50/50).

The goal was to allocate each risk to the party best able to manage the given risk. The appropriate allocation of risks is a key driver in establishing value for money.

Assignment of Risk Ratings and cost impact

Having identified and allocated the project risks, the probability of each risk was established. When assigning probabilities to each of the risks, the project team also assigned estimated values to each of the risks.

6.4.2 Risk Quantification

After completing the risk workshop, the outputs from the workshop (risk allocations, probabilities and cost impacts) were used to quantify each risk. The purpose of this quantification exercise was to assign a dollar value to each risk that the Project may encounter and determine the range of risk-adjusted costs associated with each risk. Essentially, each risk was quantified using the following formula:

Risk Cost = Probability of Risk Occurring x Impact of Risk

The components of this formula are explained below:

- Probability of Risk Occurring – This refers to the likelihood that the risk identified will occur during the life of the project as determined through the risk workshop; and
- Impact of Risk – This refers to the cost impact of each risk occurring as determined through conversations with the Project Team.

6.4.3 Managing risks

The risks identified are required to be proactively managed to ensure the successful delivery of the Projects. The risks will change as the Projects develop and the risk mitigation strategy is critical. The strategy relates to the additional efforts to lower the likelihood of the risk occurring or minimise the impact on the Projects if the risk occurs. The risk mitigation strategy should include:

- Teams/individuals responsible for the various areas of the Projects will need to monitor and review the status of risks
- Resources required for the planned actions
- Timelines
- Any specific conditions present for the risk level to be acceptable

6.4.4 Risk register

The risk register below provides this allocation of responsibility between the CIAA and the respective contractors for each Project (i.e. Purchaser vs Provider). The risk register is to be managed by the Project Team throughout the process, with critical risks escalated to the Ministry if required.

Risks		Risk allocation			Mitigating actions
		CIAA	Contractor	Shared	
Service risk	Service is not fit for purpose	X			(i) Following OBC recommendations; (ii) Stringent planning procedures; (iii) Following lessons learned from previous developments; (iv) Ensuring adequate resources are in place to provide the service (e.g. increased workforce)
Design risk	Design cannot deliver services to required standard			X	(i) Following OBC recommendations; (ii) Stringent planning procedures; (iii) Following lessons learned from previous developments; and (iv) a high degree of involvement with the design team before and during the process.
Planning risk	Risk planning permission cannot be obtained (or can, at greater than budgeted costs)	X			(i) Following OBC recommendations; (ii) Stringent planning procedures; (iii) Following lessons learned from previous developments; and (iv) advanced planning with the committee.

Build risk	Risk assets are not completed on time to budget/spec.			x	(i) Following OBC recommendations; (ii) Stringent planning procedures; (iii) Following lessons learned from previous developments; and (iv) a high degree of involvement with the construction firm before and during the process.
Environmental risk	Risk of a major impact on an adjacent area with strong likelihood of objection from the public			x	(i) Following OBC recommendations; (ii) Stringent planning procedures; (iii) Following lessons learned from previous developments; (iv) a high degree of involvement with environmental agencies before and during the process; and (v) Completing and Environmental Impact Assessment.
Contractual risk	Risk from the contractual arrangement from the two parties			x	(i) Following OBC recommendations; (ii) Stringent planning procedures; (iii) Following lessons learned from previous developments; and (iv) a high degree of involvement with the contractor before and during the process.
Operational risk	Risk operating costs vary from budget and that performance standards slip or a service cannot be provided.	x			(i) Following OBC recommendations; (ii) Stringent planning procedures; (iii) Following lessons learned from previous developments; (iv) Ensuring adequate resources are in place to provide the service (e.g. increased workforce)
Availability and performance risk	Risk the service provided is less than required under the contract			x	(i) Following OBC recommendations; (ii) Stringent planning procedures; (iii) Following lessons learned from previous developments; and (iv) a high degree of involvement with the contractor before and during the process.
Demand risk	Risk the demand for a service does not match the levels planned.	x			(i) Continued monitoring of tourism activity throughout the process.

Volume risk	Risk actual usage of the service varies from the levels forecast.	X			(i) Continued monitoring of tourism activity throughout the process.
Maintenance risk	Risk that the costs of keeping the assets in good condition vary from budget	X			(i) Following OBC recommendations; (ii) Stringent planning procedures; and (iii) Following lessons learned from previous developments.
Technology risk	The risk that changes in technology result in services being provided using old technology.	X			(i) Following OBC recommendations; (ii) Stringent planning procedures; (iii) Following lessons learned from previous developments; and (iv) Continued monitoring of technology advancements throughout the process.
Funding risk	Risk the availability of funding leads to delays and reduction in scope	X			(i) Continued discussions before and throughout the process with funders (CIG).
Residual value risk	Risk due to uncertainty of the physical assets at the end of the contract period	X			(i) Following OBC recommendations; (ii) Stringent planning procedures; and (iii) Following lessons learned from previous developments.
Business risks probability					
Non-transferable risk	Non-transferable risks of failure to the organisation	X			(i) Following OBC recommendations; (ii) Stringent planning procedures; and (iii) Following lessons learned from previous developments.
Business risk	Risk an organisation fails to deliver on its commitments and cannot meets its business objectives	X			(i) Following OBC recommendations; (ii) Stringent planning procedures; and (iii) Following lessons learned from previous developments.
Reputational risk	Risk confidence in an organisation's ability to fulfil its business objectives will be undermined	X			(i) Following OBC recommendations; (ii) Stringent planning procedures; and (iii) Following lessons learned from previous developments.
External risks probability					

External risk	Risks that are not connected to the proposal being considered	X			(i) Following OBC recommendations; (ii) Stringent planning procedures; and (iii) Following lessons learned from previous developments.
Regulatory risks	Risk a change in law or regulations will affect the costs or benefits of a project	X			(i) Following OBC recommendations; (ii) Stringent planning procedures; and (iii) Following lessons learned from previous developments.

6.5 Post Project Evaluation

The Post Project Evaluation involves:

- Making an assessment on how well the Projects delivered the desired outcomes compared with expectations. The project outcome assessment is expected to be completed within a year of the completion of each of the Phases (See Project Timetable).
- A Post Completion Review which aims to capture the satisfaction of the stakeholders including the users of the facilities. The purpose of the review is to enable CIAA to assess their experience of the Projects; whether they are satisfied with the functionality, comfort and standard of facilities, whether they believe they received value for money and whether they would do anything differently in the future. This is expected to be completed within a year of the completion of each of the Projects.
- A Post Implementation Review – whether or not the anticipated benefits have been delivered.

6.6 Contingency Plan

In the event that the Projects fail, at a minimum, the Business As Usual in terms of service delivery is expected to continue during which time further plans will be assessed.

7.0 Appendices

7.1 Long List of Options

Project A1

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6	Option 7
1. Scope	Status quo: All GA traffic served from current location with capacity constraints and a dated facility.	Upgrade existing terminal building, minor apron expansion	Replace existing GA terminal building and expand aircraft parking apron, expand or build new hangars adjacent to GA Terminal and on the existing playground	Expand aircraft parking at the North Sound site, replace the existing / new terminal building at existing site.	Expand existing GA Terminal / apron at existing site in short - medium term, reserve space for new GA Terminal and Apron at North Sound site in long-term.	Relocate and upgrade the GA terminal/ aircraft parking to the North Sound site.	Relocate and upgrade the GA terminal/aircraft parking to a new site (e.g. East End).
2. Service solution	Current services	Refurbish existing facilities	Combination of replacing existing facilities and appropriating/ purchasing additional land	Combination of replacing existing facilities and building new infrastructure (e.g. roads).	Combination of replacing existing facilities and reserving additional land	Combination of purchasing more additional land and building new infrastructure (e.g. roads).	Combination of purchasing the most additional land and building the newest infrastructure (e.g. roads).
3. Service delivery	Current arrangements	Private sector providers: local contractors	Private sector providers: local contractors	Private sector providers: local & international contractors	Private sector providers: local contractors	Private sector providers: local & international contractors	Private sector providers: local & international contractors (most heavily involved)
4. Implementation		Big bang 12 months	Big bang 15 months	Big bang 18 months	Phased	Big bang 36 months	Long term 4-7 years
5. Funding		c.$2m Funded through either: self-finance; and/or CIG loans	c.$10-15m Funded through either: self-finance; and/or CIG loans	c.$20m Funded through either: self-finance; PPPs; and/or CIG loans	c.$15m (S-T) c.$85-100m (L-T) Funded through either: self-finance; PPPs; and/or CIG loans	c.$60-85m Funded through either: self-finance; PPPs; and/or CIG loans	c.$100m+ new runway etc Funded through either: self-finance; PPPs; and/or CIG loans

Conclusion	Carried forward	Carried forward	Preferred Way Forward	Carried forward	Discounted	Carried forward	Discounted
Strengths	- Least costly option - No additional time or resource commitment required	- Least costly of the viable options - Minimal disruption from development / construction, which could begin right away	- Materially addresses all SMART objectives, improving capacity issues and improving the user experience, whilst also minimising the environmental impact. - Development on the terminal could begin right away. - Addresses CIG's Strategic Policy objectives - Lower construction time than more involved other options	- Addresses all SMART objectives, improving capacity issues and improving the user experience - Improvements /development on the terminal could begin right away - Likely to address capacity issues for a significant period of time. - Addresses CIG's Strategic Policy objectives	- Addresses all SMART objectives, improving capacity issues and improving the user experience - Likely to address capacity issues for a significant period of time - Addresses CIG's Strategic Policy objectives	- Addresses all SMART objectives, improving capacity issues and improving the user experience - Likely to address capacity issues for a significant period of time - Addresses CIG's Strategic Policy objectives	- Addresses all SMART objectives, improving capacity issues and improving the user experience - Likely to address capacity issues for a significant period of time - Opens up opportunities for more hotels out East
Weaknesses	- The GA facility will continue to face capacity issues - GA arrivals will continue to experience a below par service - it does not address CIG's Strategic Policy objectives (e.g. will not allow for marketing to high-net-worth individuals) - No capacity to grow GA revenues	- The GA facility is likely to continue to face capacity issues - GA arrivals are likely to experience an improved but still below par service - Only marginally increases ramp	- More costly than the Do Nothing or Do Minimum options - May involve complexities around purchasing additional land from the surrounding owners - May not go far enough to address capacity issues, particularly towards the	- More costly than the Do Nothing, Do Minimum or the previous options - Still no marine access - Expanding to the North Sound site is likely to require Mangrove destruction and will have other natural habitat implications and may require an EIA - Expanding to the North Sound	- More costly in the long term - Expanding to the North Sound May require the destruction of a significant portion of natural habitat and may require an EIA - Expanding to the North Sound would have an impact on CIFS's training facility	- More costly than the Do Nothing, Do Minimum or the previous options - Expanding to the North Sound site is likely to require Mangrove destruction and will have other natural habitat implications and may require an EIA - Unlikely to be achieved within Strategic Policy objective	- More costly than the Do Nothing, Do Minimum or the previous options - May involve complexities around purchasing the land - Likely to have significant environmental impacts such as habitat destruction - Significant issues surrounding access, traffic, infrastructure

		capacity - Landside parking issues remain - Minimal capacity for GA revenue growth - Still no marine access - it does not address CIG's Strategic Policy objectives	end of the Master Plan period - Still no marine access	would have an impact on CIFS's training facility		timeframe - Expanding to the North Sound would have an impact on CIFS's training facility	
Opportunities	- Additional funds available for deployment elsewhere	- Additional funds available for deployment elsewhere (e.g. the main ORIA terminal)	- Potential to cement Cayman's "Luxury" brand, putting Cayman level with or above regional competitors, leading to increased visitors and therefore revenues - Additional capacity to send/receive cargo, resulting in improvements for Caymanians and residents.	- Potential to cement Cayman's "Luxury" brand, putting Cayman level with or above regional competitors, leading to increased visitors and therefore revenues - Additional east ramp can be used for additional aircraft - Additional capacity to send/receive cargo, resulting in improvements for Caymanians and residents.	- Potential to cement Cayman's "Luxury" brand, putting Cayman level with or above regional competitors, leading to increased visitors and therefore revenues - Improved scope for a seamless water taxi/boat service between the GA facility and hotels/condos (i.e. wouldn't require ground transportation from the existing site to a dock for passengers to board the water taxis/boats). - Additional capacity to	- Potential to cement Cayman's "Luxury" brand, putting Cayman level with or above regional competitors, leading to increased visitors and therefore revenues - Improved scope for a seamless water taxi/boat service between the GA facility and hotels/condos (i.e. wouldn't require ground transportation from the existing site to a dock for passengers to board the water taxis/boats). - Additional capacity to send/receive cargo, resulting in improvements	- Highly likely to place Cayman above regional competitors, leading to increased visitors and therefore revenues

					send/receive cargo, resulting in improvements for Caymanians and residents.	for Caymanians and residents.	
Threats	- Increasing numbers of visitors are turned away due to capacity issues - Cayman does not maintain its "luxury" image, as GA arrivals become increasingly dissatisfied with the GA facility, particularly as competitor nations are investing in their facilities. - CIAA and CIG revenues overall are likely to fall - Safety and security risks increase over time	- Increasing numbers of visitors are turned away due to capacity issues - Cayman potentially maintains its "luxury" image; albeit, this option will likely still place the facilities of competitor nations ahead of Cayman.	- Risk that the capacity isn't improved enough to exceed the efforts of competitors - Significant investment in the GA facility could be seen as counter productive to environmental efforts (e.g. encouraging the use of private jets and the resultant emissions). - Possible community dissatisfaction with removal of playground	- Significant investment in the GA facility could be seen as counter productive to environmental efforts (e.g. encouraging the use of private jets and the resultant emissions) - Mangrove destruction may lead to issues with flooding, with the destruction likely to face negative public opinion. - Relocation of CIFS's training facility would be expensive	- Significant investment in the GA facility could be seen as counter productive to environmental efforts (e.g. encouraging the use of private jets and the resultant emissions) - destruction of natural habitat is likely to face negative public opinion - Higher environmental impact (EIA required) - Relocation of CIFS's training facility would be expensive	- Significant investment in the GA facility could be seen as counter productive to environmental efforts (e.g. encouraging the use of private jets and the resultant emissions) - Mangrove destruction may lead to issues with flooding, with the destruction likely to face negative public opinion - Higher environmental impact (EIA required) - Relocation of CIFS's training facility would be expensive	- Over development or Expansion is likely to face negative public opinion - Any new airport is likely to have significant environmental implications (e.g. habitat destruction) and therefore face negative public opinion
Short list							
Preferred Way Forward	Little indicative benefits, with this option failing to meet the SMART objectives for this Project.	Minor improvement on user experience but will not address all SMART objectives.	Materially addresses all SMART objectives	Addresses all SMART objectives	Addresses all SMART objectives	Addresses all SMART objectives (perhaps not within target timeframe)	Addresses all SMART objectives (not within a reasonable timeframe)

Project A2

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
1. Scope	Status quo: business as usual.	Do minimum - minimal upgrades, no expansion to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers.	Moderate upgrades and expansion to current airside and landside infrastructure to cater for moderate growth in aircraft movements and passengers.	Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers.	Upgrades and expansion to current airside and landside infrastructure to cater for growth in aircraft movements and passengers exceeding forecasts.	Relocate the entire airport (e.g. to the East End) to cater for maximum future demand.
2. Service solution	Current services	Refurbish existing airside and landside facilities	Combination of refurbishing existing facilities and purchasing additional land and expanded infrastructure (e.g. aircraft aprons and parking facility).	Combination of refurbishing existing facilities, purchasing more additional land and building new infrastructure (e.g. roads).	Combination of purchasing more additional land and building new infrastructure (e.g. roads).	Combination of purchasing the most additional land and building the most new infrastructure (e.g. roads).
3. Service delivery	Current arrangements	CIAA	CIAA	CIAA	CIAA / Private sector providers, local & international contractors	CIAA / Private sector providers: local & international contractors (most heavily involved)
4. Implementation		Big bang 12 months	Big bang 15 months	5-7 years	5-7 years	6+ years
5. Funding		c.$25m Funded through self-finance and/or CIG loans	c.$100m Funded through self-finance and/or CIG loans	c.$200m Funded through self-finance; PPPs; and/or CIG loans	c.$250m Funded through either: self-finance; PPPs; and/or CIG loans	c.$650m Funded through either: self-finance; PPPs; and/or CIG loans
Conclusion	**Carried forward**	**Carried forward**	**Carried forward**	**Preferred Way Forward**	**Carried forward**	**Discounted**

Strengths	- Least costly option - No additional time or resource commitment required	- Least costly of the viable options - Minimal disruption from development/construction, which could begin right away - may address the user experience in terms of the entertainment, food and drink, and shopping facilities - Natural barrier to control the growth of tourism.	- Materially addresses all SMART objectives, improving capacity issues and improving the user experience - Less costly than the More involved options - likely to address the user experience in terms of the entertainment, food and drink, and shopping facilities and passenger / aircraft processing times. - Natural barrier to control the growth of tourism.	- Addresses all SMART objectives, improving capacity issues and improving the user experience - Likely to address capacity issues for a significant period of time - Likely to address the user experience in terms of the entertainment, food and drink, and shopping facilities. - Addresses airfield safety. - Encourages the long haul market	- addresses all SMART objectives, improving capacity issues and improving the user experience (e.g. enhancing perceived value for money for tourists). - will address capacity issues for a significant period of time, beyond forecast predictions	- Addresses all SMART objectives, improving capacity issues and improving the user experience - Will address capacity issues for a significant period of time - Diversify the offerings to tourists by motivating development of larger hotels and experiences in the Eastern Districts.
Weaknesses	- The terminal and airfield will continue to face peak hour capacity issues - Users will continue to receive a below par experience in terms of the entertainment, food and drink, and shopping facilities on offer - Not addressing passenger processing issues - Counters the strategic objective to	- The terminal is likely to continue to face capacity issues -continued issues with domestic and international passenger mixing - Minor / partial effects on passenger processing times - Counters the strategic objective to modernise travel and transport infrastructure (Broad Outcome 10). - Limits expansion into emerging and secondary tourism markets.	- More costly than the Do Nothing or Do Minimum options - May involve complexities around purchasing additional land from the surrounding owners - May not go far enough to address capacity issues at peak hours, particularly towards the end of the Master Plan period - potentially not meeting the forecast - Expansion is likely to have	- More costly than the Do Nothing, Do Minimum or the previous options - May involve complexities around purchasing additional land from the surrounding owners - Expansion is likely to have environmental impacts such as habitat destruction	- More costly than the Do Nothing, Do Minimum or the previous options - May involve complexities around purchasing additional land from the surrounding owners - Expansion is likely to have environmental impacts such as habitat destruction	- More costly than the Do Nothing, Do Minimum or the previous options - May involve complexities around purchasing additional land from the surrounding owners - Expansion is likely to have environmental impacts such as habitat destruction - significant issues surrounding access, traffic, infrastructure - Distance

	modernise travel and transport infrastructure (Broad Outcome 10). - Limits expansion into emerging and secondary tourism markets.		environmental impacts such as habitat destruction.			from popular tourist areas. - Payback period and ROI sub optimal
Opportunities	- Additional funds available for deployment elsewhere	- Additional funds available for deployment elsewhere	- Potential to place Cayman on a level playing field with regional competitors, leading to increased visitors and therefore revenues - Raise the level of airfield safety	- Likely to place Cayman above regional competitors, leading to increased visitors and therefore revenues	- Highly likely to place Cayman above regional competitors, leading to increased visitors and therefore revenues	- Highly likely to place Cayman above regional competitors, leading to increased visitors and therefore revenues
Threats	- Increasing numbers of visitors are deterred from visiting the Cayman Islands due to poor experiences at the airport - Cayman Will not remain competitive with regional competitor countries - CIAA and CIG revenues overall are likely to fall - Damage to reputation and perceived value for money by visitors, which could lead to	- Increasing numbers of visitors are deterred from visiting the Cayman Islands due to poor experiences at the airport - Cayman is unlikely to remain competitive with regional competitor countries, particularly as passenger levels grow in the future - Caymanians and residents grow increasingly frustrated with the user experience. - Maintains low levels of safety on airfield - Acquiring new visitors will require more investment in marketing.	- Risk that the capacity is not improved enough to exceed the efforts of regional competitors - Any expansion of the airport is likely to have environmental implications (e.g. habitat destruction) and therefore face negative public opinion. - not attract long haul market if runway not extended further.	- Any expansion of the airport is likely to have environmental implications (e.g. habitat destruction) and therefore face negative public opinion	- Over development or expansion is likely to face negative public opinion - Any expansion of the airport is likely to have environmental implications (e.g. habitat destruction) and therefore face negative public opinion - Economic and political conditions could limit airport traffic volume relative to expected volume	- Over development or Expansion is likely to face negative public opinion - Any new airport is likely to have significant environmental implications (e.g. habitat destruction) and therefore face negative public opinion - Economic and political conditions could limit airport traffic volume relative to expected volume

	a lower quality visitor.					
Short list						
Preferred Way Forward	Little indicative benefits with this option failing to meet the SMART objectives for this Project.	Minor improvement on user experience but may not go far enough to address all SMART objectives.	Materially addresses all SMART objectives	Addresses all SMART objectives	Addresses and exceeds SMART objectives	Addresses and exceeds SMART objectives

Project B

	Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
1. Scope	Status quo: business as usual.	Do minimum - minimal upgrades (no expansion) to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers. Relinquish International status. Exemptions to regulations continue (regardless of international status).	Minimal upgrades and expansion to current airside and landside infrastructure to cater for low growth in aircraft movements and passengers. Modify lands as needed to meet regulatory requirements and applicable standards.	Moderate upgrades and expansion to current airside and landside infrastructure.	Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers. Acquire lands / meet all applicable regulatory requirements and standards.	Relocate the airport - build an entirely new runway and terminal at a different location to meet all forecast demand and all international regulatory requirements and standards.
2. Service solution	Current services	Refurbish existing facilities	Combination of refurbishing existing facilities and expanded infrastructure (e.g. expand runway strip).	Combination of refurbishing existing facilities, purchasing more additional land and building new infrastructure (e.g. roads).	Combination of purchasing more additional land and building new infrastructure (e.g. roads).	Combination of purchasing the most additional land and building the most new infrastructure (e.g. runway extensions, new lands for airport infrastructure).
3. Service delivery	Current arrangements	CIAA	CIAA	CIAA	CIAA	CIAA / Private sector providers: local & international contractors
4. Implement ation		Big bang 12-18 months	2-3 years	2-3 years	3-5 years	5-6 years
5. Funding		c.$25m Funded through self-finance and/or CIG loans	c.$40m Funded through self-finance and/or CIG loans	c.$50m Funded through self-finance and/or CIG loans	c.$100m Funded through either: self-finance; PPPs; and/or CIG loans	c.$250m Funded through either: self-finance; PPPs; and/or CIG loans
Conclusion	**Carried forward**	**Carried forward**	**Preferred Way Forward**	**Carried forward**	**Carried forward**	**Discounted**

Strengths	- Least costly option - No time or resource commitment required	- Low cost - Can address the specific areas that are below par - Reduces significantly regulatory requirements and operating costs	- Relatively low-cost option - Minimal disruption from development/construction, which could begin right away - Minimal time or resource commitment required - Improved user experience - Improved airport safety.	- improved user experience - improved airport safety	- Improved user experience - Improved airport safety - Could be a catalyst for investment in the tourism product, which will bring economic benefits to Cayman Brac	- Improved user experience - Improved airport safety - Opportunity to grow tourism in Cayman Brac responsibly which could assist with tourism development across all three islands.
Weaknesses	- Users will continue to receive a below par experience in terms of the entertainment, food and drink, and shopping facilities on offer - Safety concerns with regards to runway length and other areas will remain - Limits the opportunity to expand and diversify the Cayman domestic tourism product	- Users will continue to receive a sub-optimal experience in terms of the entertainment, food and drink, and shopping facilities on offer - Caymanians on the Brac will no longer have direct international access - Limits the opportunity to expand and diversify the Cayman domestic tourism product	- Users may continue to receive a below par experience in terms of the entertainment, food and drink, and shopping facilities on offer - High operating costs remain & continue to operate at a loss	- Users Less likely to (but still may) continue to receive a below par experience in terms of the entertainment, food and drink, and shopping facilities on offer. - High operating costs remain & continue to operate at a loss	- More costly than the Do Nothing, Do Minimum or the previous options - expansion Will have environmental impacts such as habitat destruction - Tourism product would need to be expanded to maximise value for money.	- Most costly - may involve complexities around purchasing additional land from the owners - Relocating to the east will likely require the destruction of a significant portion of natural habitat - Payback and ROI very hard to justify - Tourism product would need to be expanded to maximise value for money and prevent underutilisation of facility

Opportunities	- Additional funds available for deployment elsewhere	- additional funds available for deployment elsewhere - improved safety will reduce the likelihood of disasters occurring - Potentially the airport could operate at a profit	- Improved user experience may drive an increase in tourism for Cayman Brac - Improved safety will reduce the likelihood of disasters occurring	- improved user experience may drive an increase in tourism for Cayman Brac - improved safety will reduce the likelihood of disasters occurring - Potential revenue increases	- improved user experience may drive an increase in tourism for Cayman Brac - Potential revenue increases - improved safety will reduce the likelihood of disasters occurring - Satisfaction of international regulations may encourage More operators to service Cayman Brac	- improved user experience may drive an increase in tourism for Cayman Brac - Potential revenue increases - improved safety will reduce the likelihood of disasters occurring - Satisfaction of international regulations may encourage More operators to service Cayman Brac - Potential to develop Brac through having a better airport
Threats	-Increasing numbers of visitors are deterred from visiting the Cayman Brac due to poor experiences at the airport - Cayman Brac may see a decline in tourism - Safety concerns may lead to a disaster - Tourism investment could be deterred which limits economic opportunity for residents	- Increasing numbers of visitors are deterred from visiting the Cayman Brac due to poor experiences at the airport - the lack of international access for Caymanians on the Brac may lead to negative public opinion - Tourism investment could be deterred which limits economic opportunity for residents	- Increasing numbers of visitors are deterred from visiting the Cayman Brac due to below par experiences at the airport	- Increasing numbers of visitors are deterred from visiting the Cayman Brac due to below par experiences at the airport	- Any expansion of the airport is likely to have environmental implications (e.g. habitat destruction) and therefore face negative public opinion	- Over development or expansion is likely to face negative public opinion - Any expansion of the airport is likely to have environmental implications (e.g. habitat destruction) and therefore face negative public opinion - Potential to degrade the Brac overall
Short list						

Preferred Way Forward	Little indicative benefits with this option failing to meet the SMART objectives for this Project.	Minor improvement on user experience but may not go far enough to address all SMART objectives.	Materially addresses all SMART objectives	Materially addresses all SMART objectives	Addresses all SMART objectives	Addresses and exceeds SMART objectives

Project C

	Option 1	Option 2	Option 3	Option 4	Option 5
1. Scope	Status quo - business as usual.	Do minimum - minimal upgrades / expansion to current airside or landside infrastructure, cater for limited growth in aircraft movements and passengers. Exemptions to regulations continue.	Moderate upgrades and expansion to current airside and landside infrastructure to cater for growth in aircraft movements and passengers. Try to resolve some of the major issues, such as the powerline, un-even runway and public road.	Close Existing Airport and Build New Airport and new airside and landside infrastructure to cater for the most-likely forecast growth in aircraft movements and passengers. Build to meet all applicable regulatory requirements and standards.	Sell or Close Existing Airport, to be replaced by Ferry / Helicopter / Seaplane service
2. Service solution	Status quo: business as usual.	Minor improvements to terminal/airstrip in the current location. Remains non-compliant.	Moderate improvements to terminal/airstrip in the current location. Likely still remains non-compliant, but safer.	Close the airport completely and build a new one.	Replace existing airport with a Helipad (same location) for medevac and establish a ferry service from Cayman Brac for passengers.
3. Service delivery	Current arrangements	CIAA	CIAA	CIAA	CIAA / Private sector providers, local & international contractors
4. Implementation		Big bang 12 months	Big bang 15 months	Big bang 6-7 years	Phased - need to establish the ferry service before closing the aerodrome.
5. Funding		c.$5m Funded through self-finance and/or CIG loans	c.$25m Funded through self-finance and/or CIG loans	c.$60-85m Funded through either: self-finance;	c.$15-25m Funded through either: self-

				PPPs; and/or CIG loans	finance; PPPs; and/or CIG loans
Conclusion	Carried forward	Carried forward	Discounted	Preferred Way Forward	Carried forward
Strengths	- Least costly option - No time or resource commitment required - The airport and island will maintain it's "charm"	- Relatively Low cost option - Minimal disruption from development/construction, which could begin right away - Minimal time or resource commitment required - Marginally addresses safety concerns	- Minimal disruption from development/construction, which could begin right away - Minimal time or resource commitment required - improved user experience - Marginally addresses safety concerns - Improved airport safety	- improved user experience - improved airport safety - Meets regulatory requirements - Meets payload capacity issues during peak times	- improved safety - environmental impact is likely to be lower than expanding the airstrip - Maintaining the airstrip allows for emergency access to the island - Ferry could be privatised - low operating costs
Weaknesses	- Users will continue to receive a below par experience in terms of the levels of service to the island - safety concerns with regards to the runway will remain - Cayman Airways to continue operate it - will not address payload capacity on peak days - operating as a loss - Limits the opportunity to expand and diversify domestic	- Users will continue to receive a below par experience in terms of the levels of service to the island - safety concerns with regards to the runway will remain - Cayman Airways to continue operate it - will not address payload capacity on peak days - operating as a loss - Limits the opportunity to expand and diversify domestic tourism products	- Users will continue to receive a below par experience in terms of the levels of service to the island (small aircraft) - Any expansion will have an environmental impact (e.g. natural habitat destruction) - may involve complexities around purchasing additional land from the owners - Cayman Airways to continue operate it - will not address payload capacity on peak days - operating as a loss	- More costly than Do Nothing or previous option - may involve complexities around purchasing additional land from the owners (if existing Gov land is not feasible). - Relocating will likely require the destruction of a significant portion of natural habitat - Maximises operating costs - Payback and ROI unlikely to be achieved - Relocating the Airport would require consideration of a new fire station at that site (after CIFS recently invested significantly in the existing location)	- Reduced interconnectivity between Little Cayman and other islands - Increased journey times for any domestic or international travel - High costs associated with setting up a ferry service - Uncertain who will be responsible for Ferry service / Seaplane service (CIAA?)

	tourism products				
Opportunities	- Additional funds available for deployment elsewhere	- Improved safety will reduce the likelihood of aviation accidents / potential disasters occurring	- Improved user experience may drive an increase in tourism for Little Cayman - Improved safety will reduce the likelihood of aviation accidents / potential disasters occurring	- Improved user experience may drive an increase in tourism for Little Cayman and the other islands. - Improved safety will reduce the likelihood of aviation accidents or potential disasters from occurring - Development opportunities for Little Cayman	- May increase the exclusivity and allure of Little Cayman for visitors - May create additional jobs for Caymanians in the ferry/helicopter industries, particularly on the Brac - Improved safety will reduce the likelihood of disasters occurring
Threats	- Serious safety concerns may lead to an aviation accident / potential disaster - Cayman Airways may pull out of their service offering which could leave the island without transport for a period of time - CAA may remove exemption certificate	- Serious safety concerns may lead to an aviation accident / potential disaster - Cayman Airways may pull out of their service offering which could leave the island without transport for a period of time - CAA may remove exemption certificate - Marginally higher operating costs	- Any expansion of the airport is likely to have environmental implications (e.g. habitat destruction) and therefore face negative public opinion. This might be counter-productive to increasing tourism. - increased tourism may lead to Over-tourism (e.g. harming the reefs) - CAA may remove exemption certificate - Marginally Higher operating costs	- Over development or expansion is likely to face negative public opinion - Increased tourism may lead to Over-tourism (e.g. harming the reefs) - Any expansion of the airport is likely to have environmental implications (e.g. habitat destruction) and therefore face negative public opinion - The recent CIFS investment in the existing site may be seen as wasteful by the public	- Increased tourism may lead to over-tourism (e.g. harming the reefs) - Increased journey times and reduced interconnectivity may result in negative public opinion for Little Cayman residents and visitors

Short list					
Preferred Way Forward	No indicative benefits with this option failing to meet the SMART objectives for this Project.	Minimal indicative benefits with this option failing to meet the SMART objectives for this Project.	Meets some of the SMART objectives but not all	Materially addresses all SMART objectives	Materially addresses all SMART objectives

7.2 Long list to Short List Approval – Meeting Minutes

CIAA Airports Development Project Steering Group Meeting Record

Ministry:	**Ministry of District Administration Tourism & Transport**
Meeting Title:	**CIAA – Extraordinary Steering Group Meeting**
1. Date/Time of Meeting:	**Scheduled: Monday 5th September, 2022 2:00 – 3:00 pm**
2. Location:	**Meeting Platform : Virtual meeting**
3. Attendees:	**Steering Group in Person:** None **Virtual Attendees:** Roy Williams ((RW)); Karen Batiste (KB); Eimer Powery (EP); Albert Anderson (AA); Stran Bodden (SB); Dwight Rankin (DR); Rosa Harris (RH); **Board Members present:** None **Guest/s:** Sam Story (SS - KPMG); Jack Mackenzie (JM – KPMG)
4. Purpose of Meeting:	**Steering Group Meeting:** Chair – Stran Bodden (SB) Secretary – Roy Williams
Not present: Jonathan Jackson (JJ); Fabian Whorms (FW); Charles Clifford (CC)	**Action**
Note: This extraordinary meeting was convened to discuss and approve the Long-List Options for the Airports Development Project Outline Business Case	

- SS began the meeting with an overview of what process is required in determining what the long-list options are for each project, how each option is assessed though an evaluation process of strengths, weaknesses, opportunities and threats (SWOT) and whether each option meets the SMART (specific, measureable, achievable, relevant and timed) criteria. Each option is then categorised as either the Preferred Option; or an option to be carried forward; or an option that should be discounted at this stage. The purpose of the meeting is for the Steering Committee to discuss and approve the options matrix with respect to the short-listing of options to be carried forward to the next stage. The next stage is the development of the Preferred Options for each project.
- SS reiterated that the long-list options are a high level list of possible approaches to each Project with a broad brush of parameters and it should be noted that the OBC will eventually become a public document and it is the Steering Committee's responsibility to ensure that the outcome of the OBC is in the best interests of the people of the Cayman Islands. The Steering Committee should take into consideration all the data that has been made available and utilise the outcomes of the public outreach sessions and survey in determining what options fit best for each island. However, it should be noted that it is important that the Steering Committee have a document that they have agreed upon, that identifies why certain options were chosen over others in the event that questions are raised in the future. SS continued that this sets the stage for the approval process of the Preferred Options and where a discussion is required and even though there may be disagreements there needs to be a consensus of agreement to allow the project to move forward.

- It was agreed by the Chairman that each project (4 projects total) should be individually discussed a agreed.

Project A.1 – General Aviation Terminal:

- The first project to be discussed was the GA Terminal, project A.1. The shortlisted Options are 1, 2, 3, 4 & 6. The preferred option is Option 3.

  "Replace existing GA terminal building and expand aircraft parking apron, expand or build new han adjacent to GA Terminal and on the existing playground"

  Discussion followed on whether this option is the preferred option.

- EP opened up the discussion with a question asking if option 5 is a mix of option 3 and option 6. SS described that the option 5 is a mix of the two and it is a longer term project whereas the options 3 a are both more immediate solutions. The issue with an option such as option 5 is that it invariably be more expensive through a phasing process, which adds more complexity. As the GA terminal is a Government Strategic policy objective, this option (5) has been discounted due to the period involve is not an appropriate option to carry forward. EP continued that option 3 is more of a funding issue i short term and maybe the terminal could be relocated to the east end if needed and option 5 was mo appropriate. RW countered that if this was the case it would be better to accept option 6 as the prefe option if funding and time was not an issue.
- RH added that at a minimum option 3 would need to be done. RH continued and asked EP if there was an assigned budget for any option. EP identified that option 6 is expected to cost between $60-85million whereas option 3 is only $10-15 million therefore option 3 has lower risk. SS interjected that the funding amounts at this stage are very high-level estimates based on the little known parameters for a GA terminal and its development. SS continued in advising that estimates that are more robust will become available in the short-list options process as Stantec explore the options in greater detail.
- RH added that when the DOT internally reviewed the long list options, for project A.1 they had ident that the preferred option would be option 3. It is a graduated view on the aviation industry which ca be projected therefore option 3 would make sense using a step by step process and a GA facility wou grow as necessary in the future.
- AA added that if option 3 was agreed as the preferred option, it does not mean that any developmen east, option 6, would be off the table. If in 5 years, when the next Master plan is drafted it will detern option 6 should be enacted or it may identify that the GA in the west has sufficient room to expand i location. This in effect makes option 5 redundant.
- To conclude this discussion a vote was taken for each individual committee member on approving o 3 as the preferred option. See the approval table below.

Project A.2 – Owen Roberts International Airport (ORIA):

- The second project to be discussed was the ORIA, project A.2. The shortlisted Options are 1, 2, 3, 4 & The preferred option is Option 4:
- *"Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growt aircraft movements and passengers".*
- KB opened up the discussion with a question on the timing (implementation) of the option. The implementation time shown in the matrix was18 months and considering the funding amount this timeframe seemed very aggressive and unrealistic. SS agreed that this had been overlooked and neec to be adjusted. RW suggested that 5-7 years is more appropriate.
- AA suggested that option 5 should have the same suggested timeframe. SS made the changes.
- To conclude this discussion a vote was taken for each individual committee member on approving o 4 as the preferred option. See the approval table below.

Project B – Charles Kirkconnell International Airport (CKIA):

- The third project to be discussed was the CKIA, project B. The shortlisted Options are 1, 2, 3, 4 & 5. The Preferred Option is Option 3:
- *"Minimal upgrades and expansion to current airside and landside infrastructure to cater for low growth in aircraft movements and passengers. Modify lands as needed to meet regulatory requirements and applicable standards".*
- RW opened up the discussion advising the committee that there was a modification to the document sent out for review on the 31st Aug and identified the changes. The Preferred Option was originally option 2, however, the Chairman and AA had reservations on whether this was the correct option and requested that the option 3 was more preferable.
- SB outlined the reason for the change. Option 2 had the statement in the project scope that the airport could relinquish the international status of the airport. The view is that this is a step backwards and the master plan is about the future and the requirement to maintain the international status will become essential. The option 3 scope identifies the need to perform minimal upgrades to accommodate future aviation increase and improved safety. Therefore SB advised the committee that option 3 should be the Preferred Option moving forward over the next twenty years and not option 2, however option 2 should remain.
- AA noted that relinquishing the international status in option 2 is still shown as an option and will be carried forward. Once more detail is performed on the options carried forward; a more informed discussion could be had on the preferred way forward. Therefore, it makes sense to use option 3 as the Preferred Option at this stage. AA continued in advising the committee that the outstanding regulatory issues will not go away regardless of what option has been chosen as the Preferred Option.
- SS added that through any master planning exercise no options could be pursued where the airport is relying on exemptions being given in the future, as there are no guarantees.
- SS added that the feedback from the survey influenced the Preferred Option to be option 2. SS noted that environmental issues were in the forefront of the comments received and if regulations are to be met and
  minimal upgrades are enforced on the ponds and roads then there could be setbacks with public opinions. Prior to the next public outreach sessions, an approach to the public with firm answers will be required to justify as to why the Preferred Option has been chosen and why impacts to the environment are required.
- AA continued the discussion outlining that the issue is not so much the international status but rather the
  size of aircraft that is allowed to use the airport. Smaller aircraft would mean a reduced width and length of runway and this should be borne out of the master planning process.
- The timeframes for each option were discussed and were increased as required.
- EP asked if option 3 addressed the SMART objectives. SS suggested that option 3 materially addressed the
  SMART objectives however the extent of the environmental impacts of the project will determine the ability to meet all the SMART objectives.
- KB raised the question as to whether these projects were discussed in silos or as a collective. Reference to
  timing, for example, are the years concurrent or spread out based on funding availability? SS outlined that the projects are independent of each other and the OBC process will cover all 4 projects but each can then be procured separately at different times, with separate FBCs.
- To conclude this discussion a vote was taken for each individual committee member on approving option
  3 as the Preferred Option. See the approval table below.

Project C – Little Cayman Airport (LCY):

- The final project to be discussed was the LCY. Project C. The shortlisted Options are 1, 2, 4 & 5. The recommended Preferred Option is Option 4:
- *"Close Existing Airport and Build New Airport and new airside and landside infrastructure to cater for the*

most-likely forecast growth in aircraft movements and passengers. Build to meet all applicable regulatory requirements and standards".

- ☐ RW opened up the discussion advising the committee that there was a modification to the document sent out for review on the 31st Aug and identified the changes. The Preferred Option was originally option 5, however, the Chairman and AA had reservations on whether this was the correct option and requested that the option 4 was more preferable.

- ☐ SB gave background as to why the Preferred Option should be option 4 not 5. The Steering committee should not be seen to be moving backwards in preferring to close the airport and recommending the ferry service over the next 20 years. Option 5 can be carried forward however, looking at the perspective that Little Cayman may develop in the future, and option 4 made for a better choice. The topic of Little Cayman will eventually be put forward to policy makers and a determination will be made at that level. Option 4 is the preferred choice as it will meet all the regulatory requirements, be compliant and meet the traffic forecast requirements for the future.

- SB added that the funding range be in the $60 to $85 million range to ensure that all aspects of a new runway and terminal are covered.
- SS added that the reason why option 5 was initially recommended as the Preferred Option was based on the public outreach meeting on LCY and responses to the survey. Option 5 was by far the most Preferred Option as most agreed that a heliport and ferry service should be chosen over any new developed airport. SS continued that option 4 could provoke some public pushback. JM added that the comments from persons who live on Grand Cayman and the Brac also identified that they would not like to see any development on the island. SS recommended that this particular issue should be introduced to Cabinet at an early stage to ensure that adequate time is given to evaluate on what direction LCY will be focused on. This is a very contentious issue and the public have very strong opinions.
- SB noted these observations, however, it was outlined that if option 5 were to be presented to cabinet then there is no context on how this would be received, therefore option 4 is the only real solution to the LCY problem. Options 2 and 3 are more than likely not possible as these options would require further exemptions from the CAA and there is no guarantee these exemptions will be forthcoming.
- RH agreed that option 4 would solve the complexities of LCY and a clear path is required. From a DOT planning perspective, Little Cayman carries over 70% occupancy over 10 months of the year, therefore option 5 does not meet requirements. RH added that people have chosen Little Cayman as their lifestyle and any change that does not meet their agenda then they would not agree, but from an island plan perspective the government must choose the best course forward and not place too much emphasis on the individual. Option 5 should be carried forward and if Option 4 price tag is not achievable or does not fit in to the island plan then the government has other choices
- EP added that his Preferred Option is option 4. However, a risk assessment needs to be drafted and shared with the public outlining the risks in operating out of the current airport.
- SS interjected that it was clear from the public outreach session on Little Cayman that everyone who attended was fully aware of the current airport not meeting regulations and doing nothing is not an option. The debate centres around does Little Cayman have an airport or not and the public outreach survey purported that the general outcomes was that LCY did not need an airport. JM continued that there was major concern from businesses on the islands, specifically businesses that supported tourism, that any improved airport would increase environmental damage to the reefs and should be avoided. Additionally residents that have moved there are concerned that the charm of the island could be threatened with a heightened risk of over development on the island.
- RH interjected that a vision for the island and an island master plan needs to be developed that maybe might quell these fears of overdevelopment of Little Cayman. There is currently larger interest in Little Cayman over the Brac and the real estate market on the island is vibrant. RH continued to compare Little Cayman and the model used on the island of Mustique where the number of parcels of land development is controlled on an annual basis. Control of land development would be controlled on a rotation system where measured development is in place. What is important, however, is that the government would have to be committed to a model such as this plan used in Mustique.
- KB added that she agreed that the decision on what happens in Little Cayman and LCY is much larger than the CIAA and needs to be decided by Government. The CIAA needs to understand the Little Cayman island strategic goals and/or vision before any commitment is made regarding a solution for LCY.
- SB requested an overview from RH regarding the aviation infrastructure that the island of Mustique has in place.

- RH advised the committee that the Mustique airport is largely a general aviation airport with limited facilities such as a small shack for a terminal and only caters for small private aircraft. The airport does have a paved runway however, the "terminal" is very small and queues are common on arrival and only have a capacity inside for 7-10 persons. Ground transportation is very limited. Importantly, the Mustique Development Agency controls all development on the island and it is noted that the island is not very inclusive. Areas where the local people live are separate from multi-million dollar developments, which some individuals on the island are not in favour of because this approach does not encourage the mixing of the population, i.e. rich and poor. Control is managed by allowing only one or two homes in any given year that helps with sustainability of the island. Additionally, Mustique has in place many environmental "green" practices such as water reuse, recycling, conservation mechanisms, etc. The island of Mustique could be used as a model for Little Cayman as their intention is not to grow rapidly, and to maintain the ecological balance from a sustainability standpoint. If this model were appropriated for Little Cayman then investors interested in Little Cayman and residents would understand that controls are in place and managed. Additionally population increase could be controlled reducing the potential environmental damage to the environment on Little Cayman.
- SB added that there is a real need for an essential air service for Little Cayman, however there needs to be a strategic outlook from Government on the future of Little Cayman. SB is in favour of the Preferred Option 4 as a new airport as it would answer all the concerns regarding a fit for purpose inter-island communication link and any new runway, although construed as a valve to open up development, could be controlled.
- RW advised the committee that the timeline should be changed to 6 – 7 years for a relocated airport.
- To conclude this discussion a vote was taken for each individual committee member on approving option 4 as the Preferred Option. See the approval table below.

Long -List Options Steering Committee Approvals Table

		Project			
Committee Member		A.1	A.2	B	C
		G.A.	ORIA	CKIA	LCY
Preferred Option		Option 3	Option 4	Option 3	Option 4
Stran Bodden (Chair)	*MoTT*	✓	✓	✓	✓
Albert Anderson	*CIAA*	✓	✓	✓	✓
Rosa Harris	*DOT*	✓	✓	✓	✓
Fabian Whorms	*CA*	A	A	A	A
Dwight Rankin	*CIFS*	✓	✓	✓	✓
Eimer Powery	*CIAA*	✓	✓	✓	✓
Karen Baptiste	*CIAA*	✓	✓	✓	✓
Charles Clifford	*CBC*	A	A	A	A

A= Absent

- Meeting concluded at 3:08pm

7.3 BCQS costings and phasing spreadsheet

BCQS Summary used for phasing spreadsheet

AIRPORT DEVELOPMENT PROJECT - PPC-2021-CIAA-059

		Buildings	FF&E	Equipment	Jet Bridges	Site Works	General Site Clearing	Options	Future Taxiway	Total USD
A1	ORIA General Aviation (GA) Terminal Building	$11,067,493	$1,482,882	$1,666,428						$14,216,803
A1	ORIA General Aviation (GA) Airport Exterior Works	$11,035,037				$26,040,981				$37,076,018
A2	ORIA Main Terminal Building - Extension & Renovation	$298,029,975	$34,467,350	$34,791,796	$41,891,953					$409,181,074
A2	ORIA Airside Exterior Works					[redacted]				$91,562,658
A2	ORIA Landside Exterior Works									$37,516,799
B1	CKIA (Cayman Brac) Terminal Building	$29,650,367	$3,715,384	$4,737,114						$38,102,864
B2	CKIA (Brac) Landside & Airside Exterior Works									$62,908,267
C1	LC (Little Cayman) Terminal Building	$6,824,659	$683,636	$871,636						$8,379,931
C2	LC (Little Cayman) Airport Exterior Works									$79,285,454
	USD	$356,607,531	$40,349,252	$42,066,974	$41,891,953	$203,813,538	$21,825,208	$27,363,636	$44,311,778	$778,229,869
	Options / Alternates									
Op1	ORIA Main Terminal Building - ROM for New Building	$476,565,042	$49,815,161	$63,514,331	$40,395,812					$630,290,346

Each line item includes the following in the pricing:-
- Contractor General Conditions, Preliminaries
- CIG Government Duties on Materials.
- Testing & Commissioning
- FF&E allowance
- Professional Fees
- Design development
- Contingency

Items Excluded from the Cost Estimates:-
- Land Aqusitions
- Government Fees
- Relocation Costs
- Costs associated with phased opening and/or disrupted operations, out of hours working
- Site utilities distribution (specifically for new terminals and/or facilities)
- Specialist Data and computing requirements.

Concept Cost Estimates are based upon the Concept Marked up floor plans provided to us in PdF format.
Concept Marked up floor plans, notes and instructions provided by Philip Van Manen on 28th September, 10th, 13th & 20th October
All dimensions scaled from Concept plans. None provided.
Concept Estimates assume a Single Main Contractor selected from a Competitive Tendering Process.
High Level pricing based upon local knowledge and RSMeans 2021 adjusted to suit the Cayman Islands.
Pricing includes for al freight to and Cayman Islands import Duty.
Pricing is based on Q4 2022

Phasing spreadsheet (using BCQS costs above)

					Short Term					Medium Term					Long Term								
Priority	Priority	Description of Sub-Project	Project	Cost ($'000)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
YES	S	New G/A Terminal east side, North Sound site	A.1	$11,658				1%	29%	70%													
	S	New Hangar next to g/a terminal	A.1	$9,050				1%	37%	62%													
YES	S/M	New apron, north-sound	A.1	$21,354	3%	4%			20%	73%													
		Project A.1 (GA facility) total:		**$42,061**																			
YES	S/M	Land acquisition (ATC Tower location, Andy's and Car Rental properties, Budget and lot near CAL plot (LT)	A.2	$29,910							25%	25%		25%	15%				10%				
YES	S/M	Terminal Expansion	A.2	$335,528			1%	2%	2%	5%	10%	15%	25%	25%	15%								
	S/M	Apron expansion, and rehabilitation	A.2	$25,154							5%	20%				20%	20%	15%	10%	10%			
YES	S	Runway extension	A.2	$27,708	2%	2%	54%	42%															
	M	Full Parallel taxiway	A.2	$14,924											5%	20%	75%						
	L	Cargo / Future MRO/Engine Run-up Aprons	A.2	$8,610																	10%	40%	50%
	L	Marine Dock / Seawall for water taxi services interface with airport	A.2	$5,000											5%	45%	50%						
YES	S/M	Landside works	A.2	$24,627									10%	10%	30%	50%							
	L	Heliport, Medevac/Police/Tourism Center	A.2	$1,230											10%	40%	50%						
YES	S	New ATC Tower and ATM System	A.2	$9,840	3%	26%	19%					5%		5%	25%	17%							
YES	M	Airfield drainage improvements and pumping station	A.2	$8,230							5%			10%	85%								
		Project A.2 (ORIA) total:		**$490,761**																			
	S	Landside expansion to accommodate 30m set-back security regulation	B	$7,510											100%								
	L	Terminal expansion, meets future requirements	B	$31,244											10%	15%	25%	25%	25%				
	L	Maintenance facility expansion	B	$1,230															10%	10%	80%		
YES	S	Runway strip and RESA works (REVIEW)	B	$1,146	2%	1%		97%															
	M	Rehabilitate Runway, Taxiway, Apron,	B	$13,568												5%	50%	45%					
	M/L	Site Works, fencing, contingency, fees, etc. (MORE DETAIL)	B	$18,636										10%	10%	10%	10%	10%	10%	10%	10%	10%	10%
	M	Apron expansion and 2nd taxiway to runway from apron,	B	$2,629												5%	55%	40%					
	L	General Aviation apron	B	$995																	10%	40%	50%
	L	ATC Tower	B	$2,050																10%	40%	50%	
		Project B (CKIA) total:		**$79,009**																			
YES	S	Environmental Impact Assessment	C	$1,384	37%	63%																	
YES	S	EIA, Runway, NEW taxiway, apron	C	$14,034			5%	5%	10%	30%	40%	10%											
YES	S	Access road, terminal curb road and parking lot	C	$2,473			5%	5%	80%	10%													
YES	S	Airport perimeter road and fence	C	$4,867					10%	50%	40%												
YES	S	Site Clearing, fill and other preperation	C	$17,897			25%	75%															
YES	S	Terminal	C	$6,872						5%	5%	40%	50%										
		Project C (LCY) total:		**$47,525**																			
		Total		**$659,357**																			

7.4 Findings from Public Outreach Sessions (July 2022)

Title: "What We Heard" Summary

Community Outreach Sessions
Community outreach sessions were held on each of the three islands to give the public opportunities for their voices to be heard. The hosts were representatives from CIAA, Stantec, KPMG and Chalmers Gibbs.
The sessions were held between 5:30pm – 7:30pm as follows:

- Monday, 11 July at the Aston Rutty Centre, Cayman Brac (c.35 people attended)
- Tuesday, 12 July at the Little Cayman Beach Resort, Little Cayman (c.10 people attended)
- Wednesday 13, July at the John Gray High School Hall, Grand Cayman (c.28 people attended)

A brief outline of the project was presented and then the meeting was opened to attendees to express their ideas, concerns and suggestions and to ask any questions they may have. The sessions were streamed live on Facebook and the videos subsequently saved to the Cayman Islands Airports Authority's ("CIAA") Facebook page. Below is a summary of the key themes that were discussed during each session.

Cayman Brac – Key Themes

Communication
Community members wanted more public outreach sessions to be held and for information to be communicated to the public throughout the course of the project.
At first the attendees were under the impression the previous Airport Master Plan 2032 (July 2014) was being discussed and brought up specific issues with respect to the previous plan, which was later clarified. Furthermore, the public did not understand the purpose of master plans if they were going to be renewed every few years without action (although, it was pointed out that the points from the previous action plan had largely been put into practice at Owen Roberts International Airport ("ORIA")). There were questions around whether the outreach session would have any impact and if the old plan was going to be scrapped.
What does not appear to be clear to the public is the purpose of the development plan. The CIAA should consider communicating what is motivating the project and why certain aspects of the airports are being considered (e.g., although currently classified as an International Airport, the Charles Kirkconnell International Airport is not currently meeting the requirements for this classification and the exemption under which it is operating is not guaranteed to apply indefinitely).

Environmental
Many attendees voiced concerns about the impact of any proposed developments on the Westerly Ponds. Further, it was discussed that much of the tourism in Cayman Brac is nature tourism (including birding); therefore, this relies on birdlife that may be threatened by potential developments.
Two community members emphasised the importance of performing an Environmental Impact Assessment in advance of performing any work.

Demand/need for development
There was a general sentiment that the airport was working as is and did not require any changes, with multiple community members quoting the international status of the airport as a basis for standards being met. As mentioned above, it is not widely known that the current airport is, in fact, not meeting regulations (e.g. runway length). Some attendees questioned whether increased growth was predicted. It was also noted that there was no official development plan or zoning in Cayman Brac and that development planning should be considered.
Land ownership concerns
Community members had questions around the impact of any developments to landowners. This included whether there is a possibility that land may be confiscated for potential development, as well as what rights and responsibilities landowners have. For example, who would be responsible for maintaining land if the boundaries of the airport were extended (with reference to height restrictions for trees and other objects).

Little Cayman – Key Themes

Communication
There was a general feeling among the attendees that they would like to be included in the project, for example whether there would be an opportunity for a spokesperson from Little Cayman to be involved. The community members felt that Little Cayman was sometimes excluded from the decision-making process and that decisions were handed down to them. Attendees

felt it was important to them to be included in the solution. Although it was recognised they hold little voting power in contrast to Cayman Brac and Grand Cayman.
Some attendees talked about previous plans that had been initiated and then abandoned, such as a new site for the airstrip, and that there had not been satisfactory communication about the plan or why it had changed.
The need for any developments/changes is not apparent to community members. There should be communication regarding the reasons for considering upgrades to/development of the airstrip, for example around the importance of compliance with standards or regulations.

Demand/need for development
Attendees expressed their satisfaction with the current airstrip. Generally, there was a feeling that the current arrangement meets the current demand. They acknowledged there were issues but didn't feel there was a need to develop it much further.
The attendees had questions around the methodology used to predict future growth. It was noted that the language implied there would either be development, or the use of the airstrip would be discontinued. There was a concern around infrastructure being used to drive development.
Community members voiced concerns that Little Cayman could not support increased demand. For example, the dive sites are under pressure at the current capacity and would be overwhelmed if numbers increased.
Albeit, discussions after the main outreach session concluded, identified that some residents do recognise the need for change and that infrastructure improvements and other development is required on the island. However, there is a fine balance between the required upgrades and over-development.

Environmental
Attendees noted that tourism is largely driven by diving, and that Little Cayman has some of the best dive sites in the world. However, an increase in visitors would negatively impact that, with the reef's capacity for divers being finite.
It was expressed that whatever course of action is decided for Little Cayman, the eradication/lethal control of birds or destruction of their habitat would be objectionable. Furthermore, whatever the environmental impact of the plan, there should be offsets (e.g., other areas on island set aside and protected, rehabilitation of the current airstrip if it is no longer in use, etc.).

Other suggestions/considerations
Consider using Cayman Brac as a base/distribution center for travel to Little Cayman and have a ferry service between the two. This could also be expanded to allow private boats to be used as water taxis, sharing economic benefit with the locals.

Other options considered would need to be run in conjunction with the current airstrip in case of emergencies where fast reliable access to Grand Cayman is needed (disaster relief and evacuation before and after hurricanes, diving accidents) – i.e. do not completely demolish the airstrip if it is decided to proceed with alternatives.

The re-privatisation of the airstrip was suggested and supported by several people, with the previous service that was offered by Island Air generally being well regarded.

One resident suggested that Little Cayman could be accessed primarily by helicopter from Brac (with the helicopter stationed in the Brac) with Little Cayman also being accessible from Grand Cayman via helicopter. It was suggested that this would increase the allure/exclusivity of the island (for high-net-worth tourists especially) while maintaining the island's charm. Additionally, the helicopter could be leased to the local resorts to transport private parties to/from Grand Cayman or Cayman Brac.

There is an option for any necessary work to be conducted during the annual 2 month shut down (when 3 out of the 4 resorts on island close).

The question was raised as to whether someone could contact the current airstrip landowners to consider buying the land. A question was also raised as to whether there is a plan for a domestic arrivals' terminal at ORIA.

Grand Cayman - Key Themes

Communication
There were questions around the old master plan – what has been achieved, what has yet to be carried out and what will be carried into the new plan. One community member expressed distrust of the process and whether the public outreach would have an impact. An increase in communication with the public throughout the course of the project would serve to alleviate some concerns.

Development
The attendees had questions around the impact to local businesses. These included whether population and tourism growth were being considered, especially in relation to businesses in the area of ORIA. Community members wanted to know

whether the current footprint would accommodate current demand/future development and if not, which land would be targeted? Is the CIAA considering moving the airport on Grand Cayman? An attendee expressed that expansion towards the North Side and mangroves should not be considered a priority.

A question was asked about the decision-making process – which methods, assumptions, thresholds and impacts would be considered and how would these be incorporated into the master plan. Further, how would environmental factors be weighed against other factors (e.g. value for money, operational, etc.).

Concerns were raised around a loss of 'sense of place' because of the recent upgrades to ORIA and whether an attempt would be made to restore the lost charm of the airport. Consideration for local culture and character was discussed in contrast to the current fast-food chains, for example.

Attendees were interested in what improvements would be considered – for example automation such as kiosks, pre-clearance for the United States or Canada, efficiency, use of underutilised space. Questions arose around mitigating the impact of increased traffic. Concerns were also raised in relation to how the infrastructure on the land side (e.g., parking, traffic congestion) would support increased air traffic.

Technical
Questions were asked about air navigation facilities and if improvements would be made to these. It was noted that there is a possibility of using radar facilities that are available but would need to be implemented. It was expressed that currently the closest alternative runway is more than 200 miles away should airplanes be unable to land at ORIA due to, for example, poor visibility or inclement weather. It was suggested that Cayman Brac should be considered as an alternative in these cases.

Discussions took place around the general aviation facility. An attendee noted airplanes are being turned away, there is insufficient aircraft parking, and a parallel taxiway is needed.
Community members wanted to know if consideration was being given to alternative fuels, and whether accommodating hydrogen and electric powered planes have been considered.

Little Cayman
Attendees asked whether consideration had been given to privatising the Little Cayman airstrip and noted that they felt it worked well previously. A community member also noted that money was currently being lost on the Edward Bodden Airfield and that, while it was understood that residents of Little Cayman wanted it to remain as it currently is, they felt it should be upgraded to ensure emergency evacuation is possible at any time of day (e.g., lights, standards). People living there are at risk, and tourists are there too.

Environmental
Ecological and environmental concerns were discussed. It was noted that if the Brac ponds are lost there would not be any habitat left. Previous development caused destruction of habitat that has not been mitigated, rehabilitated, or compensated for.

There were also questions around what was being done to combat rising sea levels, and whether air quality control was being considered, especially for those in the current approaching flight path.

Community Outreach Survey – Themes

A survey was launched on 6 July 2022 in order to invite the public to have their say on the future of each Island's airport infrastructure. The survey remained open for 30 days (closed 7 August 2022).

Do you live within half a mile of any of the Cayman Islands aerodromes/airports? If yes, what is your biggest concern in relation to future developments of the aerodromes/airports?

Grand Cayman
The environmental impacts are a significant area of concern, including climate change, pollution, destruction of the environment, including mangroves, natural habitats and animals. Noise pollution is also a strong theme. Other concerns related to traffic, private property and safety. Some respondents expressed an interest in improvements, for example, to the design of the airports, safety, increased runways (to facilitate larger planes and therefore more direct European flights) and other upgrades.

Cayman Brac
The majority of concerns were environmental, including the wetlands, birds, natural habitats and pollution. Respondents noted that they do not want to see any destruction of the environment caused by expansion, which some believe to be unnecessary. Noise pollution is also a common concern. Also mentioned were concerns around private property and traffic.

Little Cayman
A significant majority of respondents voiced the sentiment that they are against any expansion and feel it is unnecessary. Other areas of concern were the environment, noise pollution and the safety of the airstrip.

Please let us know if you have any additional environmental/sustainability concerns you would like to raise.

When considering the environment, the most frequently mentioned area of concern is perceived unnecessary over-development. There are comments around the Islands losing their charm, a loss of Cayman Islands identity and most often whether the Islands can sustain an increase in tourism and development.

Other top environmental concerns were wildlife, the wetlands and birds. Respondents are very concerned about destruction of the wetlands, loss of natural habitats and the impact on birds, the mangroves, the Rock Iguanas and other wildlife. Many respondents noted that the flora and fauna are an important part of what attracts people (tourists and locals) to the Cayman Islands, the Sister Islands in particular, and that it would be counterproductive to destroy these for the purposes of growth and development.

Another key area of concern is sustainability and waste. This includes an emphasis on the importance of ingraining sustainability in the plan, for example sustainable building practices, as well as incorporating it into the airports processes – such as recycling facilities, goods and services and limiting plastics.

Other frequently mentioned areas include energy (specifically the use of solar power), the importance of balancing environmental concerns with growth and safety issues, and pollution.

Aviation stakeholder recommendations
Respondents who identified as aviation stakeholders as opposed to passengers were asked two additional questions:

Are there locations in the Cayman Islands where you would like to see a new aerodrome, heliport or seaplane facility? Please specify.

Responses were varied but included enthusiasm for seaplane facilities and heliports. Locations suggested were Bodden Town, East End, North Sound or South Sound in Grand Cayman as well as Little Cayman and Cayman Brac. There was also a recommendation for a longer and wider runway in Little Cayman with modern navigation aids and lighting.

Do you have specific recommendations for improvements to the aviation system?
Recommendations were made with regard to long term planning for demand, the importance of jetways (or some form of shelter from the elements during boarding and disembarkation), improvements to facilities including concession, parking and departure areas, and enhancements to general aviation offerings.

Do you have any additional comments/concerns you would like to raise?

Jetways and/or other methods of keeping passengers from getting wet/sunburnt were mentioned explicitly by many respondents. Other key areas of dissatisfaction overwhelmingly related to the entertainment, food and beverage (specifically the lack of bars), and shopping opportunities currently available – with some respondents noting that the current offering does not align with Cayman's push to be recognised as a "luxury' destination (while expecting tourists to pay a "luxury" price).

Many feel the previous airport upgrade made the airport worse, with the airport losing its charm, costing a significant amount, while still not providing covers/jetways or adequate entertainment/restaurant/bar/shopping options.

Respondents have noted that the overall feel of the airport in below expectations and they would like to see things such as: local cuisine options (as opposed to fast food outlets), local art displayed in the airport, local music playing for arrivals and departures, and "island" decorations throughout and the airport.

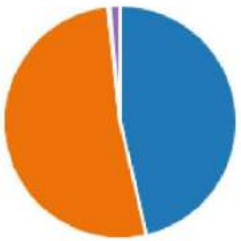
Title: Summary of Survey Results

Community Outreach Survey - Future of the Cayman Islands Airports

640	35:16	Active
Responses	Average time to complete	Status

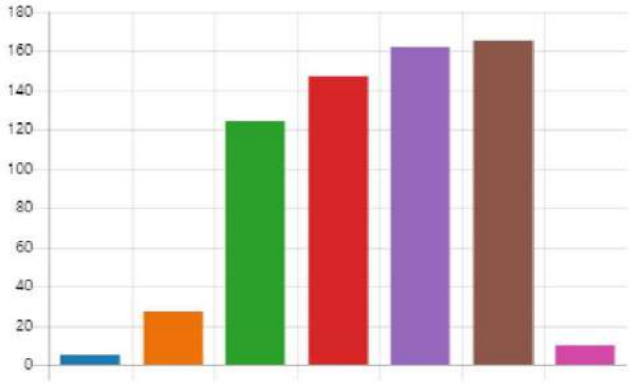
1. Gender

Female	297
Male	332
Non-binary/non-conforming	2
Not listed	0
Prefer not to say	9



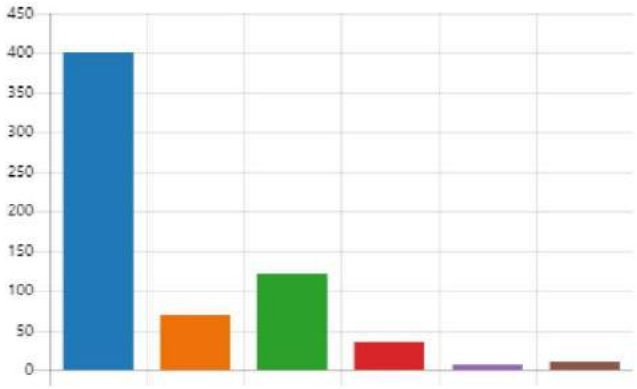
2. Age

Under 18	5
18 - 24	27
25 - 34	124
35 - 44	147
45 - 54	162
55 and over	165
Prefer not to say	10



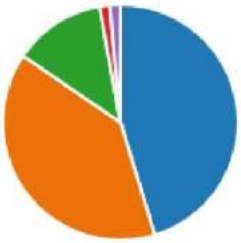
3. Residency status

Caymanian	401
Permanent Resident	69
Work Permit Holder	120
Visitor	34
None of the above	6
Prefer not to say	10



4. How many dependents do you have?

None	290
1 - 2	251
3 - 4	81
More than 4	9
Prefer not to say	9

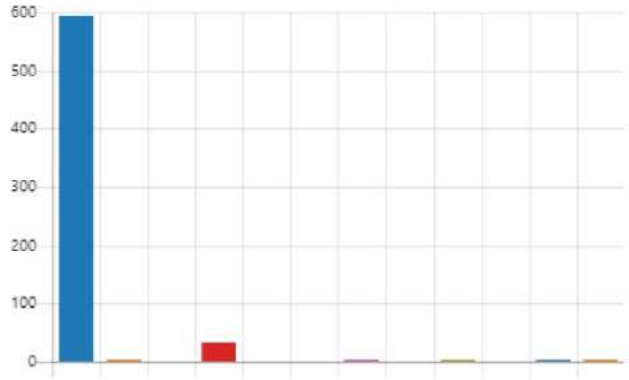


5. Approximate annual household income

Less than CI$25,000	20
Between CI$25,000 - CI$75,000	151
Between CI$75,000 - CI$125,0...	145
More than CI$125,000	241
Prefer not to say	83

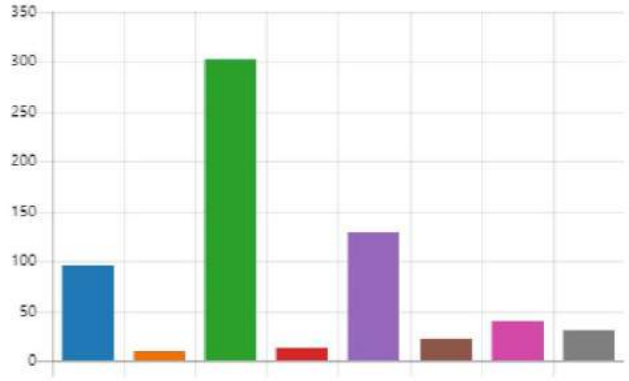
6. Where do you currently reside?

The Cayman Islands	595
Asia	2
Africa	0
North America	32
South America	0
Antarctica	0
Europe	2
Australia	0
Caribbean Islands	4
Pacific Islands	0
Prefer not to say	3
Other	2



7. If currently residing in the Cayman Islands, which district do you reside in?

Grand Cayman - Bodden Town	96
Grand Cayman - East End	10
Grand Cayman - George Town	302
Grand Cayman - North Side	12
Grand Cayman - West Bay	129
Little Cayman	22
Cayman Brac	39
N/A – I do not currently reside...	30

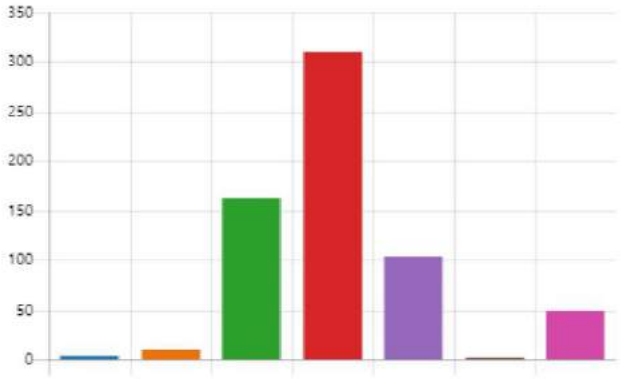


8. What is your primary purpose for travel?

Business	26
Leisure	381
Business and leisure equally	213
Other	20

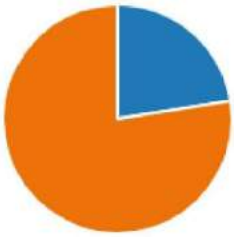
9. How often do you travel by air?

Daily	3
Weekly	10
Monthly	163
Seasonal	310
Yearly	104
Never	1
Other	49



10. Do you live within half a mile of any of the Cayman Islands aerodromes/airports?

Yes	144
No	496



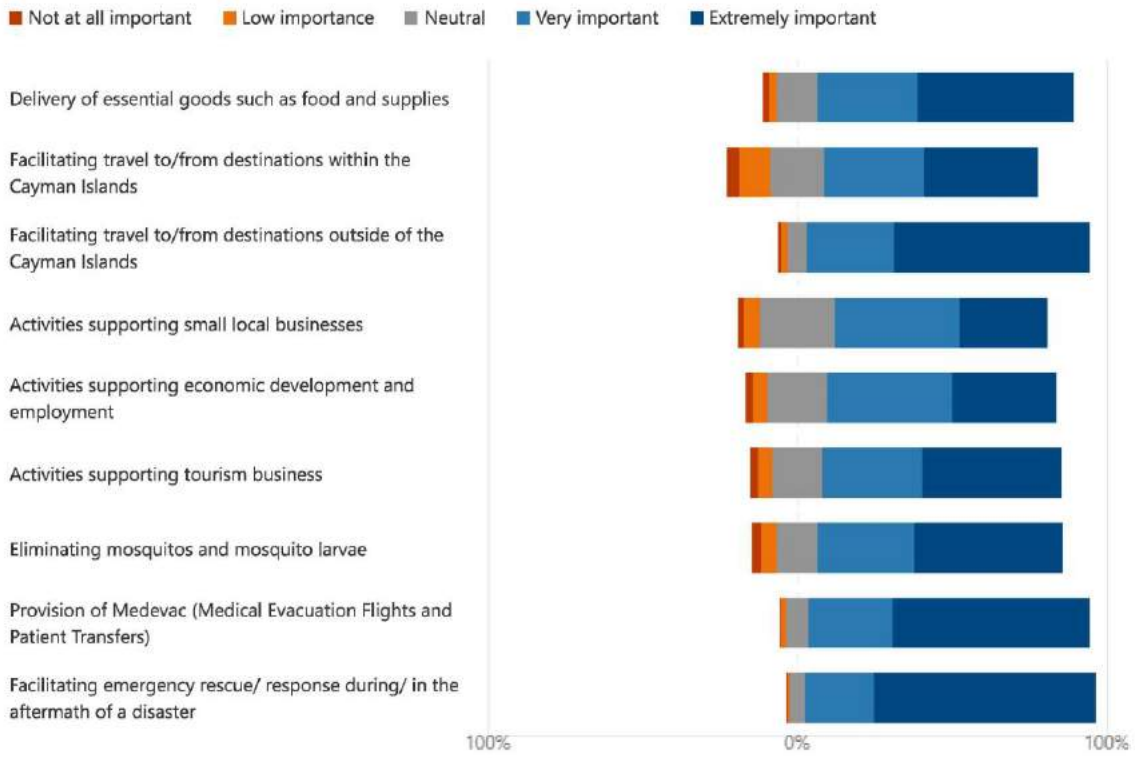
11. If yes, what is your biggest concern in relation to future developments of the aerodromes/airports?

129
Responses

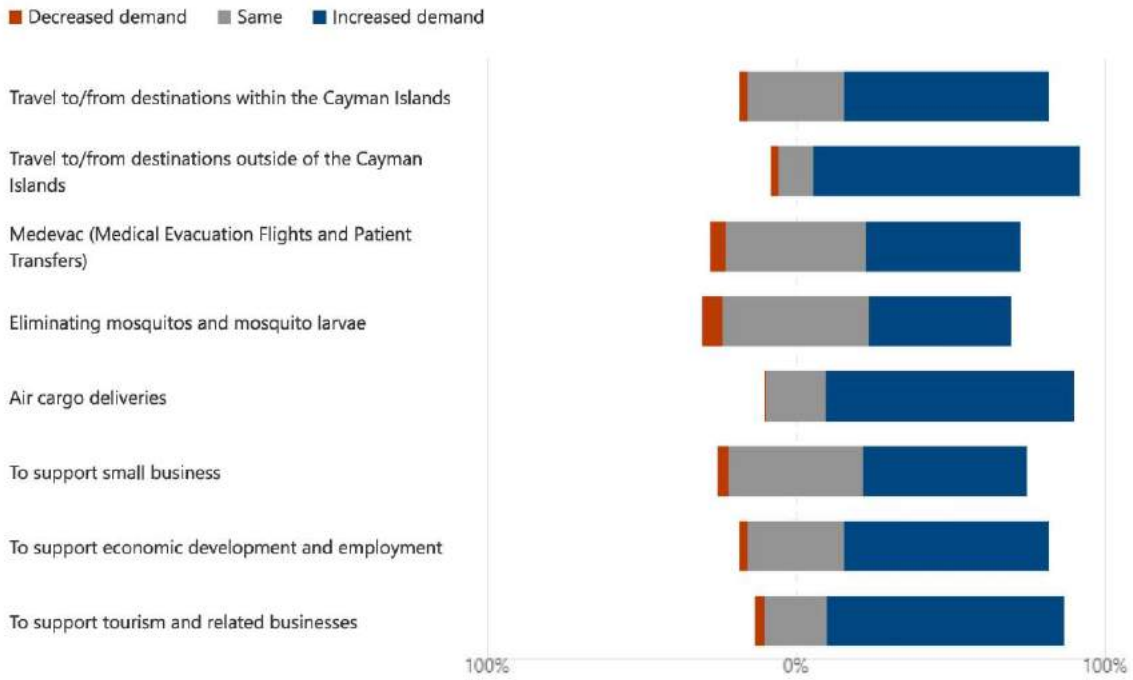
Latest Responses

30 respondents (**25%**) answered **Airport** for this question.

12. How important are the following benefits of the Cayman Islands aviation system to you:



13. How do you see demands on the Cayman Islands' aviation system changing over the next 25 years?



14. How important is it to you that airports with scheduled passenger service (ORIA, CKIA, LCB) showcase the Cayman Islands, celebrate local Caymanian culture and are prominent gateways to the Cayman Islands?

640
Responses

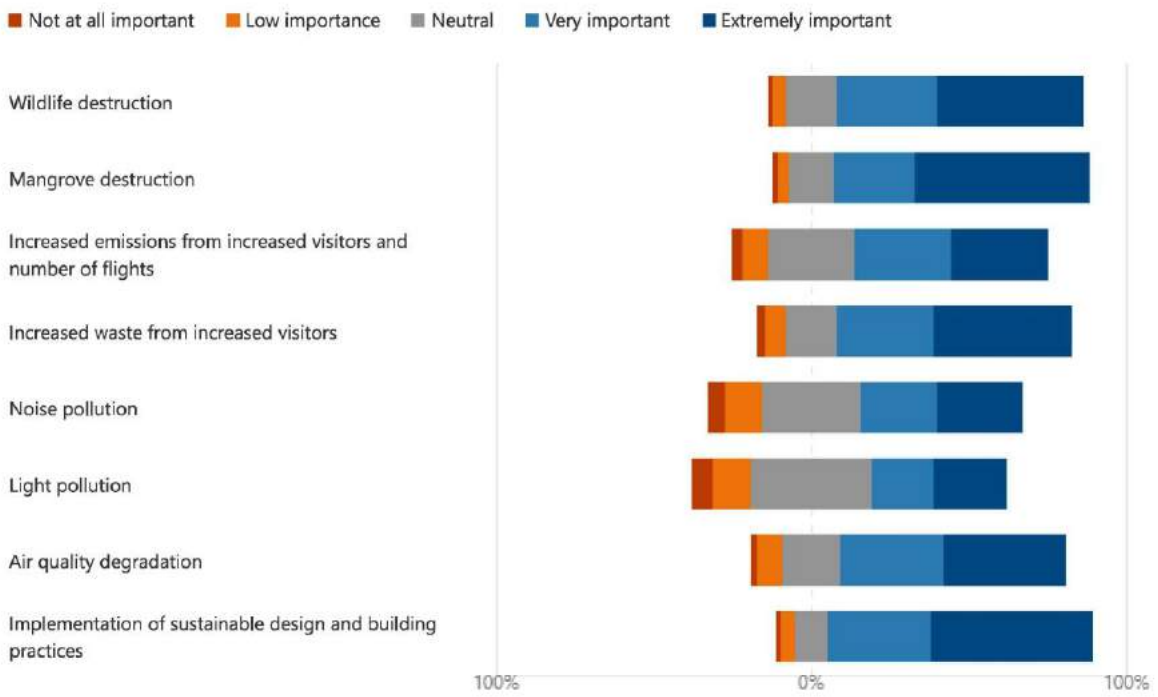
4.05
Average Number

15. How concerned are you about environmental issues related to the future of the Cayman Islands Airports?

640
Responses

4.08
Average Number

16. Which of the following environmental concerns are important to you?



17. Please let us know if you have any additional environmental/sustainability concerns you would like to raise

634
Responses

Latest Responses

"Reparations to younger generations for the destruction cause by the g...

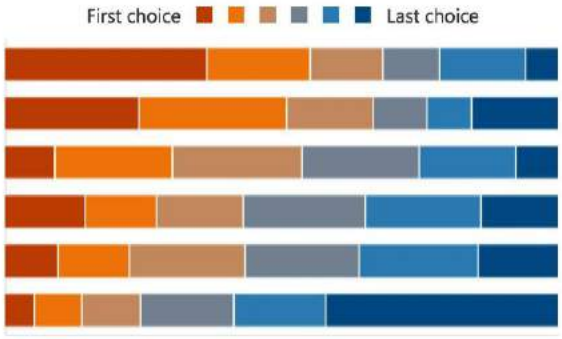
"N/A"

"N/A"

117 respondents (**19%**) answered **None** for this question.

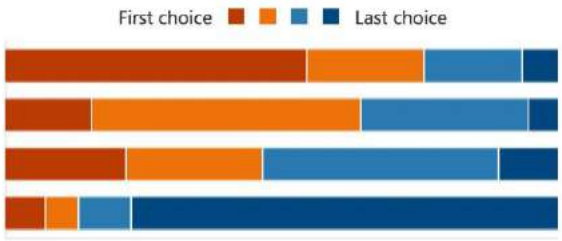
18. If the Cayman Islands Government (CIG) were to invest in reconfiguration of the existing aviation system, rank the following in order of importance to you:

Rank	Options
1	Explore the addition of new sc...
2	Provision of a marine ferry ser...
3	Invest in a heliport or seaplan...
4	Invest in a new airport or aero...
5	Acquire additional land for a n...
6	Transfer aerodrome ownershi...



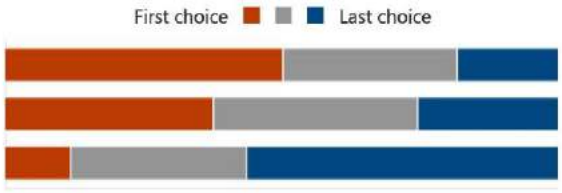
19. If CIG were to invest in business and general aviation, rank the following in order of importance to you:

Rank	Options
1	Business/general aviation that...
2	Business/general aviation that...
3	Business/general aviation that...
4	Business/general aviation for ...



20. If CIG were to invest in air carrier and passenger related aviation, rank the following in order of importance to you:

Rank	Options
1	Improvement of air terminal b...
2	Improvement of connectivity ...
3	Improvement of connectivity ...



21. To reduce the cost associated with the operation of 3 aerodromes/airports, would you support the Cayman Islands Government transferring responsibilities for select aerodrome sites to their primary user organizations?

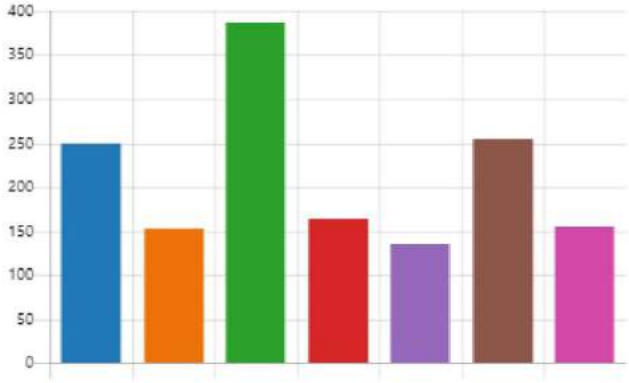
Yes	337
No	303

22. To supplement the CIG investment in the aerodrome/airport facilities, maintenance and operations, would you support an increase to certain aviation fees, and/or the addition of new fees to reflect operational costs more accurately?

Yes	319
No	321

23. Select all the aviation fees where you would support an increase and/or the addition of a new fee

Aircraft fees (i.e.: aircraft parki...	250
Passenger fees (i.e.: airport im...	153
Commercial charges (i.e.: term...	388
Parking fees (paid to provide v...	164
Aviation fuel surcharge (i.e.: p...	135
Commercial concessions & ret...	255
None of the above	154



24. Which of the options below most accurately describes your interest in the airports

Passenger	583
Aviation stakeholder (pilots, c...	57

25. Does your overall experience using the Cayman Islands' aviation system as a passenger meet your expectations?

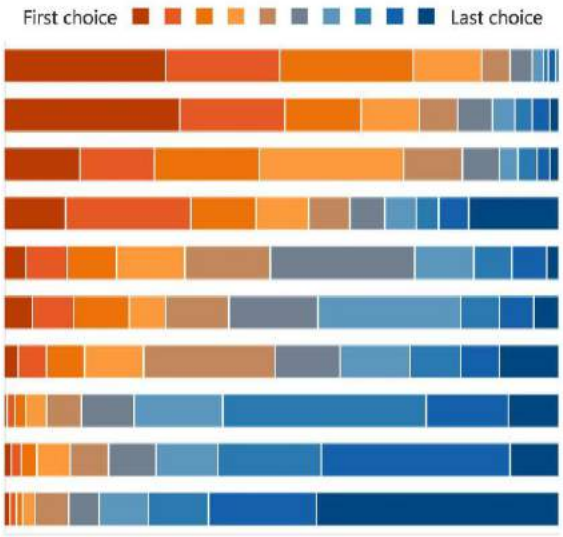
Yes	392
No	191

26. Please choose an aerodrome/airport from the drop-down menu below and answer the following questions based on your experiences as an aviation user at that site.

Owen Roberts International Ai...	504
Charles Kirkconnell Internatio...	39
Edward Bodden Airfield, Little ...	40

27. For your selected aerodrome/airport, please rank the below in order of your satisfaction from highest (most satisfied) to lowest (least satisfied)

Rank	Options
1	Safety and security
2	Wayfinding signage (ground t...
3	General aesthetics and appear...
4	Terminal to aircraft connection...
5	Departure lounge areas (seati...
6	Check-in queuing and service ...
7	Ground transportation service...
8	Shopping opportunities (i.e. s...
9	Food and beverage services (i....
10	Entertainment (i.e. viewing are...

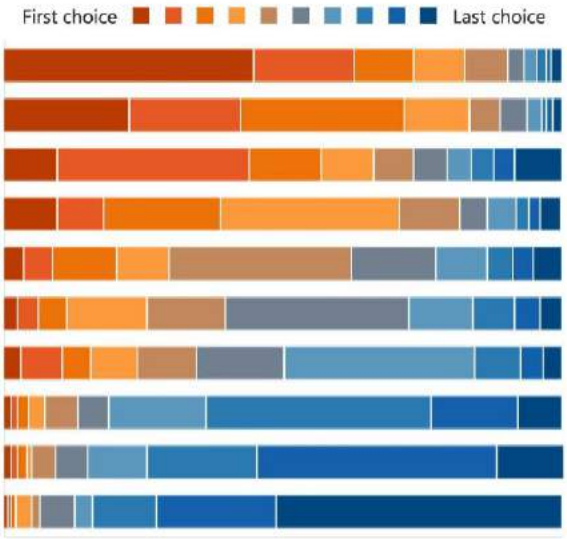


28. If applicable, please choose an additional aerodrome/airport from the drop-down menu below and answer the questions based on your experiences as an aviation user at that site.

Owen Roberts International Ai...	95
Charles Kirkconnell Internatio...	103
Edward Bodden Airfield, Little ...	36
Not applicable	349

29. For your selected aerodrome/airport, please rank the below in order of your satisfaction from highest (most satisfied) to lowest (least satisfied)

Rank	Options
1	Wayfinding signage (ground t...
2	Safety and security
3	Terminal to aircraft connection...
4	General aesthetics and appear...
5	Ground transportation service...
6	Departure lounge areas (seati...
7	Check-in queuing and service ...
8	Shopping opportunities (i.e. s...
9	Food and beverage services (i....
10	Entertainment (i.e. viewing are...

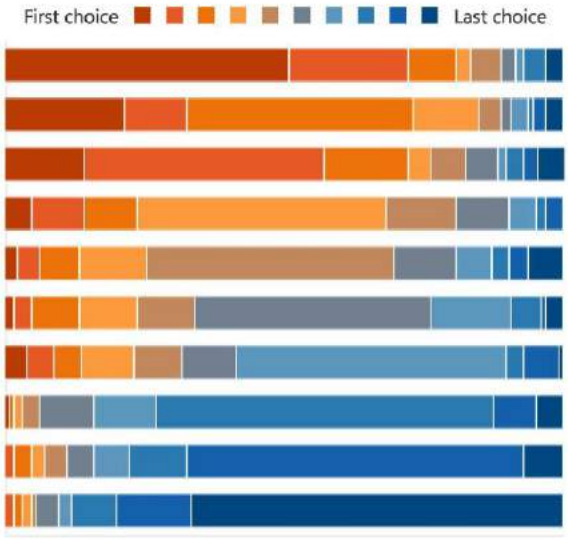


30. If applicable, please choose an additional aerodrome/airport from the drop-down menu below and answer the questions based on your experiences as an aviation user at that site.

Owen Roberts International Ai...	47
Charles Kirkconnell Internatio...	27
Edward Bodden Airfield, Little ...	52
Not applicable	108

31. For your selected aerodrome/airport, please rank the below in order of your satisfaction from highest (most satisfied) to lowest (least satisfied)

Rank	Options
1	Wayfinding signage (ground t...
2	Safety and security
3	Terminal to aircraft connection...
4	General aesthetics and appear...
5	Ground transportation service...
6	Departure lounge areas (seati...
7	Check-in queuing and service ...
8	Shopping opportunities (i.e. s...
9	Food and beverage services (i....
10	Entertainment (i.e. viewing are...



32. Do you have higher expectations for your overall experience at the Owen Roberts International Airport in Grand Cayman than elsewhere in the Cayman Islands?

Yes	487
No	96

33. Please choose an aerodrome/airport from the drop-down menu below and answer the following questions based on your experiences as an aviation user at that site.

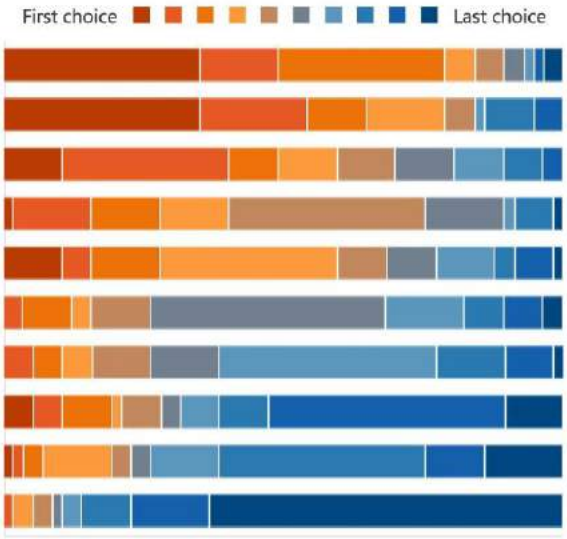
Owen Roberts International Ai...	48
Charles Kirkconnell Internatio...	5
Edward Bodden Airfield, Little ...	4

34. Does your overall experience using the aerodrome/airport you have selected meet your expectations?

Yes	30
No	27

35. For your selected aerodrome/airport, please rank the below in order of your satisfaction from highest (most satisfied) to lowest (least satisfied)

Rank	Options
1	Safety and security
2	General maintenance
3	Wayfinding signage, ease of ci...
4	Lighting
5	Airfield pavement surfaces (in...
6	Navigational aids
7	Communication
8	Access and parking
9	Retail options/Food and Bever...
10	Land development and leasing



36. If applicable, please choose an additional aerodrome/airport from the drop-down menu below and answer the questions based on your experiences as an aviation user at that site.

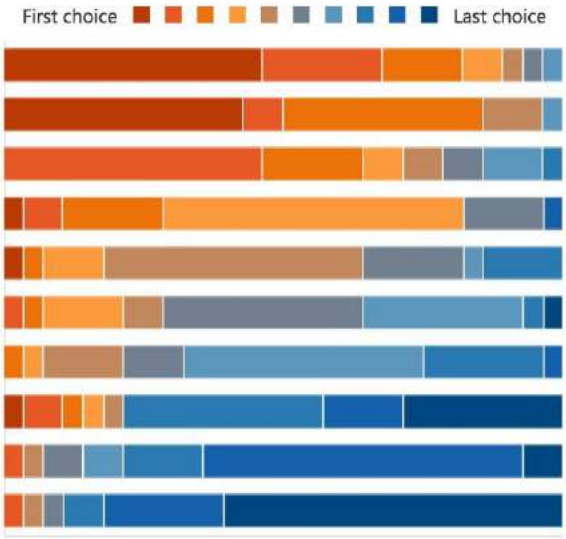
Owen Roberts International Ai...	12
Charles Kirkconnell Internatio...	9
Edward Bodden Airfield, Little ...	7
Not applicable	29

37. Does your overall experience using the aerodrome/airport you have selected meet your expectations?

Yes	17
No	11

38. For your selected aerodrome/airport, please rank the below in order of your satisfaction from highest (most satisfied) to lowest (least satisfied)

Rank	Options
1	General maintenance
2	Safety and security
3	Wayfinding signage, ease of ci...
4	Airfield pavement surfaces (in...
5	Lighting
6	Navigational aids
7	Communication
8	Retail options/Food and Bever...
9	Access and parking
10	Land development and leasing



39. If applicable, please choose an additional aerodrome/airport from the drop-down menu below and answer the questions based on your experiences as an aviation user at that site.

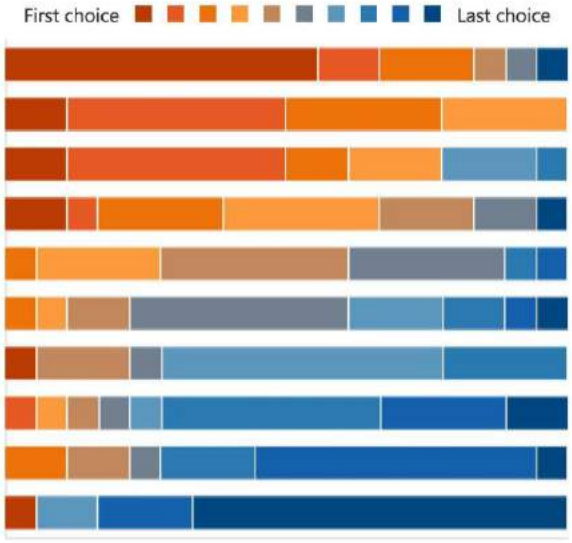
Owen Roberts International Ai...	6
Charles Kirkconnell Internatio...	4
Edward Bodden Airfield, Little ...	8
Not applicable	10

40. Does your overall experience using the aerodrome/airport you have selected meet your expectations?

Yes	9
No	9

41. For your selected aerodrome/airport, please rank the below in order of your satisfaction from highest (most satisfied) to lowest (least satisfied)

Rank	Options
1	General maintenance
2	Safety and security
3	Wayfinding signage, ease of ci...
4	Airfield pavement surfaces (in...
5	Lighting
6	Navigational aids
7	Communication
8	Retail options/Food and Bever...
9	Access and parking
10	Land development and leasing



42. Do you have higher expectations for your overall experience at the Owen Roberts International Airport in Grand Cayman than elsewhere in Cayman Islands?

Yes	49
No	8

43. Are there locations in the Cayman Islands where you would like to see a new aerodrome, heliport or seaplane facility? Please specify.

57
Responses

Latest Responses

8 respondents (**15%**) answered **East End** for this question.

44. Do you have specific recommendations for improvements to the aviation system?

57
Responses

Latest Responses

7 respondents (**13%**) answered **runway** for this question.

45. Please let us know if you have any additional comments/concerns you would like to raise

636
Responses

Latest Responses
"None"
"N/a"
"N/A"

43 respondents (**7%**) answered **Little Cayman** for this question.

7.5 Short List of Options

Project A1

	Option 1	Option 2	Option 3	Option 4	Option 6
Option	**Status quo: business as usual**	**Upgrade existing terminal building, minor apron expansion**	**Replace existing GA terminal building and expand aircraft parking apron, expand or build new hangars adjacent to GA Terminal and on the existing playground**	**Expand aircraft parking at the North Sound site, replace the existing / new terminal building at existing site.**	**Relocate and upgrade the GA terminal/ aircraft parking to the North Sound site.**
Direct benefits	$68,771,944	$70,648,493	$90,410,129	$86,471,317	$91,323,279
Direct costs	($27,214,829)	($30,723,843)	($67,676,702)	($60,311,403)	($69,384,228)
Wider costs	($1,360,741)	($4,608,576)	($10,151,505)	($9,046,711)	($6,938,423)
Optimism bias	($4,005,189)	($4,851,122)	($9,684,809)	($8,360,862)	($8,995,458)
Risk costs	($11,476,317)	($13,178,797)	($19,019,887)	($14,250,502)	($13,631,932)
Net cost	**$24,714,868**	**$17,286,155**	**($16,122,775)**	**($5,498,160)**	**($7,626,763)**
Discounted cost	**$10,804,520**	**$5,886,830**	**($26,307,170)**	**($18,156,827)**	**($23,405,995)**
Environmental impact %	5%	15%	15%	15%	10%
Optimism bias %	10%	10%	10%	10%	10%

Project A2

	Option 1	Option 2	Option 3	Option 4	Option 5
Option	**Status quo: business as usual.**	**Do minimum - minimal upgrades, no expansion to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers.**	**Moderate upgrades and expansion to current airside and landside infrastructure to cater for moderate growth in aircraft movements and passengers.**	**Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers.**	**Upgrades and expansion to current airside and landside infrastructure to cater for growth in aircraft movements and passengers exceeding forecasts.**
Direct benefits	$2,712,909,217	$2,821,876,955	$3,208,863,644	$3,612,440,940	$3,941,762,897
Direct costs	($2,000,197,500)	($2,068,594,886)	($2,311,500,522)	($2,564,819,828)	($2,771,530,192)
Wider costs	($100,009,875)	($310,289,233)	($346,725,078)	($256,481,983)	($415,729,529)
Optimism bias	($260,226,376)	($295,236,858)	($304,673,723)	($314,883,608)	($357,706,268)
Risk costs	($502,056,383)	($573,484,459)	($388,511,635)	($327,534,270)	($389,802,957)
Net cost	**($149,580,917)**	**($425,728,481)**	**($142,547,314)**	**$148,721,251**	**$6,993,951**
Discounted cost	**($15,214,124)**	**($169,189,619)**	**($161,242,818)**	**($145,085,122)**	**($306,655,944)**
Environmental impact %	5%	15%	15%	10%	15%
Optimism bias %	10%	10%	10%	10%	10%

Project B

	Option 1	Option 2	Option 3	Option 4	Option 5
Option	**Status quo: business as usual.**	**Do minimum - minimal upgrades (no expansion) to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers. Relinquish International status. Exemptions to regulations continue (regardless of international status).**	**Minimal upgrades and expansion to current airside and landside infrastructure to cater for low growth in aircraft movements and passengers. Modify lands as needed to meet regulatory requirements and applicable standards.**	**Moderate upgrades and expansion to current airside and landside infrastructure.**	**Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers. Acquire lands / meet all applicable regulatory requirements and standards.**
Direct benefits	$55,940,523	$57,484,346	$58,888,075	$59,988,366	$64,108,748
Direct costs	($220,021,569)	($233,675,495)	($246,383,431)	($256,114,657)	($292,556,258)
Wider costs	($11,001,078)	($35,051,324)	($24,638,343)	($38,417,199)	($43,883,439)
Optimism bias	($25,898,226)	($31,806,171)	($30,272,698)	($32,028,358)	($36,462,123)
Risk costs	($27,959,615)	($49,334,894)	($31,705,208)	($25,751,729)	($28,181,532)
Net cost	**($228,939,966)**	**($292,383,539)**	**($274,111,605)**	**($292,323,577)**	**($336,974,603)**
Discounted cost	**($88,502,452)**	**($120,501,927)**	**($115,830,939)**	**($128,245,613)**	**($159,111,818)**
Environmental	5%	15%	15%	15%	10%
Optimism bias %	10%	10%	10%	10%	10%

Project C

	Option 1	Option 2	Option 4	Option 5
Option	**Status quo: business as usual.**	**Do minimum - minimal upgrades / expansion to current airside or landside infrastructure, cater for limited growth in aircraft movements and passengers. Exemptions to regulations continue.**	**Close Existing Airport and Build New Airport and new airside and landside infrastructure to cater for the most-likely forecast growth in aircraft movements and passengers. Build to meet all applicable regulatory requirements and standards.**	**Sell or Close Existing Airport, to be replaced by Ferry / Helicopter / Seaplane service**
Direct benefits	$0	$0	$21,745,622	$8,425,595
Direct costs	$0	($143,500)	($120,187,607)	($46,568,091)
Wider costs	$0	($21,525)	($18,028,141)	($4,656,809)
Optimism bias	($30,135)	($55,851)	($1,159,734)	($434,931)
Risk costs	($301,350)	($558,514)	($11,597,340)	($4,349,314)
Net cost	**($331,485)**	**($779,390)**	**($129,227,200)**	**($47,583,550)**
Discounted cost	**($144,906)**	**($302,142)**	**($72,141,349)**	**($27,200,963)**
Environmental	5%	15%	10%	15%
Optimism bias %	10%	10%	10%	10%

7.6 Short List Matrix – Costs and Benefits

Project A1

		Option 1	Option 2	Option 3	Option 4	Option 6
Scope		**Status quo: All GA traffic served from current location with capacity constraints and a dated facility.**	**Upgrade existing terminal building, minor apron expansion**	**Replace existing GA terminal building and expand aircraft parking apron, expand or build new hangars adjacent to GA Terminal and on the existing playground**	**Expand aircraft parking at the North Sound site, replace the existing / new terminal building at existing site.**	**Relocate and upgrade the GA terminal/ aircraft parking to the North Sound site.**
		Description of costs				
Costs		**Total direct public costs** - Direct operational costs **(ID.1)**	**Total direct public costs** - Direct CAPEX/ Operational costs **(ID.1)** -Expansion of exisitng aprons and terminal will result in need to park g/a aircraft in the east and will result in higher costs of towing aircraft and time to reposition aircraft to terminal **(ID.2)**	**Total direct public costs** - Direct CAPEX/ Operational costs **(ID.1)** -Expansion of exisitng aprons and terminal will result in need to park g/a aircraft in the east and will result in higher costs of towing aircraft and time to reposition aircraft to terminal **(ID.2)**	**Total direct public costs** - Direct CAPEX/ Operational costs **(ID.2)** - Additional cost of taxiing / towing aircraft between east end and west G/A terminal, increasing cost of inefficient operation **(ID.2)**	**Total direct public costs** - Direct CAPEX/ Operational costs **(IC.1)**
		Total indirect public costs - N/A	**Total indirect public costs** - N/A	**Total indirect public costs** - N/A	**Total indirect public costs** - N/A	**Total indirect public costs** - N/A
		Wider costs to society - Stagnation or reduction in luxury/high-end tourism **(WC.1)** - Reduced overseas investment **(WC.2)** - Minimal environmental impact other than increased fuel burn caused by delays and inefficient operations **(WC.3)** - Higher potential for incidents on ramp due to lack of space to park high-value business jets **(WC.6)**	**Wider costs to society** - Potential loss of luxury/high-end market share to regional competitor nations **(WC.1)** - Environmental cost of the apron expansion resulting in a slight reduction of green space **(WC.3)**	**Wider costs to society** - Loss of playground and other surrounding residential/recreational land **(WC.4)** - Environmental cost of the expansion: elimination of wetlands (turtle habitat) **(WC.3)** - High cost of replacing other agency facilities at higher cost to government (shoooting club, CBC, mail, mosquito research unit, exisiting CA hangar **(WC.5)**	**Wider costs to society** - Loss of natural habitat (environmental cost) in the North Sound. inefficent operating model will increase fuel burn / increase emmissions and result in potential inefficiencies and delays **(WC.3)** - Relocation of the shooting club **(WC.5)**	**Wider costs to society** - Greater loss of natural habitat (environmental cost) in the North Sound **(WC.3)** - Relocation of the shooting club **(WC.5)**
		Total risks costs - N/A - Estimated risk costs **(RC.2)**	**Total risks costs** - Optimism bias adjustment **(RC.1)** - Estimated risk costs **(RC.2)**	**Total risks costs** - Optimism bias adjustment **(RC.1)** - Estimated risk costs **(RC.2)**	**Total risks costs** - Optimism bias adjustment **(RC.1)** - Estimated risk costs **(RC.2)**	**Total risks costs** - Optimism bias adjustment **(RC.1)** - Estimated risk costs **(RC.2)**
		Description of benefits				
Benefits		**Direct public sector benefits** - Direct operational income **(DB.1)** - Increased capital budget for deployment elsewhere **(DB.2)** - No time investment from public sector required **(DB.3)**	**Direct public sector benefits** - Direct operational income **(DB.1)** - Capital budget available for deployment elsewhere **(DB.2)** - Limited time investment from public sector required **(DB.3)**	**Direct public sector benefits** - Direct operational income **(DB.1)** - Limited capital budget available for deployment elsewhere **(DB.2)**	**Direct public sector benefits** - Direct operational income **(DB.1)** - Increased capacity for future air traffic growth (i.e. potentially less costly in the long term) **(DB.4)**	**Direct public sector benefits** - Direct operational income **(DB.1)** - Further increased capacity for future air traffic growth (i.e. potentially less costly in the long term) **(DB.4)** - Greater revenue opportunity for CIAA or 3rd party operator if hangar, g/a terminal and aprons are colocated **(DB.5)** - Majority of east-end apron is to be constructed on brownfield / cleared lands. Hangars, g/a terminal together will enable reduction in aircraft fuel burn and emmissions **(DB.6)**
		Indirect public sector benefits - Indirect operational income (e.g. import duty on increased demand for goods as tourism increases) **(DB.1)** - No changes to infrastructure required and therefore no local disruption **(DB.2)**	**Indirect public sector benefits** - Indirect operational income (e.g. import duty on increased demand for goods as tourism increases) **(DB.1)** - Limited changes to infrastructure required and therefore less local disruption **(DB.2)**	**Indirect public sector benefits** - Indirect operational income (e.g. accomodation taxes, passenger fees and import duty on increased demand for goods as tourism increases) **(DB.1)**	**Indirect public sector benefits** - Indirect operational income (e.g. accomodation taxes, passenger fees and import duty on increased demand for goods as tourism increases) **(DB.1)**	**Indirect public sector benefits** - Indirect operational income (e.g. accomodation taxes, passenger fees and import duty on increased demand for goods as tourism increases) **(DB.1)**
		Wider benefits to society - Controlled/restricted tourism, reducing environmental impact on the Islands **(WB.1)**	**Wider benefits to society** - Improved GA terminal satisfaction **(WB.2)** - Improved efficiency from the apron expansion **(WB.3)**	**Wider benefits to society** - Higher GA terminal satisfaction, which may lead to increased tourism (i.e. higher revenues for businesses in Cayman) **(WB.4)** - Further improved efficiency from the apron expansion and additional hangar(s) **(WB.3)** []	**Wider benefits to society** - Higher GA terminal satisfaction, which may lead to increased tourism (i.e. higher revenues for businesses in Cayman) **(WB.4)** - Further improved efficiency from the apron expansion and additional hangar(s) **(WB.3)** - Additional capacity to send/receive cargo, resulting in improvements for Caymanians and residents **(WB.6)**	**Wider benefits to society** - Would allow for boat transfers/water taxis **(WB.5)** - Higher GA terminal satisfaction, which may lead to increased tourism (i.e. higher revenues for businesses in Cayman) **(WB.4)** - Further improved efficiency from the apron expansion and additional hangar(s) **(WB.3)** - Additional capacity to send/receive cargo, resulting in improvements for Caymanians and residents **(WB.6)**

Project A2

		Option 1	Option 2	Option 3	Option 4	Option 5
Scope		**Status quo: business as usual.**	**Do minimum - minimal upgrades, no expansion to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers.**	**Moderate upgrades and expansion to current airside and landside infrastructure to cater for moderate growth in aircraft movements and passengers.**	**Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers.**	**Upgrades and expansion to current airside and landside infrastructure to cater for growth in aircraft movements and passengers exceeding forecasts.**
Description of costs						
Costs		**Total direct public costs** - Direct operational costs **(IC.1)**	**Total direct public costs** - Direct CAPEX/ Operational costs	**Total direct public costs** - Direct CAPEX/ Operational costs	**Total direct public costs** - Direct CAPEX/ Operational costs	**Total direct public costs** - Direct CAPEX/ Operational costs
		Total indirect public costs - N/A	**Total indirect public costs** - N/A	**Total indirect public costs** - N/A	**Total indirect public costs** - N/A	**Total indirect public costs** - N/A
		Wider costs to society - Stagnation or reduction in tourism **(WC.1)** - Reduced overseas investment **(WC.2)** - Increased congestion resulting in greater fuel burn by both aircraft and ground vehicles **(WC.5)**	**Wider costs to society** - Potential loss of tourism market share to regional competitor nations **(WC.1)** - Increased congestion resulting in even greater fuel burn by both aircraft and ground vehicles **(WC.5)**	**Wider costs to society** - Loss of playground and other surrounding residential/recreational land **(WC.3)** - Environmental cost of the expansion **(WC.4)**	**Wider costs to society** - Greater loss of playground and other surrounding residential/recreational land **(WC.3)** - Environmental cost of the expansion **(WC.4)** - Increased development of landside and terminal more costly to government, but improvements in revenues expected to offset this **(WC.6)**	**Wider costs to society** - Environmental cost of the expansion **(WC.4)**
		Total risks costs - N/A - Estimated risk costs **(RC.2)**	**Total risks costs** - Optimism bias adjustment **(RC.1)** - Estimated risk costs **(RC.2)**	**Total risks costs** - Optimism bias adjustment **(RC.1)** - Estimated risk costs **(RC.2)**	**Total risks costs** - Optimism bias adjustment **(RC.1)** - Estimated risk costs **(RC.2)**	**Total risks costs** - Optimism bias adjustment **(RC.1)** - Estimated risk costs **(RC.2)**
Description of benefits						
Benefits		**Direct public sector benefits** - Direct operational income **(DB.1)** - Increased capital budget for deployment elsewhere **(DB.2)** - No time investment from public sector required **(DB.3)**	**Direct public sector benefits** - Direct operational income **(DB.1)** - Capital budget available for deployment elsewhere **(DB.2)** - Limited time investment from public sector required **(DB.3)**	**Direct public sector benefits** - Direct operational income **(DB.1)** - Limited capital budget available for deployment elsewhere **(DB.2)**	**Direct public sector benefits** - Direct operational income **(DB.1)** - Increased capacity for future air traffic growth (i.e. potentially less costly in the long term) **(DB.4)**	**Direct public sector benefits** - Direct operational income **(DB.1)** - Further increased capacity for future air traffic growth (i.e. potentially less costly in the long term) **(DB.4)**
		Indirect public sector benefits - Indirect operational income (e.g. import duty on increased demand for goods as tourism increases) **(IB.1)** - No changes to infrastructure required and therefore no local disruption **(IB.2)**	**Indirect public sector benefits** - Indirect operational income (e.g. import duty on increased demand for goods as tourism increases) **(IB.1)** - Limited changes to infrastructure required and therefore less local disruption **(IB.2)**	**Indirect public sector benefits** - Indirect operational income (e.g. accomodation taxes, passenger fees and import duty on increased demand for goods as tourism increases) **(IB.1)**	**Indirect public sector benefits** - Indirect operational income (e.g. accomodation taxes, passenger fees and import duty on increased demand for goods as tourism increases) **(IB.1)**	**Indirect public sector benefits** - Indirect operational income (e.g. accomodation taxes, passenger fees and import duty on increased demand for goods as tourism increases) **(IB.1)**
		Wider benefits to society - Controlled/restricted tourism, reducing environmental impact on the Islands **(WB.1)**	**Wider benefits to society** - Improved terminal satisfaction **(WB.2)** - Improved efficiency from the upgrades **(WB.3)**	**Wider benefits to society** - Further terminal satisfaction, which is expected to lead to increased tourism (i.e. higher revenues for businesses in Cayman) **(WB.2)** - Further improved efficiency from the upgrades/expansion **(WB.3)**	**Wider benefits to society** - Further terminal satisfaction, which is expected to lead to increased tourism (i.e. higher revenues for businesses in Cayman) **(WB.2)** - Further improved efficiency from the upgrades/expansion **(WB.3)** - Improved facilitation of movement of people, goods and services, due to reduced time, lower costs from development of innovative, technology-based solutions which benefit airlines, cargo and mail shippers, and consumers **(WB.4)** - Runway extension will result in improved utilization of modern aircraft and improved efficiencies to support overseas traffic development **(WB.5)**	**Wider benefits to society** - Would allow for boat transfers/water taxis - Further terminal satisfaction, which is expected to lead to increased tourism (i.e. higher revenues for businesses in Cayman) **(WB.2)** - Further improved efficiency from the upgrades/expansion **(WB.3)**

Project B

		Option 1	Option 2	Option 3	Option 4	Option 5
Scope		**Status quo: business as usual.**	**Do minimum - minimal upgrades (no expansion) to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers. Relinquish International status. Exemptions to regulations continue (regardless of international status).**	**Minimal upgrades and expansion to current airside and landside infrastructure to cater for low growth in aircraft movements and passengers. Modify lands as needed to meet regulatory requirements and applicable standards.**	**Moderate upgrades and expansion to current airside and landside infrastructure.**	**Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers. Acquire lands / meet all applicable regulatory requirements and standards.**
				Description of costs		
Costs		**Total direct public costs** - Direct operational costs **(IC.1)**	**Total direct public costs** - Direct CAPEX/ Operational costs **(IC.1)**	**Total direct public costs** - Direct CAPEX/ Operational costs **(IC.1)**	**Total direct public costs** - Direct CAPEX/ Operational costs **(IC.1)**	**Total direct public costs** - Direct CAPEX/ Operational costs **(IC.1)** - CIAA must dedicate resources to bird and wildlife management activities, including specialists capable of effectively wildlife and environmental concerns at CKIA **(IC.2)**
		Total indirect public costs - N/A	**Total indirect public costs** N/A	**Total indirect public costs** N/A	**Total indirect public costs** N/A	**Total indirect public costs** N/A
		Wider costs to society - Greater potential loss of tourism market share to regional competitor islands **(WC.1)** - Potential loss of international license **(WC.2)** - Lack of space in terminal and on ramp could result in congestion in building, delays and higher potential for incidents/ accidents on ramp **(WC.6)** - Reduction in travel options for residents of Cayman Brac **(WC.7)**	**Wider costs to society** - Greater potential loss of tourism market share to regional competitor islands **(WC.1)** - Potential loss of international license **(WC.2)** - Lack of space in terminal and on ramp could result in congestion in building, delays and higher potential for incidents/ accidents on ramp **(WC.6)** - Reduction in travel options for residents of Cayman Brac **(WC.7)**	**Wider costs to society** - Potential loss of tourism market share to regional competitor islands **(WC.1)** - Environmental cost of the expansion **(WC.3)** - Reduction in birding activities during construction, or due to reduction in amount of bird habitat at Westerly Ponds **(WC.4)**	**Wider costs to society** - Environmental cost of the expansion **(WC.3)** - Reduction in birding activities during construction, or due to reduction in amount of bird habitat at Westerly Ponds **(WC.4)**	**Wider costs to society** - Environmental cost of the expansion **(WC.3)** - Reduciton in size of the Westerly Ponds may reduce bird habitat, potentially impacting birding activities particularly during construction activities. **(WC.4)** - CIAA to install RESA that does not impact the turtle nesting sites if possible. RESA may require a reduction in landing distance available (LDA) which could reduce aircraft payloads, increasing innefficiency to aircraft operators - thereby increasing ticket prices to the public **(WC.5)**
		Total risks costs - N/A - Estimated risk costs **(RC.2)**	**Total risks costs** - Optimism bias adjustment **(RC.1)** - Estimated risk costs **(RC.2)**	**Total risks costs** - Optimism bias adjustment **(RC.1)** - Estimated risk costs **(RC.2)**	**Total risks costs** - Optimism bias adjustment **(RC.1)** - Estimated risk costs **(RC.2)**	**Total risks costs** - Optimism bias adjustment **(RC.1)** - Estimated risk costs **(RC.2)**
				Description of benefits		
Benefits		**Direct public sector benefits** - Direct operational income **(DB.1)** - Increased capital budget for deployment elsewhere **(DB.2)** - No time investment from public sector required **(DB.3)** - Savings due to reduced facilitation (no international flights) and limited human resources required to operate **(DB.5)**	**Direct public sector benefits** - Direct operational income **(DB.1)** - Capital budget available for deployment elsewhere **(DB.2)** - Limited time investment from public sector required **(DB.3)** - Savings due to reduced facilitation (no international flights) and limited human resources required to operate **(DB.5)**	**Direct public sector benefits** - Direct operational income **(DB.1)** - Limited capital budget available for deployment elsewhere **(DB.2)** - Slightly increased capacity for future air traffic growth (i.e. potentially less costly in the long term) **(DB.4)**	**Direct public sector benefits** - Direct operational income **(DB.1)** - Increased capacity for future air traffic growth (i.e. potentially less costly in the long term) **(DB.4)**	**Direct public sector benefits** - Direct operational income **(DB.1)** - Further increased capacity for future air traffic growth (i.e. potentially less costly in the long term) **(DB.4)** - Improvements in facilitation will lead to more effiecient airport operations, benefiting the airlines, passengers and shippers, and aircraft operators **(DB.6)**
		Indirect public sector benefits - Indirect operational income (e.g. import duty on increased demand for goods as tourism increases) **(IB.1)** - No changes to infrastructure required and therefore no local disruption **(IB.2)**	**Indirect public sector benefits** - Indirect operational income (e.g. import duty on increased demand for goods as tourism increases) **(IB.1)** - Limited changes to infrastructure required and therefore less local disruption **(IB.2)**	**Indirect public sector benefits** - Indirect operational income (e.g. accomodation taxes, passenger fees and import duty on increased demand for goods as tourism increases) **(IB.1)**	**Indirect public sector benefits** - Indirect operational income (e.g. accomodation taxes, passenger fees and import duty on increased demand for goods as tourism increases) **(IB.1)**	**Indirect public sector benefits** - Indirect operational income (e.g. accomodation taxes, passenger fees and import duty on increased demand for goods as tourism increases) **(IB.1)**
		Wider benefits to society - Controlled/restricted tourism, reducing environmental impact on the Islands **(WB.1)**	**Wider benefits to society** - Improved terminal satisfaction **(WB.2)** - Improved efficiency from the upgrades **(WB.3)** - Slightly controlled/ restricted tourism, reducing environmental impact on the Islands **(WB.1)**	**Wider benefits to society** - Further terminal satisfaction, which is expected to lead to increased tourism (i.e. higher revenues for businesses in Cayman) **(WB.2)** - Further improved efficiency from the upgrades/expansion **(WB.3)**	**Wider benefits to society** - Further terminal satisfaction, which is expected to lead to increased tourism (i.e. higher revenues for businesses in Cayman) **(WB.2)** - Further improved efficiency from the upgrades/expansion **(WB.3)**	**Wider benefits to society** - Further terminal satisfaction, which is expected to lead to increased tourism (i.e. higher revenues for businesses in Cayman) **(WB.2)** - Further improved efficiency from the expansion **(WB.3)** - Improved facilitation of movement of people, goods and services, due to reduced time, lower costs from development of innovative, technology-based solutions which benefit airlines, cargo and mail shippers, and consumers **(WB.4)**

Project C

		Option 1	Option 2	Option 4	Option 5
Scope		**Status quo: business as usual.**	**Do minimum - minimal upgrades / expansion to current airside or landside infrastructure, cater for limited growth in aircraft movements and passengers. Exemptions to regulations continue.**	**Close Existing Airport and Build New Airport and new airside and landside infrastructure to cater for the most-likely forecast growth in aircraft movements and passengers. Build to meet all applicable regulatory requirements and standards.**	**Sell or Close Existing Airport, to be replaced by Ferry / Helicopter / Seaplane service**
		Description of costs			
Costs		**Total direct public costs** - Direct operational costs **(IC.1)**	**Total direct public costs** - Direct CAPEX/ Operational costs **(IC.1)**	**Total direct public costs** - Direct CAPEX/ Operational costs **(IC.1)**	**Total direct public costs** - Direct CAPEX/ Operational costs **(IC.1)**
		Total indirect public costs - N/A	**Total indirect public costs** N/A	**Total indirect public costs** N/A	**Total indirect public costs** N/A
		Wider costs to society - Potential for Severe Accident and Significant Liability for Airport Owners (All property owners upon which the current airport exists) **(WC.1)** - Potential loss of exemptions **(WC.2)**	**Wider costs to society** - Potential for Severe Accident and Significant Liability for Airport Owners (All property owners upon which the current airport exists) **(WC.1)** - Potential loss of exemptions **(WC.2)** - Environmental cost of the expansion **(WC.3)**	**Wider costs to society** - Potential loss of tourism market share to regional competitor islands due to loss of the current airport's "charm" **(WC.4)** - Environmental cost of the expansion **(WC.3)**	**Wider costs to society** - Increased travel time for locals and tourists when travelling to/from the island **(WC.5)** - Air travel (i.e. by helicopter) would become more expensive **(WC.6)** - Environmental cost of any new service (albeit, this would likely be offset by the rewilding of the current strip) **(WC.3)**
		Total risks costs - N/A - Estimated risk costs **(RC.2)**	**Total risks costs** - Optimism bias adjustment **(RC.1)** - Estimated risk costs **(RC.2)**	**Total risks costs** - Optimism bias adjustment **(RC.1)** - Estimated risk costs **(RC.2)**	**Total risks costs** - Optimism bias adjustment **(RC.1)** - Estimated risk costs **(RC.2)**
		Description of benefits			
Benefits		**Direct public sector benefits** - Direct operational income **(DB.1)** - Increased capital budget for deployment elsewhere **(DB.2)** - No time investment from public sector required **(DB.3)**	**Direct public sector benefits** - Direct operational income **(DB.1)** - Capital budget available for deployment elsewhere **(DB.2)** - Limited time investment from public sector required **(DB.3)** - Reduced risk of accidents and therefore associated costs **(DB.4)**	**Direct public sector benefits** - Direct operational income **(DB.1)** - Increased capacity for future air traffic growth (i.e. potentially less costly in the long term) **(DB.5)** - Further reduced risk of accidents and therefore associated costs **(DB.4)**	**Direct public sector benefits** - Direct operational income **(DB.1)** - Further reduced risk of accidents and therefore associated costs **(DB.4)** - Creation of jobs to facilitate new services (including on Cayman Brac for the ferry service) **(DB.6)** - Evidences an environmentally and socially conscious government **(DB.7)**
		Indirect public sector benefits - Indirect operational income (e.g. import duty on increased demand for goods as tourism increases) **(IB.1)** - No changes to infrastructure required and therefore no local disruption **(IB.2)**	**Indirect public sector benefits** - Indirect operational income (e.g. import duty on increased demand for goods as tourism increases) **(IB.1)** - Limited changes to infrastructure required and therefore less local disruption **(IB.2)**	**Indirect public sector benefits** - Indirect operational income (e.g. accomodation taxes, passenger fees and import duty on increased demand for goods as tourism increases) **(IB.1)**	**Indirect public sector benefits** - Indirect operational income (e.g. accomodation taxes, passenger fees and import duty on increased demand for goods as tourism increases) **(IB.1)**
		Wider benefits to society - Controlled/restricted tourism, reducing environmental impact on the Islands **(WB.1)**	**Wider benefits to society** - Improved terminal satisfaction **(WB.2)** - Improved efficiency from the upgrades **(WB.3)** - Controlled/restricted tourism, reducing environmental impact on the Islands **(WB.1)** - Slightly reduced risk of accidents **(WB.4)**	**Wider benefits to society** - May lead to increased revenues (i.e. higher airport revenues and increase in revenues for businesses in Little Cayman) **(WB.5)** - Would facilitate more efficient medevac/evacuation services as well as overnight flights **(WB.6)** - Would allow for a better quality of service (i.e. larger planes) **(WB.7)** - Reduced risk of accidents **(WB.4)** - Electrical vehicle charging ports, solar power and wind turbine power production opportunities on airport to offset carbon footprint. Fence and perimeter trail will enable airport to operate and be maintained effectively/ efficiently, during daylight only hours, to standards with an emphasis on environmental mitigations prior to, during construction and throughout the operation of the life of the replacement aerodrome. Reduced operating hours resulting in aircraft operations outside of active bird migration in/out to sea from the island habitats **(WB.9)**	**Wider benefits to society** - Controlled/restricted tourism, reducing environmental impact on the Islands **(WB.1)** - The "hard to reach" nature of the island may increase its allure, thereby potentially leading to increased tourism revenues for local businesses **(WB.8)** - Reduced risk of accidents **(WB.4)**

7.7 Short List of Options – Risk Analyses

Project A1

		Option 1	Option 2	Option 3	Option 4	Option 6			
Scope		Status quo: All GA traffic served from current location with capacity constraints and a dated facility.	Upgrade existing terminal building, minor apron expansion	Replace existing GA terminal building and expand aircraft parking apron, expand or build new hangars adjacent to GA Terminal and on the existing playground	Expand aircraft parking at the North Sound site, replace the existing / new terminal building at existing site.	Relocate and upgrade the GA terminal/ aircraft parking to the North Sound site.	CIAA	Contractor	Shared
Service risks probability				**Risk cost**			**Risk allocation**		
Service risk	Service is not fit for purpose	($2,800,000)	($1,750,000)	($350,000)	($350,000)	($175,000)	X		
Design risk	Design cannot deliver services to required standard	($2,800,000)	($1,400,000)	($350,000)	($350,000)	($175,000)			X
Planning risk	Risk planning permission cannot be obtained (or can, at greater than budgeted costs)	N/A	N/A	N/A	N/A	N/A	X		
Build risk	Risk assets are not completed on time to budget/spec.	N/A	($175,000)	($7,567,114)	($2,475,867)	($2,628,818)			X
Environmental risk	Risk of a major impact on an adjacent area with strong likelihood of objection from the public	N/A	$0	$0	$0	$0			X
Contractual risk	Risk from the contractual arrangement from the two parties	N/A	($55,221)	($55,221)	($55,221)	($27,611)			X
Operational risk	Risk operating costs vary from budget and that performance standards slip or a service cannot be provided.	N/A	($272,148)	($272,148)	($272,148)	($272,148)	X		
Availability and performance risk	Risk the service provided is less than required under the contract	N/A	($27,611)	($27,611)	($27,611)	($27,611)			X
Demand risk	Risk the demand for a service does not match the levels planned.	($2,063,158)	($2,063,158)	($2,063,158)	($2,063,158)	($2,063,158)	X		
Volume risk	Risk actual usage of the service varies from the levels forecast.	($2,063,158)	($2,063,158)	($2,063,158)	($2,063,158)	($2,063,158)	X		
Maintenance risk	Risk that the costs of keeping the assets in good condition vary from budget	($700,000)	($700,000)	($700,000)	($700,000)	($700,000)	X		
Technology risk	The risk that changes in technology result in services being provided using old technology.	($700,000)	($700,000)	($700,000)	($700,000)	($700,000)	X		
Funding risk	Risk the availability of funding leads to delays and reduction in scope	N/A	($87,500)	($2,017,897)	($2,063,223)	($2,628,818)	X		
Residual value risk	Risk due to uncertainty of the physical assets at the end of the contract period	N/A	($35,000)	($403,579)	($330,116)	($420,611)	X		
Business risks probability				**Business risks cost estimate**					
Non-transferable risk	Non-transferable risks of failure to the organization	N/A	($1,750,000)	($350,000)	($700,000)	($700,000)	X		
Business risk	Risk an organization fails to deliver on its commitments and cannot meets its business objectives	N/A	($1,750,000)	($1,750,000)	($1,750,000)	($700,000)	X		
Reputational risk	Risk confidence in an organization's ability to fulfil its business objectives will be undermined	N/A	$0	$0	$0	$0	X		
External risks probability				**External risks cost estimate**					
External risk	Risks that are not connected to the proposal being considered	$0	$0	$0	$0	$0	X		
Regulatory risks	Risk a change in law or regulations will affect the costs or benefits of a project	($350,000)	($350,000)	($350,000)	($350,000)	($350,000)	X		
Total risk cost		($11,476,317)	($13,178,797)	($19,019,887)	($14,250,502)	($13,631,932)			

Project A2

		Option 1	Option 2	Option 3	Option 4	Option 5			
Scope		Status quo: business as usual.	Do minimum - minimal upgrades, no expansion to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers.	Moderate upgrades and expansion to current airside and landside infrastructure to cater for moderate growth in aircraft movements and passengers.	Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers.	Upgrades and expansion to current airside and landside infrastructure to cater for growth in aircraft movements and passengers exceeding forecasts.	CIAA	Contractor	Shared
Service risks probability				**Service risks cost estimate**				**Risk allocation**	
Service risk	Service is not fit for purpose	($47,560,000)	($35,670,000)	($29,725,000)	($5,945,000)	($2,972,500)	X		
Design risk	Design cannot deliver services to required standard	N/A	($35,670,000)	($29,725,000)	($5,945,000)	($2,972,500)			X
Planning risk	Risk planning permission cannot be obtained (or can, at greater than budgeted costs)	N/A	N/A	N/A	N/A	N/A	X		
Build risk	Risk assets are not completed on time to budget/spec.	N/A	($2,972,500)	($20,293,500)	($36,807,106)	($67,043,101)			X
Environmental risk	Risk of a major impact on an adjacent area with strong likelihood of objection from the public	N/A	$0	$0	$0	$0			X
Contractual risk	Risk from the contractual arrangement from the two parties	N/A	($2,343,797)	($2,343,797)	($2,343,797)	($2,343,797)			X
Operational risk	Risk operating costs vary from budget and that performance standards slip or a service cannot be provided.	N/A	($98,782,507)	($19,756,501)	($19,756,501)	($19,756,501)	X		
Availability and performance risk	Risk the service provided is less than required under the contract	N/A	($11,718,984)	($11,718,984)	($4,687,593)	($4,687,593)			X
Demand risk	Risk the demand for a service does not match the levels planned.	($203,468,191)	($135,645,461)	($81,387,277)	($81,387,277)	($81,387,277)	X		
Volume risk	Risk actual usage of the service varies from the levels forecast.	($203,468,191)	($135,645,461)	($81,387,277)	($81,387,277)	($81,387,277)	X		
Maintenance risk	Risk that the costs of keeping the assets in good condition vary from budget	($29,725,000)	($23,780,000)	($11,890,000)	($11,890,000)	($11,890,000)	X		
Technology risk	The risk that changes in technology result in services being provided using old technology.	($11,890,000)	($29,725,000)	($11,890,000)	($11,890,000)	($11,890,000)	X		
Funding risk	Risk the availability of funding leads to delays and reduction in scope	N/A	($1,486,250)	($20,293,500)	($36,807,106)	($67,043,101)	X		
Residual value risk	Risk due to uncertainty of the physical assets at the end of the contract period	N/A	($594,500)	($2,705,800)	($4,907,614)	($6,704,310)	X		
Business risks probability				**Business risks cost estimate**					
Non-transferable risk	Non-transferable risks of failure to the organization	N/A	($29,725,000)	($29,725,000)	($5,945,000)	($11,890,000)	X		
Business risk	Risk an organization fails to deliver on its commitments and cannot meets its business objectives	N/A	($23,780,000)	($29,725,000)	($11,890,000)	($11,890,000)	X		
Reputational risk	Risk confidence in an organization's ability to fulfil its business objectives will be undermined	N/A	$0	$0	$0	$0	X		
External risks probability				**External risks cost estimate**					
External risk	Risks that are not connected to the proposal being considered	$0	$0	$0	$0	$0	X		
Regulatory risks	Risk a change in law or regulations will affect the costs or benefits of a project	($5,945,000)	($5,945,000)	($5,945,000)	($5,945,000)	($5,945,000)	X		
Total risk cost		($502,056,383)	($573,484,459)	($388,511,635)	($327,534,270)	($389,802,957)			

Project B

		Option 1	Option 2	Option 3	Option 4	Option 5			
Scope		Status quo: business as usual.	Do minimum - minimal upgrades (no expansion) to current airside and landside infrastructure to cater for limited growth in aircraft movements and passengers. Relinquish International status. Exemptions to regulations continue (regardless of international status).	Minimal upgrades and expansion to current airside and landside infrastructure to cater for low growth in aircraft movements and passengers. Modify lands as needed to meet regulatory requirements and applicable standards.	Moderate upgrades and expansion to current airside and landside infrastructure.	Upgrades and expansion to current airside and landside infrastructure to cater for the forecast growth in aircraft movements and passengers. Acquire lands / meet all applicable regulatory requirements and standards.	CIAA	Contractor	Shared
Service risks probability		**Service risks cost estimate**					**Risk allocation**		
Service risk	Service is not fit for purpose	($6,989,238)	($5,591,391)	($4,193,543)	($1,397,848)	($698,924)	X		
Design risk	Design cannot deliver services to required standard	N/A	($4,193,543)	($4,193,543)	($1,397,848)	($698,924)			X
Planning risk	Risk planning permission cannot be obtained (or can, at greater than budgeted costs)	N/A	N/A	N/A	N/A	N/A	X		
Build risk	Risk assets are not completed on time to budget/spec.	N/A	($349,462)	($1,000,818)	($1,832,551)	($4,622,426)			X
Environmental risk	Risk of a major impact on an adjacent area with strong likelihood of objection from the public	N/A	$0	$0	$0	$0			X
Contractual risk	Risk from the contractual arrangement from the two parties	N/A	($28,407)	($28,407)	($28,407)	($28,407)			X
Operational risk	Risk operating costs vary from budget and that performance standards slip or a service cannot be provided.	N/A	($11,001,078)	($2,200,216)	($2,200,216)	($2,200,216)	X		
Availability and performance risk	Risk the service provided is less than required under the contract	N/A	($142,037)	($85,222)	($56,815)	($28,407)			X
Demand risk	Risk the demand for a service does not match the levels planned.	($2,797,026)	($2,237,621)	($1,678,216)	($1,678,216)	($1,678,216)	X		
Volume risk	Risk actual usage of the service varies from the levels forecast.	($2,797,026)	($2,237,621)	($1,678,216)	($1,678,216)	($1,678,216)	X		
Maintenance risk	Risk that the costs of keeping the assets in good condition vary from budget	($6,989,238)	($5,591,391)	($2,795,695)	($2,795,695)	($2,795,695)	X		
Technology risk	The risk that changes in technology result in services being provided using old technology.	($6,989,238)	($5,591,391)	($2,795,695)	($2,795,695)	($2,795,695)	X		
Funding risk	Risk the availability of funding leads to delays and reduction in scope	N/A	($349,462)	($1,000,818)	($1,832,551)	($4,622,426)	X		
Residual value risk	Risk due to uncertainty of the physical assets at the end of the contract period	N/A	($139,785)	($269,885)	($369,510)	($742,588)	X		
Business risks probability		**Business risks cost estimate**							
Non-transferable risk	Non-transferable risks of failure to the organization	N/A	-$3,494,619	-$2,795,695	-$2,096,772	-$1,397,848	X		
Business risk	Risk an organization fails to deliver on its commitments and cannot meets its business objectives	N/A	-$6,989,238	-$5,591,391	-$4,193,543	-$2,795,695	X		
Reputational risk	Risk confidence in an organization's ability to fulfil its business objectives will be undermined	N/A	$0	$0	$0	$0	X		
External risks probability		**External risks cost estimate**							
External risk	Risks that are not connected to the proposal being considered	$0	$0	$0	$0	$0	X		
Regulatory risks	Risk a change in law or regulations will affect the costs or benefits of a project	($1,397,848)	($1,397,848)	($1,397,848)	($1,397,848)	($1,397,848)	X		
Total risk cost		($27,959,615)	($49,334,894)	($31,705,208)	($25,751,729)	($28,181,532)			

Project C

		Option 1	Option 2	Option 4	Option 5			
Scope		Status quo - business as usual.	Do minimum - minimal upgrades / expansion to current airside or landside infrastructure, cater for limited growth in aircraft movements and passengers. Exemptions to regulations continue.	Close Existing Airport and Build New Airport and new airside and landside infrastructure to cater for the most-likely forecast growth in aircraft movements and passengers. Build to meet all applicable regulatory requirements and standards.	Sell or Close Existing Airport, to be replaced by Ferry / Helicopter / Seaplane service	CIAA	Contractor	Shared
Service risks probability		**Service risks cost estimate**				**Risk allocation**		
Service risk	Service is not fit for purpose	($114,800)	($71,750)	($14,350)	($35,875)	X		
Design risk	Design cannot deliver services to required standard	N/A	($71,750)	($28,700)	($43,050)			X
Planning risk	Risk planning permission cannot be obtained (or can, at greater than budgeted costs)	N/A	N/A	N/A	N/A	X		
Build risk	Risk assets are not completed on time to budget/spec.	N/A	($3,588)	($3,460,600)	($2,234,750)			X
Environmental risk	Risk of a major impact on an adjacent area with strong likelihood of objection from the public	N/A	$0	$0	$0			X
Contractual risk	Risk from the contractual arrangement from the two parties	N/A	($17,509)	($17,509)	($17,509)			X
Operational risk	Risk operating costs vary from budget and that performance standards slip or a service cannot be provided.	N/A	$0	($1,480,925)	($573,802)	X		
Availability and performance risk	Risk the service provided is less than required under the contract	N/A	($87,545)	($35,018)	($35,018)			X
Demand risk	Risk the demand for a service does not match the levels planned.	$0	$0	$0	$0	X		
Volume risk	Risk actual usage of the service varies from the levels forecast.	$0	$0	$0	$0	X		
Maintenance risk	Risk that the costs of keeping the assets in good condition vary from budget	($71,750)	($57,400)	($28,700)	($28,700)	X		
Technology risk	The risk that changes in technology result in services being provided using old technology.	($43,050)	($43,050)	($28,700)	($28,700)	X		
Funding risk	Risk the availability of funding leads to delays and reduction in scope	N/A	($3,588)	($4,614,134)	($893,900)	X		
Residual value risk	Risk due to uncertainty of the physical assets at the end of the contract period	N/A	($1,435)	($1,845,654)	($357,560)	X		
Business risks probability		**Business risks cost estimate**						
Non-transferable risk	Non-transferable risks of failure to the organization	N/A	($71,750)	($14,350)	($43,050)	X		
Business risk	Risk an organization fails to deliver on its commitments and cannot meets its business objectives	N/A	($71,750)	($14,350)	($43,050)	X		
Reputational risk	Risk confidence in an organization's ability to fulfil its business objectives will be undermined	N/A	$0	$0	$0	X		
External risks probability		**External risks cost estimate**						
External risk	Risks that are not connected to the proposal being considered	$0	$0	$0	$0	X		
Regulatory risks	Risk a change in law or regulations will affect the costs or benefits of a project	($71,750)	($57,400)	($14,350)	($14,350)	X		
Total risk cost		($301,350)	($558,514)	($11,597,340)	($4,349,314)			

7.8 Short List of Options Approval

Please be advised that I have received four Steering Committee members have approved the short list of Options (attached). I only needed three to approve so it is now considered approved and the Committee has been advised as such.

I anyone needs any further information please advise.

Regards

Roy

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Our Vision: "To bring excellence to all levels of your airport experience"
Owen Roberts International Airport | Charles Kirkconnell International Airport

Short List Steering Committee Approvals Table

		Project			
Committee Member		**A.1**	**A.2**	**B**	**C**
		G.A.	ORIA	CKIA	LCY
Preferred Short List Option		Option 6	Option 4	Option 5	Option 4
Stran Bodden (Chair)	*MoTT*	✓	✓	✓	✓
Albert Anderson	*CIAA*	✓	✓	✓	✓
Rosa Harris	*DOT*	A	A	A	A
Fabian Whorms	*CA*	✓	✓	✓	✓
Dwight Rankin	*CIFS*	A	A	A	A
Eimer Powery	*CIAA*	✓	✓	✓	✓
Karen Baptiste	*CIAA*	A	A	A	A
Charles Clifford	*CBC*	A	A	A	A

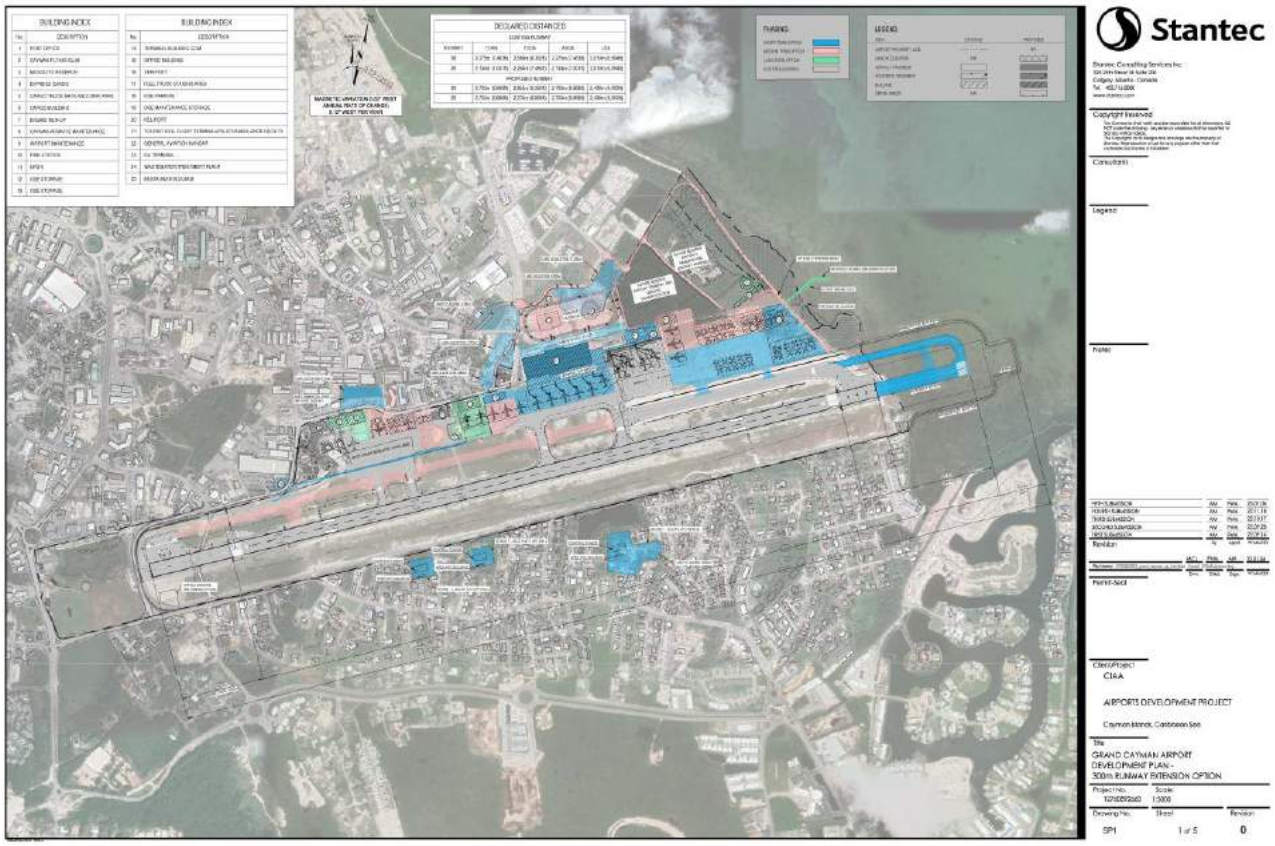
A= Absent Date Approvals Received: 01.11.2022

7.9 Master Plan Scope of Work Illustrations

Project A1

**Refer to Project A2 below for the ORIA airport layout plan, which also includes the GA facility*

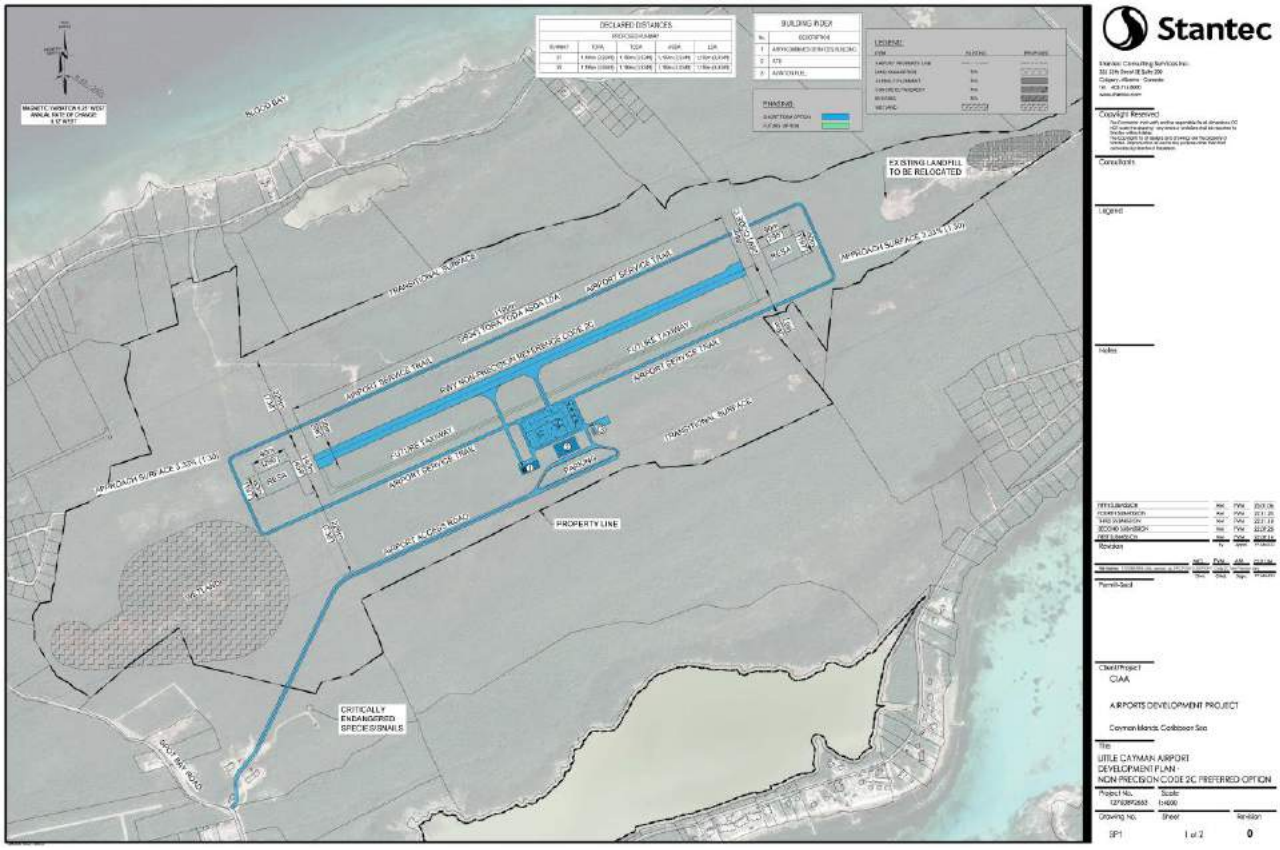
Project A2


Stantec
AIRPORTS DEVELOPMENT PROJECT
GRAND CAYMAN AIRPORT
DEVELOPMENT PLAN -
300m RUNWAY EXTENSION OPTION

Project B


Stantec
BUILDING INDEX
DECLARED DISTANCES
LEGEND
LAND ACQUISITION
NEW ACCESS ROAD
NEW PARKING LOT
CLEARWAY
RESA GRADING AND DRAINAGE WORKS
TURTLE HABITAT
Client/Project
CIAA
AIRPORTS DEVELOPMENT PROJECT
Cayman Islands, Caribbean Sea
Title
CAYMAN BRAC AIRPORT
DEVELOPMENT PLAN - LANDSIDE OPTION 2
Project No.
Scale
Drawing No.
Sheet
Revision
SP1
1 of 5
0

Project C


Stantec
EXISTING LANDFILL TO BE RELOCATED
PROPERTY LINE
CRITICALLY ENDANGERED SPECIES/SIGNALS
CIAA
AIRPORTS DEVELOPMENT PROJECT
Cayman Islands, Caribbean Sea
LITTLE CAYMAN AIRPORT DEVELOPMENT PLAN - NON PRECISION CODE 2C PREFERRED OPTION

7.10 ATM Project Report

ATM SURVEILLANCE SYSTEM PROJECT

Outline Business Case – ATM Surveillance system deployment
October 2022

CIAA
Cayman Islands Airports Authority

ALG
Transport & Infrastructure

COCESNA

Cayman Islands context analysis and ATM-SUR solution need

Cayman Islands' aviation industry is recognised as a key enabler of the relevant tourism in the islands, accounting for 37,000 Air Traffic Movements in 2019. The expected future traffic levels in the Islands imply a need to increase airspace efficiency and capacity, which has triggered the need to shift from current procedural control towards surveillance infrastructure.

A surveillance solution will present multiple benefits to not only the CIAA thanks to a better controller situational awareness but also the end-users, with the reduction of fuel consumption due to more efficient routes.

Cayman Islands are part of KINGSTON FIR, controlled by the Jamaica Civil Aviation Authority, except Cayman Islands TMA under FL245 which is responsibility of CIAA.

The current CNS equipment on the islands is limited to communications and navigation systems, without any kind of surveillance infrastructure property of the CIAA. There is a Secondary Surveillance Radar (SSR), on Grand Cayman, property of COCESNA, for which CIAA has an agreement to use the data, although has never taken advantage of it.

This means that **the future surveillance solutions** must **also include** a **new Air Traffic Management system to process the surveillance data**, with a new radar control room for approach services equipped with appropriate radar display units and human-machine interfaces.

Currently air traffic is managed based on procedural separation, which is the least efficient manner a controlled airspace can be utilised, leading to large separations between aircrafts and relying uniquely on pilot reports, thus implying several limitations, notably:

(i) Lack of situational awareness for air traffic controllers (ATCOs)

(ii) Limited operational efficiency for airspace users

(iii) Restricted airspace capacity to cope with future demand

(iv) Reduced interoperability with neighbouring air navigation service providers

(v) Difficulties in recruiting ATCOs with procedural control knowledge

These limitations cannot be solved only with the implementation of additional PBN procedures. Considering the increasing air traffic demand (to reach 46,000 ATMs in 2035) **there is a urgent need to migrate from procedural-based control to an ATM surveillance service**.

Options analysis, selection and description of the final solution

After an analysis of the existing state-of-the-art surveillance solutions for ATM, and based on a regional benchmark of the Caribbean and Central American regions, three scenarios are selected for detailed assessment:

- **Scenario 1: Secondary Surveillance Radar (SSR) + Automatic Dependent Surveillance - Broadcast (ADS-B):** The CIAA takes advantage of existing SUR equipment in the island. By installing additional ADS-B receivers, target acquisition and tracking performances as well as redundancy and independence from third parties are improved.
- **Scenario 2: Primary Surveillance Radar (PSR) + SSR + ADS-B:** one of the most complete solutions deployable for busy airspaces, based on a primary radar for the detection of non-cooperative aircraft, increasing safety and situational awareness. Three sub-options are identified, with different ownership scenarios for the CIAA, from which scenario 2b was selected as the Preferred Option for Scenario 2. Scenario 2b includes a deployment of PSR and ADS-B owned by CIAA and maintain the SSR owned by COCESNA.
- **Scenario 3: Wide Area Multilateration (WAM) +ADS-B:** in this case, the surveillance will be fully based on cooperative, low-cost systems. As multilateration receivers can process ADS-B signals, both technologies offer great synergies, without the need for large investments.

In order to select the most suitable solution, the different options are evaluated based on the following criteria:

- Operational criteria: Operational complexity, fleet compatibility and level of redundancy.
- Technical criteria: Overall system performance, technical feasibility and maintenance and spares.
- Economic criteria: One-off investments and operating and maintenance costs.
- Strategic criteria: Scalability, service provision independence and alignment with regional objectives.

Final solution: Phased approach from Scenario 1 to Scenario 2b

After evaluation of all the options the recommendation is to follow a phased approach, starting in the short term with the installation of three ADS-B (one in Grand Cayman and two in Cayman Brac) and making use of COCESNA's equipment

(SSR + ADS-B) already existing in the islands. This will be followed in the mid-term by the optional installation of a PSR in the islands, property of the CIAA. This approach will allow to have a **fully functional surveillance service** at a **cost-efficient** price in the **short term**, that **fulfils all the technical and operational requirements for ATC service provision** in the Cayman TMA. In the mid-term, it will be possible to expand the capabilities with the installation of a PSR that will allow the Cayman Islands to be completely independent from third parties and will provide the capacity to detect non cooperative targets.

Surveillance system coverage – 1,000 ft

Surveillance system coverage – 10,000 ft

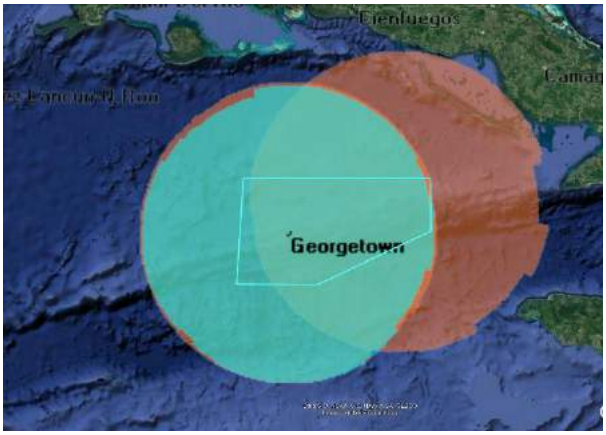


Figure 1: Surveillance System Coverage in Cayman Airspace

Detailed one-off and operational investments

The end-to-end deployment of the ATM-Surveillance system will involve the commissioning of the technical system (ADS-B, ATM, AIM, auxiliary equipment), the necessary personnel training plus the mandatory transitional activities.

The expenditure planned for this solution in 2023 and 2024 is valued at around **4.75 million KYD**, broken down as indicated in the table below:

• Cost element	Capital Expenses	Operational Expenses
• Project management	**0.15 – 0.20 million KYD**	
• ATM deployment	**1.80 – 2.20 million KYD**	**0.13 – 0.20 million KYD/year**
• AIM/AMHS deployment	**1.20 – 1.50 million KYD**	**0.03 – 0.04 million KYD/year**
• Surveillance Phase I deployment	**0.30 – 0.35 million KYD**	**0.06 – 0.08 million KYD/year**
• Operational transition	**0.30 – 0.35 million KYD**	
• Personnel Training	**0.50 – 0.55 million KYD**	
Total	**4.3 – 5.2 million KYD**	**0.22 – 0.32 million KYD/year**

Table 1: Detailed System Deployment Costs

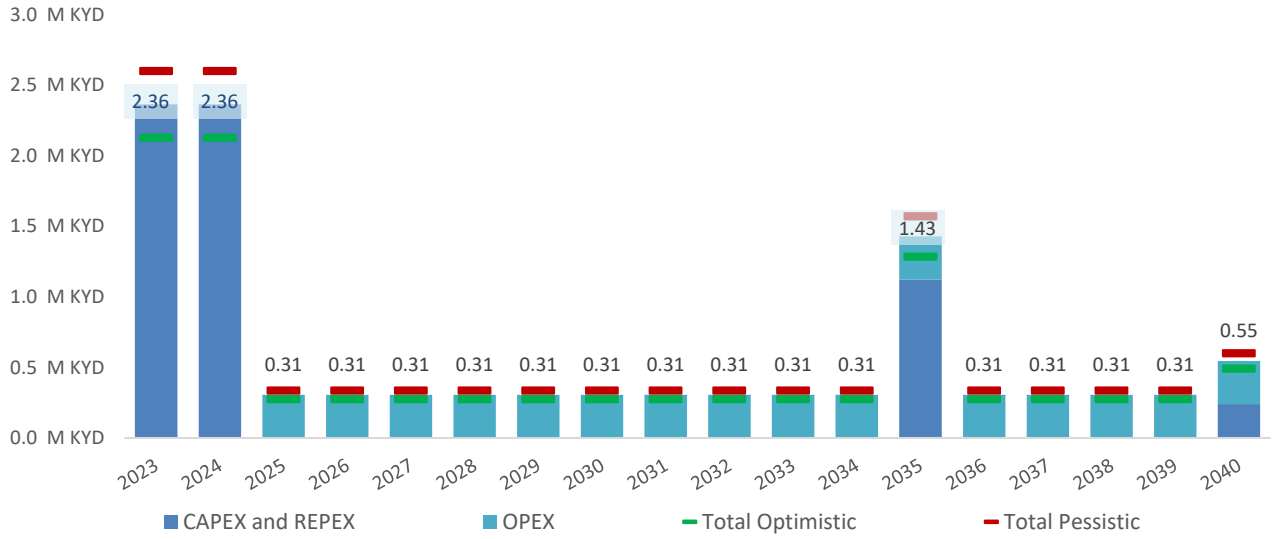


Figure 2: Capital and Operational cost evolution

These costs also consider the expected ATM, ADS-B and AIM system lifecycles as well as the replacement cost for each, which can vary from complete system replacement to software updates.

The levels of uncertainty at this stage are represented by the red (pessimistic) and green (optimistic) lines, corresponding to a range of +-10% around the central value.

Note: The second surveillance system deployment phase, consisting of the implementation of a Primary Surveillance Radar, which is optional from an operational point of view, is valued at an additional 2.50 to 3.00 million KYD

Preliminary Implementation roadmap

Implementation of the surveillance system and start of operation is planned to last 21 months, expected from January 2023 to September 2024. The implementation will be divided into 4 different work packages, which include technical procurement, operational transition, trainings and a transversal work package for project management.

1. **Project management**: includes all the management activities needed for the correct development of the project, including risk analysis, quality assurance and schedule management, as well as assistance to different technical and operational activities when needed. Project management activities will take place during all the development of the project (21 months)
2. **Technical procurement** encompasses call for tender preparation and selection and commissioning for each system. The work will be divided into three activities:
   - Call for Tender development and selection of system provider – 5 months
   - ATM and ADS-B system commissioning – 11 months
   - AIM system commissioning – 6 months
3. **Operational transition**: ensuring a proper transition from procedural control to surveillance service is key for the safety of operations. This phase of the project will include the preparation of all the needed documentation to do the transition, as well as two operational stages to gradually start radar service provision:
   - Operational transition preparation – 14 months
   - Certification from the CAA – 5 months (not consecutive)
   - Entry into operations – 5 months
4. **Personnel training** of ATCOs and maintenance staff. For ATCOs, training will be done sequentially, avoiding the peak traffic months to ensure continuity in airport operations:
   - ATCO trainings – 12 months
   - CNS maintenance trainings – 2 months

7.11 Financial Model

Combined P&L

Preferred option

CI$'000	Actual FY19	Actual FY20	Actual FY21	Actual FY22	Budget FY23	Budget FY24	Budget FY25	F'cast FY26	F'cast FY27	F'cast FY28	F'cast FY29	F'cast FY30	Cumulative FY19-FY82
Revenue	**41,110**	**11,804**	**4,188**	**25,656**	**36,228**	**55,417**	**58,282**	**59,823**	**61,409**	**62,929**	**64,386**	**52,754**	**5,178,342**
Salaries and Wages	-11,946	-12,155	-11,750	-12,553	-14,122	-16,281	-18,551	-18,830	-19,112	-19,399	-19,690	-19,985	-1,786,314
Other Staff Costs & Benefits	-1981	-2,340	-1486	-2,721	-3,047	-3,397	-3,410	-3,461	-3,513	-3,566	-3,619	-3,674	-318,819
Utilities	-1,750	-1,235	-1,469	-1,886	-2,428	-2,086	-2,244	-2,277	-2,312	-2,346	-2,382	-2,417	-215,116
CAA Regulatory Fees	-1,000	-283	0	-328	-1,303	-1,303	-1,300	-667	-756	-774	-792	-809	-61,177
Repairs & Maintenance	-2,158	-1,406	-1,512	-1,865	-2,857	-2,467	-2,457	-3,695	-3,792	-3,885	-3,974	-4,060	-362,216
Contracted Services	-3,534	-2,032	-3,616	-3,240	-4,083	-3,758	-3,847	-3,904	-3,963	-4,022	-4,083	-4,144	-365,714
General Insurance	-636	-851	-721	-841	-845	-847	-847	-860	-872	-886	-899	-912	-81,096
Professional /Consultancy Fees	-272	-149	-344	-726	-100	-169	-105	-707	-725	-743	-760	-776	-68,247
EBITDA contingency	0	0	0	0	0	0	0	0	-5,000	-5,000	-5,000	-5,000	-275,000
Other expenses	-953	-684	-654	-1,056	-1,071	-1,394	-1,412	-1,654	-1,679	-1,705	-1,729	-1,754	-145,210
Total Expenses	**-24,232**	**-21,134**	**-21,552**	**-25,215**	**-29,857**	**-31,702**	**-34,172**	**-36,055**	**-41,724**	**-42,325**	**-42,928**	**-43,531**	**-3,678,909**
EBITDA	**16,879**	**-9,330**	**-17,364**	**441**	**6,371**	**23,715**	**24,109**	**23,768**	**19,684**	**20,603**	**21,458**	**9,224**	**1,536,222**

Business As Usual

CI$'000	Actual FY19	Actual FY20	Actual FY21	Actual FY22	Budget FY23	Budget FY24	Budget FY25	F'cast FY26	F'cast FY27	F'cast FY28	F'cast FY29	F'cast FY30	Cumulative FY19-FY82
Revenue	**41,110**	**11,804**	**4,188**	**25,656**	**36,228**	**44,289**	**46,797**	**42,249**	**43,557**	**44,839**	**46,097**	**47,330**	**3,696,885**
Salaries and Wages	-11,946	-12,155	-11,750	-12,553	-14,122	-16,281	-18,551	-18,830	-19,112	-19,399	-19,690	-19,985	-1,775,064
Other Staff Costs & Benefits	-1981	-2,340	-1486	-2,721	-3,047	-3,397	-3,410	-3,461	-3,513	-3,566	-3,619	-3,674	-326,787
Utilities	-1750	-1235	-1469	-1886	-2,428	-2,086	-2,244	-2,277	-2,312	-2,346	-2,382	-2,417	-216,020
CAA Regulatory Fees	-1000	-283	0	-328	-1,303	-1,303	-1,300	-692	-707	-721	-734	-747	-54,837
Repairs & Maintenance	-2,158	-1,406	-1,512	-1,865	-2,857	-2,467	-2,457	-3,484	-3,592	-3,698	-3,801	-3,903	-302,260
Contracted Services	-3,534	-2,032	-3,616	-3,240	-4,083	-3,758	-3,847	-3,904	-3,963	-4,022	-4,083	-4,144	-371,976
General Insurance	-636	-851	-721	-841	-845	-847	-847	-860	-872	-886	-899	-912	-82,172
Professional /Consultancy Fees	-272	-149	-344	-726	-100	-169	-105	-665	-686	-706	-726	-746	-56,932
EBITDA contingency	0	0	0	0	0	0	0	0	0	0	0	0	0
Other expenses	-953	-684	-654	-1,056	-1,071	-1,394	-1,412	-1,322	-1,349	-1,376	-1,403	-1,430	-122,147
Total Expenses	**-24,232**	**-21,134**	**-21,552**	**-25,215**	**-29,857**	**-31,702**	**-34,172**	**-35,496**	**-36,106**	**-36,719**	**-37,336**	**-37,957**	**-3,308,197**
EBITDA	**16,879**	**-9,330**	**-17,364**	**441**	**6,371**	**12,587**	**12,625**	**6,753**	**7,451**	**8,120**	**8,760**	**9,372**	**388,688**

**FY23 includes 5 months of actual financial results to May-23 with the remaining 7 months of the financial year relating to the CIAA approved budget.*
*** Working capital movements have been assumed to be $nil from FY26 onwards given the working capital assumptions included in the CIAA approved budget are deemed to be prudent.*

Combined Cash Flow

Preferred Option

CI$'000	Actual FY19	Actual FY20	Actual FY21	Actual FY22	Budget FY24	Budget FY24	Budget FY25	F'cast FY26	F'cast FY27	F'cast FY28	F'cast FY29	F'cast FY30	Cumulative FY19-FY82
EBITDA	**16,879**	**-9,330**	**-17,364**	**441**	**6,371**	**23,715**	**24,109**	**23,768**	**19,684**	**20,603**	**21,458**	**9,224**	**1,536,222**
Less: interest	-124	-37	-30	-84	-35	-30	-30	0	0	0	0	0	-370
Working capital													
Decrease/(increase) in trade debtors	5,484	2,396	3,165	-3,005	-2,264	-5,672	-2,243	0	0	0	0	0	-2,140
Decrease/(increase) in other debtors	-3,093	3,995	-850	-3,575	-3,016	0	0	0	0	0	0	0	-6,539
(Decrease)/increase in trade creditors and accrua	-4,473	3,377	-2,014	-1,111	-291	-2,388	4,653	0	0	0	0	0	-2,247
(Decrease)/increase in other creditors	5,187	1,958	2,347	2,173	424	0	0	0	0	0	0	0	12,089
Movement in NWC	**3,105**	**11,726**	**2,647**	**-5,517**	**-5,147**	**-8,060**	**2,410**	**0**	**0**	**0**	**0**	**0**	**1,164**
Operating cash flow	**19,860**	**2,359**	**-14,746**	**-5,161**	**1,190**	**15,625**	**26,490**	**23,768**	**19,684**	**20,603**	**21,458**	**9,224**	**1,537,016**
(Purchase)/sale of fixed assets	-16,166	-37,613	-2,774	-1,566	-3,871	-22,330	-32,121	-40,564	-27,627	-66,027	-64,639	-87,740	-1,349,552
Free cash flow	**3,694**	**-35,254**	**-17,521**	**-6,726**	**-2,681**	**-6,705**	**-5,631**	**-16,796**	**-7,943**	**-45,423**	**-43,181**	**-78,516**	**187,465**
Other cash flows													
(Decrease)/increase in loans	0	13,000	7,900	18,100	11,000	-3,333	-3,333	-3,333	-3,333	-3,333	-3,333	-3,333	0
Decrease/(increase) in term deposits	-9	2,074	0	0	0	0	0	0	0	0	0	0	2,065
Other comprehensive income/(loss)	-3,884	0	0	0	-770	0	0	0	0	0	0	0	-4,654
Capital contributions	0	154	10,000	0	0	5,000	0	0	0	0	0	0	15,154
Unreconciled variance	36	13	2	0	0	0	0	0	0	0	0	0	51
Non-operating cash flows	**-3,857**	**15,242**	**17,902**	**18,100**	**10,230**	**1,667**	**-3,333**	**-3,333**	**-3,333**	**-3,333**	**-3,333**	**-3,333**	**12,616**
Total cash movement	**-164**	**-20,013**	**382**	**11,373**	**7,549**	**-5,038**	**-8,964**	**-20,129**	**-11,276**	**-48,757**	**-46,515**	**-81,849**	**200,081**
Opening cash balance	26,442	26,279	6,266	6,648	18,021	25,570	20,531	11,567	-8,562	-19,838	-68,595	-115,109	26,442
Closing cash balance	26,279	6,266	6,648	18,021	25,570	20,531	11,567	-8,562	-19,838	-68,595	-115,109	-196,959	226,523

**FY23 includes 5 months of actual financial results to May-23 with the remaining 7 months of the financial year relating to the CIAA approved budget.*
*** Working capital movements have been assumed to be $nil from FY26 onwards given the working capital assumptions included in the CIAA approved budget are deemed to be prudent.*

Business As Usual

CI$'000	Actual FY19	Actual FY20	Actual FY21	Actual FY22	Budget FY23	Budget FY24	Budget FY25	F'cast FY26	F'cast FY27	F'cast FY28	F'cast FY29	F'cast FY30	Cumulative FY19-FY82
EBITDA	**16,879**	**-9,330**	**-17,364**	**441**	**6,371**	**12,587**	**12,625**	**6,753**	**7,451**	**8,120**	**8,760**	**9,372**	**388,688**
Less: interest	-124	-37	-30	-84	-35	-30	-30	0	0	0	0	0	-370
Working capital													
Decrease/(increase) in trade debtors	5,484	2,396	3,165	-3,005	-2,264	-5,672	-2,243	0	0	0	0	0	-2,140
Decrease/(increase) in other debtors	-3,093	3,995	-850	-3,575	-3,016	0	0	0	0	0	0	0	-6,539
(Decrease)/increase in trade creditors and accrua	-4,473	3,377	-2,014	-1,111	-291	-2,388	4,653	0	0	0	0	0	-2,247
(Decrease)/increase in other creditors	5,187	1,958	2,347	2,173	424	0	0	0	0	0	0	0	12,089
Movement in NWC	**3,105**	**11,726**	**2,647**	**-5,517**	**-5,147**	**-8,060**	**2,410**	**0**	**0**	**0**	**0**	**0**	**1,164**
Operating cash flow	**19,860**	**2,359**	**-14,746**	**-5,161**	**1,190**	**4,497**	**15,005**	**6,753**	**7,451**	**8,120**	**8,760**	**9,372**	**389,483**
(Purchase)/sale of fixed assets	-16,166	-37,613	-2,774	-1,566	-1,846	-15,476	-6,371	-2,785	-2,868	-2,954	-3,043	-3,134	-489,485
Free cash flow	**3,694**	**-35,254**	**-17,521**	**-6,726**	**-656**	**-10,979**	**8,634**	**3,968**	**4,583**	**5,165**	**5,717**	**6,238**	**-100,002**
Other cash flows													
(Decrease)/increase in loans	0	13,000	7,900	18,100	11,000	-4,220	-4,220	-3,333	-3,333	-3,333	-3,333	-3,333	0
Decrease/(increase) in term deposits	-9	2,074	0	0	0	0	0	0	0	0	0	0	2,065
Other comprehensive income/(loss)	-3,884	0	0	0	-770	0	0	0	0	0	0	0	-4,654
Capital contributions	0	154	10,000	0	0	5,000	0	0	0	0	0	0	15,154
Unreconciled variance	36	13	2	0	0	0	0	0	0	0	0	0	52
Non-operating cash flows	**-3,857**	**15,242**	**17,902**	**18,100**	**10,230**	**780**	**-4,220**	**-3,333**	**-3,333**	**-3,333**	**-3,333**	**-3,333**	**12,617**
Total cash movement	**-164**	**-20,013**	**382**	**11,373**	**9,574**	**-10,199**	**4,414**	**635**	**1,249**	**1,832**	**2,384**	**2,905**	**-87,386**
Opening cash balance	26,442	26,279	6,266	6,648	18,021	27,595	17,396	21,809	22,444	23,693	25,525	27,909	26,442
Closing cash balance	26,279	6,266	6,648	18,021	27,595	17,396	21,809	22,444	23,693	25,525	27,909	30,814	-60,943

Combined Balance Sheet

Preferred option

$'000 KYD	Actual FY19	Actual FY20	Actual FY21	Actual FY22	Budget FY23	Budget FY24	Budget FY25	F'cast FY26	F'cast FY27	F'cast FY28	F'cast FY29	F'cast FY30	F'cast FY82
Assets													
Current assets													
Cash and cash equivalents	26,279	6,266	6,648	18,021	25,570	20,531	11,567	-8,562	-19,838	-68,595	-115,109	-196,959	226,523
Term deposits	2,074	0	0	0	0	0	0	0	0	0	0	0	0
Accounts receivable	8,019	5,623	2,458	5,463	7,727	13,399	15,642	15,642	15,642	15,642	15,642	15,642	15,642
Other receivables and prepaid expenses	3,600	-396	455	4,030	7,045	7,045	7,045	7,045	7,045	7,045	7,045	7,045	7,045
	39,972	**11,494**	**9,561**	**27,514**	**40,342**	**40,976**	**34,255**	**14,126**	**2,850**	**-45,907**	**-92,422**	**-174,271**	**249,211**
Non current assets													
Property, plant and equipment	168,244	201,357	199,632	196,702	196,388	213,689	241,533	282,097	309,724	375,751	440,390	528,130	1,474,643
Intangible assets	500	500	500	500	506	2,006	3,256	3,256	3,256	3,256	3,256	3,256	3,256
Total assets	**208,716**	**213,351**	**209,693**	**224,716**	**237,237**	**256,672**	**279,044**	**299,480**	**315,830**	**333,100**	**351,225**	**357,115**	**1,727,110**
Liabilities and equity													
Current liabilities													
Current portion of long-term debt	0	13,000	20,900	39,000	50,000	46,667	43,333	40,000	36,667	33,333	30,000	26,667	0
Accounts payable and accrued expenses	3,143	6,520	4,506	3,395	3,104	716	5,369	5,369	5,369	5,369	5,369	5,369	5,369
	3,143	**19,520**	**25,406**	**42,395**	**53,104**	**47,382**	**48,703**	**45,369**	**42,036**	**38,703**	**35,369**	**32,036**	**5,369**
Non current liabilities													
Long-term debt	0	0	0	0	0	0	0	0	0	0	0	0	0
Unfunded pension laibility	9,380	9,876	10,436	10,992	10,647	10,647	10,647	10,647	10,647	10,647	10,647	10,647	10,647
Unfunded health care obligations	18,183	19,645	21,432	23,049	23,819	23,819	23,819	23,819	23,819	23,819	23,819	23,819	23,819
	27,563	**29,521**	**31,868**	**34,041**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**
Total Liabilities	**30,706**	**49,041**	**57,274**	**76,436**	**87,569**	**81,848**	**83,168**	**79,835**	**76,501**	**73,168**	**69,835**	**66,501**	**39,835**
Net assets	**178,010**	**164,310**	**152,419**	**148,280**	**149,668**	**174,824**	**195,877**	**219,645**	**239,329**	**259,932**	**281,390**	**290,614**	**1,687,276**
Equity													
Contributed capital	34,675	34,829	44,829	44,829	44,829	49,829	49,829	49,829	49,829	49,829	49,829	49,829	49,829
Retained earnings	48,530	60,821	46,967	25,076	20,937	23,095	43,251	64,304	88,072	107,756	128,359	149,817	1,518,914
Asset revaluation	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649
Retained OCI	1,865	1,865	1,865	1,865	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095
Current year surplus	12,291	-13,854	-21,891	-4,139	2,158	20,156	21,053	23,768	19,684	20,603	21,458	9,224	36,789
	178,010	**164,310**	**152,419**	**148,280**	**149,668**	**174,824**	**195,877**	**219,645**	**239,330**	**259,933**	**281,391**	**290,614**	**1,687,276**
Total liabilities and equity	**208,716**	**213,351**	**209,693**	**224,716**	**237,237**	**256,672**	**279,045**	**299,480**	**315,831**	**333,101**	**351,225**	**357,116**	**1,727,111**

**FY23 includes 5 months of actual financial results to May-23 with the remaining 7 months of the financial year relating to the CIAA approved budget.*
*** Working capital movements have been assumed to be $nil from FY26 onwards given the working capital assumptions included in the CIAA approved budget are deemed to be prudent.*

Business As Usual

$'000 KYD	Actual FY19	Actual FY20	Actual FY21	Actual FY22	Budget FY23	Budget FY24	Budget FY25	F'cast FY26	F'cast FY27	F'cast FY28	F'cast FY29	F'cast FY30	F'cast FY82
Assets													
Current assets													
Cash and cash equivalents	26,279	6,266	6,648	18,021	27,595	17,396	21,809	22,444	23,693	25,525	27,909	30,814	-60,943
Term deposits	2,074	0	0	0	0	0	0	0	0	0	0	0	0
Accounts receivable	8,019	5,623	2,458	5,463	7,727	13,399	15,642	15,642	15,642	15,642	15,642	15,642	15,642
Other receivables and prepaid expenses	3,600	-396	455	4,030	7,045	7,045	7,045	7,045	7,045	7,045	7,045	7,045	7,045
	39,972	**11,494**	**9,561**	**27,514**	**42,367**	**37,840**	**44,497**	**45,132**	**46,381**	**48,213**	**50,597**	**53,502**	**-38,255**
Non current assets													
Property, plant and equipment	168,244	201,357	199,632	196,702	194,363	204,810	206,905	209,690	212,558	215,513	218,556	221,690	614,576
Intangible assets	500	500	500	500	506	2,006	3,256	3,256	3,256	3,256	3,256	3,256	3,256
Total assets	**208,716**	**213,351**	**209,693**	**224,716**	**237,237**	**244,657**	**254,658**	**258,078**	**262,196**	**266,982**	**272,409**	**278,449**	**579,577**
Liabilities and equity													
Current liabilities													
Current portion of long-term debt	0	13,000	20,900	39,000	50,000	45,780	41,560	38,227	34,893	31,560	28,227	24,893	0
Accounts payable and accrued expenses	3,143	6,520	4,506	3,395	3,104	716	5,369	5,369	5,369	5,369	5,369	5,369	5,369
	3,143	**19,520**	**25,406**	**42,395**	**53,104**	**46,496**	**46,929**	**43,596**	**40,263**	**36,929**	**33,596**	**30,263**	**5,369**
Non current liabilities													
Long-term debt	0	0	0	0	0	0	0	0	0	0	0	0	0
Unfunded pension laibility	9,380	9,876	10,436	10,992	10,647	10,647	10,647	10,647	10,647	10,647	10,647	10,647	10,647
Unfunded health care obligations	18,183	19,645	21,432	23,049	23,819	23,819	23,819	23,819	23,819	23,819	23,819	23,819	23,819
	27,563	**29,521**	**31,868**	**34,041**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**	**34,465**
Total Liabilities	**30,706**	**49,041**	**57,274**	**76,436**	**87,569**	**80,961**	**81,395**	**78,061**	**74,728**	**71,395**	**68,061**	**64,728**	**39,835**
Net assets	**178,010**	**164,310**	**152,419**	**148,280**	**149,668**	**163,696**	**173,264**	**180,017**	**187,468**	**195,588**	**204,348**	**213,721**	**539,743**
Equity													
Contributed capital	34,675	34,829	44,829	44,829	44,829	49,829	49,829	49,829	49,829	49,829	49,829	49,829	49,829
Retained earnings	48,530	60,821	46,967	25,076	20,937	23,095	32,123	41,691	48,444	55,895	64,015	72,775	412,175
Asset revaluation	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649	80,649
Retained OCI	1,865	1,865	1,865	1,865	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095
Current year surplus	12,291	-13,854	-21,891	-4,139	2,158	9,028	9,568	6,753	7,451	8,120	8,760	9,372	-4,005
	178,010	**164,310**	**152,419**	**148,280**	**149,668**	**163,696**	**173,264**	**180,017**	**187,468**	**195,588**	**204,349**	**213,721**	**539,743**
Total liabilities and equity	**208,716**	**213,351**	**209,693**	**224,716**	**237,237**	**244,657**	**254,659**	**258,079**	**262,196**	**266,983**	**272,410**	**278,449**	**579,578**

The financial statements presented above are provided for illustrative purposes only. The historical financial information provided has not been audited and is therefore draft; furthermore, multiple revisions have been made to the historical numbers during the preparation of this OBC, as well a number of unreconciled cash flow items being identified between FY19 and FY22. Therefore, the forecasts presented may be inaccurate due to unreconciled or incorrect historical financial information and furthermore, they are dependent on CIAA achieving the budgets prepared by management. Refer to the detailed list of assumptions and caveats included within the Financial Case.

7.12 Notes from second public outreach sessions

CIAA – OBC AIRPORTS MASTER PLANNING
Public Outreach Meeting II – Little Cayman

Date: 21st November 2022, LCBR Grouper Room, 5:30 PM

Reference	Meeting notes – description	Action:

001 Audience

i. The meeting started promptly at 5:30 and the total members of the public in the audience were 19 people.

002 Presentation

a) 'What we heard: Key Themes'

i. Mr. Albert Anderson opened up the meeting with a brief welcome and outline of the OBC master plan. It was noted that the content of the presentation is the masterplan consultant team Preferred Option based on the information gathered during the development of the OBC and masterplan design. This will be presented and submitted to CAUCUS and Cabinet for their review, approval and final confirmation.

ii. Philip Van Manen of Stantec commenced the presentation with a summary overview of 'What we heard: Key Themes' as an outcome of the first series of Public Outreach Meetings and survey.

iii. There were no questions or comments from the audience to the 'What we heard: Key Themes' information.

b) Project A1 Grand Cayman General Aviation Facility:

Philip Van Manen of Stantec ran through presentation for the particulars of this project.
No questions were raised by the audience.

c) Project A2 Grand Cayman ORIA terminal:

Philip Van Manen of Stantec ran through presentation for the particulars of this project.
See below questions raised by the audience.

i. **Q:** What is the teams experience in creating a new mangrove as is being demonstrated toward the east of extended runway?
A: Having call upon the knowledge of the environmental team members we understand that recreating mangroves is not a simple procedure but have precedents of success which the projects would develop in more detail and they progress into the next stages.

ii. **Q:** Could the team please explain the necessity for the extended runway?
A: The runway extension has come from feedback received from Virgin Atlantic and supported by British Airways to meet the need of longhaul, fully loaded aircraft landing distance.

iii. **Q:** Is there a plan for domestic arrival terminal?
A: We want to separate domestic from international passengers. The concept design has incorporated a separate arrivals process; but not see much difference to the departing domestic passengers.

iv. **Q:** How will passengers be protected from the elements, distance of walk to terminal – there is nothing to welcome Caymanians?
A: Mr. Anderson responded clarifying that this is no longer the case – this was an implementation that was put in place due to the COVID 19 restrictions. But as clarified in previous response domestic arriving passengers will be separated. Mr. Van Manen went on to explain that as part of the regulatory security 30m setback that is being imposed, the proposal envisages incorporating a covered piazza which connects the ground transportation and the terminal. This will also have the opportunity to house concession stores, showcasing local craft market etc…

v. **Q:** Is this a plan that is still for consideration – or is this agreed with other agencies?
A: This is not agreed to exactly yet – this is our Preferred Option that has been selected from various iterations. The CI Government will make a decision.

d) Project B Cayman Brac airport:

Philip Van Manen of Stantec ran through presentation for the particulars of this project.
See below questions raised by the audience.

i. **Q:** How do you quantify the bird hazard strike?
A: All the airports have Safety Management Systems in place which allows the operators to review and track statistics. These are reported to the Airport Authority.

ii. **Q:** How do you quantify the bird hazard strike - what level of hazard is it in Cayman Brac? I have asked Cayman Airways this question and I have not received a response.
How many have we had in Little Cayman?

A: The two CIAA airports track bird strikes, when pilots report strikes and would be able to confirm the numbers. Might not be able to identify exactly when the strike occurred but airport procedures and aircraft fuselage inspection records any strikes.
We don't have details for Little Cayman as its nota CIAA airport Cayman Airways would have that information.
Large increase in bird strikes in the last year. CIAA use different bird scaring measures such as air canon, driving vehicles to try and get the birds to move.
CIAA don't have the numbers but if recalled correctly this year in 1 month there were 9 bird strikes which is ridiculously high.

iii. **Q:** Is there any interest from other international airlines in flying into the Brac direct?
A: There is some interest but this is vague but I believe this is due to coming out of the pandemic. But there are opportunities for more air carriers to serve The Brac. The growth forecasted is not that significant and also relies on other departments such as accommodation, tourism operators offering the desired product.

e) Project C Little Cayman airport:

Philip Van Manen of Stantec ran through presentation for the particulars of this project.
See below questions raised by the audience.

i. **Q:** Where is the new airport/runway located on the island?
A: An additional layout with larger/more context was brough up which shows the new airport access road coming off Spot Bay Road. The end of the runway is West of the island dump.

ii. **Q:** When is it an aerodrome and when is it an airport?
A: Technically they are all aerodromes – an airport is certified meaning it meets standards and regulations and in our case it's the standards that are adopted by the Airport Authority. Maintaining a level of safety and appropriated standards for the size of the aircraft being utilised for paying passengers. There is an exemption in place for the current XXX airfield and this exemption will expire and need to be renewed every year.

iii. **Q:** Why has this design been displaced from previous iterations of the masterplan?
A: Trying to find the high ground, avoiding the existing wetlands and moving the proposed flightpath away from a future residential development that would be directly West of the previous locations. Allowing for a connection to the south where most of the developments are existing.
It was confirmed that the proposal is on the Airport Authority land.

iv. **Q:** Does this design meet the standards referred to earlier in this meeting?
A: The design meets all standards

v. **Q:** Why not put the new airport and runway in the existing airstrip location
A: Not an easy site many concerns object environment that will need to be dealt with and addressed as part of the design – due to obstacles there will need to be a displaced landing point; There being a street along the perimeter withing the runway strip zone; too many obstacles to meet runway regulations; aircraft comes off the apron and its tail is directly under the electrical cables; extensive land acquisition would be required; runway not in the right alignment for prevailing winds.
In the end reached the conclusion that not feasible.
Significant liabilities come with this site

vi. **Q:** Noted that Environmental concerns are being addressed in GC plan but don't see any of this in the LC design? What I am concerned are environmental issues with ploughing through virgin undisturbed land.

"Forgive me guys (referring to members of the public in the audience) but it's inevitable that the runway is going to get moved so we may as well stop howling at the moon"

What are the environmental offsets due to disturbance in the new area? Will there be designation to protecting portions of land. Member of audience actually agreed that by moving the airstrip will improve the situation with the main sea bird species.

A: Mr. Williams responds process if chosen to build new runway and EIA would be produced which would highlight all of the issues that have been described in the question. The environmental team members can further discuss with DOE, meeting taking place on Wednesday, discuss the offsets and precedent information to base upon.

vii. **Q:** Rehabilitation of the existing airstrip is this part of the masterplan?
A:

viii. **Q:** If decided tomorrow when would the new runway and terminal be up and running are we talking 3 yrs, 10 yrs, 20 yrs?
A: Depends on how the CAA react, how often are they going to re-extend the exemption. CAL doesn't want to keep operating with the small aircraft. Various factors that might influence the schedule for this. The earliest in our opinion would be 3-5 years. We can't ignore that the existing airstrip functions under an exemption so have to put forward a plan and CAA continue exemptions to a schedule.

ix. **Q:** Is there a forecast within the plans of passenger arrival number sin the future?
A: Detailed traffic forecast that included Little Cayman was carried out. Based on what is here, Tourism figures, # of rooms etc.. have informed the forecast passenger arrival numbers for 20 yr plan. Not going to grow significantly unless there is significant development, addition of resorts across the island. Could see a change from the forecast 40,000 to 50,000 /annum. What heard very clearly from out last engagement that it was not desired to have too many tourists and that the excessive development is not desirable.

The concept design is not proposing an instrument runway with 150ft wide strip and 150ft wide pavement. CAL does not want us to limit the length of runway.

x. **Q:** What is the difference between the length of existing and the proposed runway?
A: 1250ft difference between the existing and the proposed. Becomes a 20-30 seat aircraft ATR42 can carry 50 passengers which is what CAL are more interested in.

Forecast highlighted that we should consider the Dash8 aircraft trying to keep the runway small and not compromission on the environmental impact.

xi. **Q:** when previously clearing the land to the West of the proposed location encountered wetland. Is the proposal taking proper consideration in how to prepare the ground?
A: We are aware of previous experience. The proposal would be properly designed and engineered, exploring the adequate removal of organics, specifying proper granular mix to form the foundations which would be based on geotechnical investigations. Challenges are recognised and would be incorporated.

xii. **Q:** Assuming there will be Ballpark costing estimates as part of the plan?
A: This has been developed but we are not authorised to share costs with you today until the gov has a sense of what the costs for each project are

xiii. **Q:** Assume LC would be at the lower end of the costing range – Is that going to impact the Authorities priorities?
A: There will be a number of factors that would impact the decision making – not just the cost. Priorities (safety, most important need) will need to be reviewed and decided by the CI Government. This has not been done yet.

xiv. **Q:** Is there a vision in term of frequency of service to LC?

A: Excellent point is being made – There might be an opportunity to have a mix of aircraft to serve different passenger capacities that could allow a little more frequency but focus the larger aircraft for the incoming dive tourists. A system of airports – we will not revisit the discussion of ferries – regularity with a 20-30 seat aircraft. The 50 seat aircraft could be used to service other airports to free up the Jet for international destinations.

xv. **Q:** The audience all agree that there is no way that the Ferry between LC and The Brac is a good idea – 'It's a nuts idea' were the words used by one member of the audience. It's not practical.
A:

xvi. **Q:** Why are the CI airport being imposed with the 30m security setback regulation when airports like Miami do not have this restriction?
A: Mr. Albert Anderson responds to the question brought up earlier in the discussion clarifying that the setback rule. This is an instruction imposed by the UK, which is the governing body that set out the regulations for which the CI airport need to comply with and have the final say. CIAA security team have tried to get this regulation removed but have been instructed by the Governor. Miami airport doesn't fall under these regulations.

Minutes recorded by LD
For and on behalf of CG Associates

CIAA – OBC AIRPORTS MASTER PLANNING
Public Outreach Meeting II – Cayman Brac

Date: 22nd November 2022, Aston Rutty Centre, 5:30 PM

Reference	Meeting notes – description	Action:

Presentation Cayman Brac MP recommendations

- question re: future of existing park indicated as modified in future plans. Answer: no specific proposal has been developed ; existing public parking may be displaced by terminal expansion and security regulations.
- question re: plans for Frank Schilling parcel to north west of existing runway. Answer: owner has announced intention to develop private GA terminal; all proposed plans and ramp/taxiway design will have to be approved by CIAA.
- question re: filling of pond. Answer: a narrow band of existing wetland will require filling and compaction suitable for 150 m runway verge (75 m from centreline).
- question re: CKIA height above sea level. Answer: XX' AMSL (not recorded); Hurricane Paloma caused flooding of approximately 1000' feet of the runway.
-

Presentation Little Cayman MP recommendations - summary of OBC options and emphasis that existing facility is not conforming to any standards, operating on a CIAA exemption.

- question re: alternative aircraft for servicing Little Cayman. Answer: examples of various ATR models 30-50 p could replace SAAB 340.
- discussion re: bird strikes hazard, management strategies and ongoing risks for equipment, wildlife. Point made that faster aircraft may increase the hazard. CIAA safety management programme - one strategy seeks to isolate 'hotspots'.
- discussion re: general effectiveness of CIAA public engagement. Member of public offered compliment the " ...you (CIAA) listened" particularly with regard to wildlife concerns. Presenter added that further meetings with DoE scheduled and that any plans will require EIA in key natural areas.
- discussion re: "Green Book" guidance - brief explanation to attendees of UK FFR procedures and intention of GB format (KPMG).
- question re: efficiency of existing CKIA space plan. Answer: 20 year expansion will require more hold room and security space to accommodate larger passenger volumes. These changes are not imminent but will be necessary (AA-CIAA)
- question re: 75m centreline safety margin a new requirement? Answer: no however existing facility continues to operate on exemption from CAACI and will require remediation to meet international regulations.
- discussion re: 'quaintness' factor of LC airstrip. Point reinforced that potential risks are enormous and cannot be borne by CIG. Preferred option of new airfield / terminal makes sense since it is proposed for land already owned by CIG. (AA-CIAA)

CIAA – OBC AIRPORTS MASTER PLANNING
Public Outreach Meeting II – Grand Cayman

Date: 23rd November 2022, JGHS Hall, 5:30 PM

Reference	Meeting notes – description	Action:

001 Audience

ii. Approximately 34 people in the audience.

002 Questions and Answers

f) Project A1 Grand Cayman General Aviation Facility and Project A2 Grand Cayman ORIA terminal:

Philip Van Manen of Stantec ran through presentation for the particulars of this project.

No questions were raised by the audience.

i. Minister Bryan took to the stage to expand further on the new proposed roundabout to the north of the new parking building. Wanting to ensure to the public that the connectivity to the bypass future expansion will be able to facilitate the growth in our economy and tourism product. Mindful that traffic will come along with that but assure the public that engagements with the agencies including

NRA to ensure that the proposed masterplan has been reviewed and looking to mitigate on any problems.

- In response to a question from the audience it was confirmed that the proposed parking structure is multi-level. The proposal is that this houses parking as well as car rental.

ii. Marine dock: Minister Bryan also wanted to highlight the proposal including for the government's consideration a marine dock to the North Sound. Potential offering for both the high-net-worth GA passenger or even passengers on commercial flights who could take the opportunity to avoid traffic or be part of the exclusive experience.

- EIA and environmental surveys would take place for such projects.
- Fire dock could also be relocated away from the runway strip

iii. **Q**: Timeframe - confirmed that the masterplan is for 20 years. Not determined when these projects are going to take place but recommendations on phasing are being developed as we speak to be submitted to government for their approval.

iv. **Q**: Question was raised regarding the radar, licence agreement being expired. Mr. Anderon confirmed that the dome licence has expired but radar has been renewed until 2025.

v. **Q**: How long has the current terminal been in place and we are now proposing and expansion to it – did we throw all the money in the garbage.
A: Terminal was opened in 2019. The renovations to the terminal have not been in vain the terminal has good bones, its been gutted, has good structure and coms and the masterplan proposes to modify and improve it. Creating space on ground and second expanding to the runway side, moving security upstairs.
Runway is not moving it is extending into the North Sound.

- Minister Bryan adds to say that we are victims of our own success and the Cayman tourism product has grown. Model not best – Sat Sun are our peak days all airlines come at the same time nothing we can do to that – forced to accept airlines from the US at the times they want to come. If we could have managed this schedule we would would have done that as opposed to need further extension but that has not been possible.
- Expansion is therefore trying to diversify the tourism product, such as attracting more long-haul flights / red-eye that can arrive at the terminal on different days/times.
- Foresight and planning is what is being proposed based on the growth pattern and recommendations being put forward for this administration to make the decisions on how they want to act.
- Commitment was given by Minister that there will be strong scrutiny in reviewing the financial positions.

vi. **Q**: Statement was made that before this terminal was built the comments were made that this was being built in the wrong place.
A: As part of the OBC requirement a long list of options from Status Quo to move the airport to the east End have been reviewed. This is the Preferred Option and consultants respond noting that this is where the current masterplan is starting from.

vii. **Q**: Current terminal what we are doing about Health, safety security Covid emergency and hurricanes. Short term plan
A: CIAA did a very good job met all the international standards – aligned with he HAS chief medical officer – handled quite well.
Security audited twice a year aviation security and safety is taken very seriously. Report every 60 days
Some areas, particularly in Cayman Brac and Little Cayman are being proposed to address regulatory and safety shortfalls.

viii. **Q**: Land reclamation and runway extension into the North Sound – stated that 90% of the airport traffic is regional and does not require this runway extension.

What are the mechanism being looked at to finance this extension – making users pay. Example Europe carbon taxing.

A: As mentioned earlier expansion of the airport is essential, if this was in place we could increase the incoming long haul passengers to something like 20% instantly. GC has one of the shortest runways in the Caribbean so we are losing airline interest based on the length of the runway.

g) Project B Cayman Brac airport:

Philip Van Manen of Stantec ran through presentation for the particulars of this project.

See below questions raised by the audience.

iv. **Q:** Are the masterplan proposals incorporating changes to facilitate the Brac being an international airport?

A: No – International regulations we will identify all the requirements and applicable standards, recommended practices. Currently exemption in place but there needs to be a plan to rectify these. CAA doesn't want to keep an exemption in place for ever

v. **Q:** Balance between environmental aspects and development.

A: The proposal tries to find a balance between the requirements, demand, regulatory issues and maintaining environmentally sensitivity.

Brac has tourism that is specific to bird watching

h) Project C Little Cayman airport:

Philip Van Manen of Stantec ran through presentation for the particulars of this project.

See below questions raised by the audience.

xvii. **Q:** Statement made regarding the 2002 previous masterplan – clearing works, preparations carried out fully prepared for the development. Gov of that day halted the works.

A:

xviii. **Q:** Reason for the work not progressing was due to wetlands, swampy area – landing strip cannot take the weight.

- Gentleman in the audience (that made previous statement) interjects and state that this is not true. Provided explanation regarding the filling and history of previous works carried out

A: Stantec replies to question stating that in discussions with DOE the entire area is seasonally wet; masterplan development takes into account the identified area of wetland, runway location adjusted to suit the development. However, when the decision is made and design is progressed a detailed survey to include geotechnical studies, survey or area, EIA would need to be carried out. Many government agencies would be involved if this project would go ahead.

xix. **Q:** What is the plan for the access road to the new airport.

A: Concentration of tourism sites along the south coast, access will be gained via Spott Bay rd. majority of the traffic. The positioning of the proposed runway has also been located to avoid flight path being directly over the new residential complex to the West.

- Gentleman in the audience adds that access on previous masterplan was proposed from the North side because it was higher ground level. Also at the time the large piece of property it was subdivided Gov North to airport authority and southern portion to Public Works. So that's why access came from the N.

xx. **Q:** In new facility (seaplane base) thought being given to non-Cayman Islands traffic

A:. No – This will be a domestic flight only airport – flights from Grand Cayman or Cayman Brac only.

xxi. **Q:** In respect to sea planes that have been mentioned as options – isn't there a regulation that does not allow for sea plane operation?
A:. No. A private float plane can legally land on the waters.

xxii. **Q:** Customs facility to the airport?
A:. There is a designated airport regulation, it will be up to the gov of the day to designate accordingly

xxiii. **Q:** Cargo – items such as material for DIY, food supplies etc coming by air? Lady in the audience added point regarding security and screening of cargo / quarantine areas. Invasive species plants and animals.
A:. Cargo can be easily managed via air.
Minister Bryan adds that this terminal because not taking international cargo there won't be a requirement however considerations need to be made for the agricultural perspective.
DOE has been involved all the way through the design development process.
Proposal to incorporate considerations, there is enough space and quarantine facilities can be incorporated.
Security screening process, which currently does not take place in LC, we have been told has to be a part of the proposed design

xxiv. **Q:** Sounds like there is an urgency with the Little Cayman current situation, are we working on a shorter projection?
A:. Minister Bryan has made it a priority to his government members to resolve the Little Cayman situation – it needs to be addressed. Strong steer. Respect the sentiment from the people in LC who do not want much changes – but the regulatory obligations may take precedence.
Phasing for each component will form part of the masterplan proposal – noting there will be an overlap between projects and components addressing regulatory and operational issues.

- Mr. Smith Director General of CAA added to the response LC is a priority as they are operating under an exemption and this exemption is not perpetuity at some point has to be corrected. Acceptable level of safety – but as has been presented the current airstrip does not meet any regulatory or safety standard. This is a liability for the government, Cayman Airways and the land owners.

xxv. **Q:** Cost increase with having an international regulated airport. Why not consider only having GC as international?
A:. For safety perspectives there are differences in the aerodrome regulatory requirements and standard if domestic or international. But the difference would be on the airport designation so would only have an implication on cost.
Minister Bryan contributed to the answer adding that Cayman Brac is an opportunity currently failing to accept the opportunities in Brac. Gov policies growth perspective and diversification Brac offers the best opportunity for growth. Different product from GC and allows us to start over and do things the rights way.
It the intention t=from me as the minister to grow the product in Cayman Brac –
It has been mentioned that we almost have an agreement with AA to fly direct to Cayman Brac.

xxvi. **Q:** GC development where is the leaver on how many hotel room vs. how big does airport need to get? Expanding airport where are they going to stay
xxvii. **A:**. Gov wants to expand in tourism – new hotel products (5 mentioned 2 end of 2023) estimated over 1000 extra rooms in the next couple of years.

Push to get more but diversified tourism. Not on Seven-mile beach – Wellness hotels, sustainable and environmental tourism. Move the tourism congestion to the eastern side. The smaller companies/locals would also benefit from this move east. Natural product we have in Cayman Islands

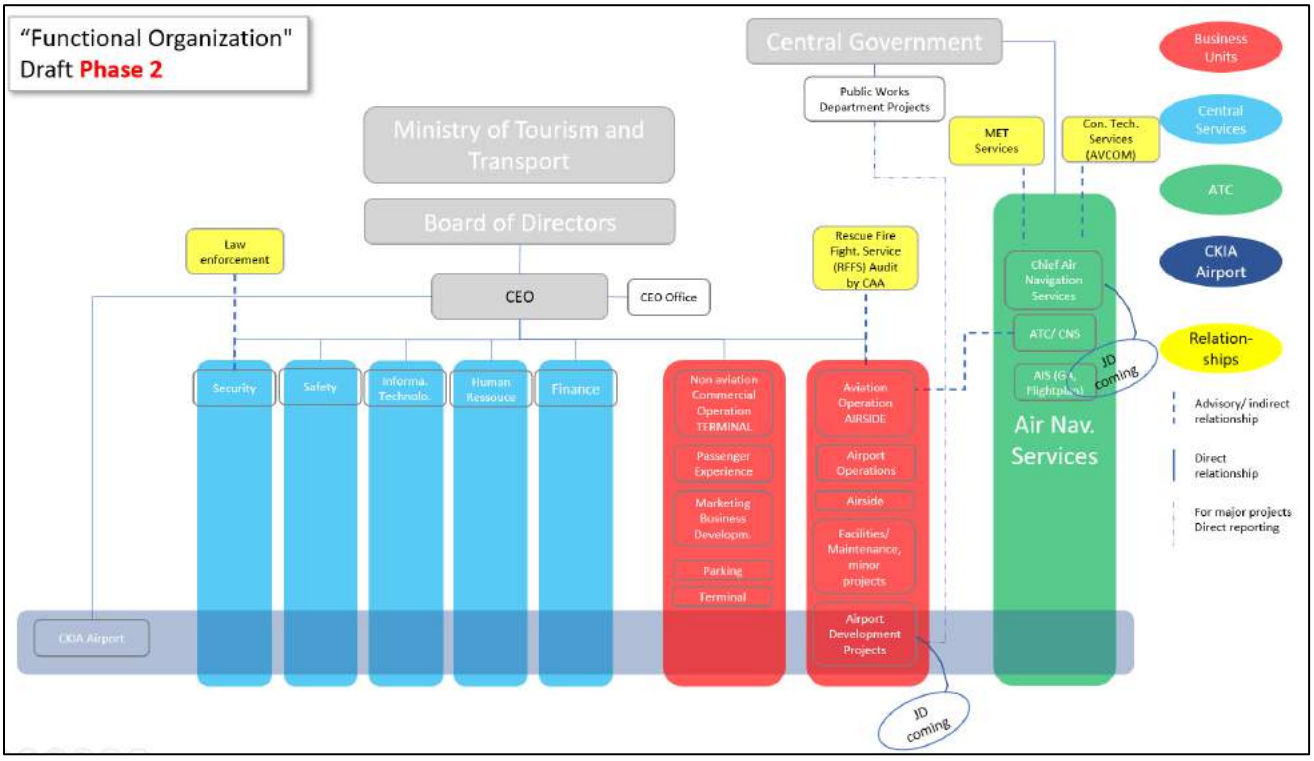
- If financial services were to fail tomorrow all we have is each and every one of us and the natural environment of our islands.
- Not going down the line of the cruise pier so the Cruise tourism is reducing a 25% in the next couple of years.

Development has to be done the right way not dependent on the one market (US), which is what we currently have. We have to focus on growing and diversify our market – not put all of our eggs in one basket.

Vision has to work with this development in order to get those gateways open for us. Feedback received on recent international market engagements has identified Cayman Islands limitation and a lot of them have to do with our airports.

Minutes recorded by LD
For and on behalf of CG Associates

7.13 Airport Organisational Structure



7.14 Procurement route approval – Meeting Minutes

CIAA Airports Development Project
Steering Group Meeting Record

Ministry:	**Ministry of District Administration Tourism & Transport**
Meeting Title:	**CIAA - Steering Group Meeting**
1. Date/Time of Meeting:	**Scheduled: Thursday 17th November, 2022 2:00 – 4:10 pm**
2. Location:	**ORIA : Board Room and Virtual**
3. Attendees:	**Steering Group in Person:** Roy Williams ((RW)); Albert Anderson (AA); Eimer Powery (EP); **Virtual Attendees:** Charles Clifford (CC); Fabian Whorms (FW); **Board Members present:** Stran Bodden (SB) **Guest/s:** Philip Van-Manen (PVM - Stantec); Sam Story (SS - KPMG); Jack MacKenzie (KPMG); Wil Stewart (WG- Chalmers Gibbs)
4. Purpose of Meeting:	**Steering Group Meeting:** Chair – Stran Bodden (SB) Secretary – Roy Williams

Not present: Jonathan Jackson (JJ); Rosa Harris (RH); Dwight Rankin (DR); Karen Batiste (KB)		**Action**
	Approval of the October meeting minutes: No comments and minutes were accepted	**No Action**
	Airports Development Project	
	The Committee were given an update on the 2nd Public Outreach Sessions: • Firstly, it was confirmed to all members that the 2nd Public Outreach sessions are scheduled for the 21st November in Little Cayman, on the 22nd in the Brac and the final public outreach on Grand Cayman on the 23rd. RW stated that the week was scheduled to be a busy week as the Board meeting is on the 24th and the goal at that meeting is to update to the Board all the collected public comments from the outreach sessions. RW/PVM gave an outline of what is to be presented to the public. The public survey results will be shared followed by a presentation on the airport/s preferred conceptual layouts for all three islands. As the Little Cayman preferred option is to relocate and build a new airport that is potentially contentious, the session will include the alternative concepts for the island so that a broader perspective can be received from the session public attendees on what they would prefer to see happen to their island with respect to connectivity.	

- SB requested confirmation that the presentation deck to be used at the public outreach session should not include any financial data. RW confirmed that this will be the case and only airport layout diagrams will be shown.
- PVM continued the meeting with a presentation to the committee showing the slides that will be presented to the public. A description was given on the presentation format. The presentation will follow the KPMG OBC format describing the projects A.1; A.2; B and C. RW confirmed that the public presentation slides are attached to these minutes.
- A description was given to the committee of the conceptual in-transit processing area. This will be located on the 2nd level and adjacent to the main security-screening checkpoint. CC requested confirmation where the CBC administration area would be in this plan. PVM stated there are various options for admin areas; however, at this level of conceptuality this area is not shown and will be recognized in a more detailed design plan. PVM continued with a description on how a passenger is to be processed from exiting the aircraft through to the immigration hall.
- PVM gave a brief overview of the Brac infrastructure projects and closed with an overview of the proposed relocated Little Cayman airport.
- PVM confirmed that the proposed new runway strip on Little Cayman could be made wider in the land available to accommodate an instrument runway. Originally, the plan was to have a daytime, non-instrument runway, however, the CIAA requested to include an instrument runway as this would improve safety. FW interjected that it is very advantageous to be able to land an aircraft after sunset. PVM confirmed that lighting would be included in the design to allow nighttime operations if required by authorized users. PVM reiterated that it would be recommended in the master plan that aircraft movements would be outside of any migratory bird feeding patterns to reduce the risk of bird strikes. Nighttime operations should be kept to a minimum and for essential movements, such as a medevac only. FW concurred that this is a good recommendation.
- FW revisited the issue of the runway length and asked if there was any development on extending the runway design length from 1,199 meters. PVM stated that this was reviewed, however, if the runway was to increase from the conceptual length of 1,199meters this would increase the category of the airport to a code 3C runway. This will require a much wider runway strip and larger areas at the end of the runway, which will have greater environmental impact. PVM added that a longer runway could be added in the master plan as an option and to be discussed during the design stages based on need. It should be noted that the 2014 master plan drafted by WSP also indicated and aligned with Stantec is proposing a code 2C runway of 1,199 meters. PVM continued to outline that a code 2C runway length of 1,199 meters will accommodate an ATR-42-600S aircraft, which Cayman Airways have indicated that they are interested in purchasing. FW added, however, that the restricted length does reduce the choice of aircraft that Cayman Airways can add to their fleet and will end up being the deciding factor. A longer runway would allow more choice of aircraft. FW requested that the master plan show two options of runway length to reduce the cornering of future decision making on type of aircraft that could be added to the Cayman airways fleet. AA suggested that the goal for Cayman Airways would be to have a runway suitable for one aircraft that could operate out of all three islands reducing the need for more than two types of aircraft in the fleet. FW confirmed that this would be much more efficient for a number of reasons. There would be one set of crew, one set of maintenance, training etc. FW continued and asked what would be the runway landing distance on an 1199-meter runway and whether the length included a RESA. PVM explained that the take-off and landing distances are the full 1199 meters and the RESAs at each end are in addition the runway length.

- FW enquired if there was any plan to add fuelling capability on Little Cayman. He added that the reason why a fuel farm could be advantageous is because the weight at which aircraft currently land is in relation to the runway distance available and as there is no fuelling capability the aircraft has a heavier fuel load, which is required for diversion if needed, requiring a longer distance. PVM added that there was no consideration given for a fuel farm, however, this will be given some consideration in the master plan.
- With respect to the terminal, PVM confirmed that on Little Cayman a security screening area would be added. AA added that the foundation for this requirement is due to the weight of the aircraft. Any aircraft weighing over 10,000kg requires screening capability within the terminal.
- FW enquired about the cost of the new terminal. PVM confirmed that the estimated cost would be approximately $42M.
- SS reiterated that the public survey and the 1st round of public outreach sessions, especially on Little Cayman, the comments were negative towards a new airport. Before conducting the 2nd outreach sessions, the presenters should be prepared with answers for all the reasons why a new airport is the preferred option. RW advised that all concepts will be presented to the public on Little Cayman and the goal is to draw out their comments and preferences on which concept is acceptable.

The Committee were given an update on the progress of the Outline Business Case:

- A slide show was presented by KPMG. The OBC has been drafted to correlate with the master plan concepts. SS advised that the draft OBC has been submitted to the CIAA (RW) for review and that preliminary review is scheduled to be complete by 18.11.2022. Comments will be taken into consideration and a final document will be presented for review to the Steering Committee no later than the 30.11.2022. This review period will close at the next Steering Committee meeting, scheduled for the 08.12.2022 and then the approved document will be presented to the Board on the 15.12.2022 for final approval. Once approved by the Board the final document will be presented to the Minister of Tourism.
- AA asked for confirmation as to who will be presenting to the Board at the November meeting (24.11.2022). RW confirmed that the consultant team would be present to give an update to the Board on developments only. No approvals at this Board meeting are required. AA advised that there would not be too much time available at this meeting due to the large content of the meeting. RW advised he would keep the presentation to a minimum.
- SS continued outlining the foundation of what the OBC is based on. The 5-stage Green book model. The OBC describes the Strategic Outline Case which identifies the case for change, the Economic case is about the long list of potential projects and developing the short list, the Commercial Case which will identify the preferred procurement route, the Financial Case which will outline the affordability of the project and the Management Case which will explain how the projects are delivered.
- SS gave an overview of the Strategic case and the need for expansion on both Grand Cayman and the Brac to answer capacity constraints. Branding needs improving, especially at the GA terminal and give visitors the Caymanian feel. This should apply to all terminals. Regulatory constraints are identified in the OBC, especially on Little Cayman and the 30m rule at ORIA. The OBC will note the competitor islands and their efforts to improve their tourism industry. This will identify the need for change at ORIA to address this competition and address any potential loss of tourism to other islands. There are regulatory concerns that need to be addressed. Little Cayman does not meet any regulations and CKIA have runway RESA and strip width issues

- The Economic Case described in the OBC is a summary of the SWOT analysis and will include a risk and cost benefit analysis. This will shorten the long list of options, arrive at the short list, and henceforth lead to the preferred option.
- JM reminded the committee that the preferred options were approved by the steering committee at the October meeting and are as follows: Project A.1 – Option 6 – locates the GA in the east. Project A.2 – Option 4 – develop airside and landside to cater for passenger forecasts. Project B – Option 5 – Upgrades and Expansion to airside and landside infrastructure. Project C – Option 4 – close existing airfield and relocate
- SS continued to explain that the commercial case outlays what the project delivery options are for each project. Typical delivery methods are a Design Bid Build (DBB) approach, A Design Build (DB) delivery or a Public Private Partnership (PPP) route. SS stated that for KPMG to move forward on the OBC a preferred procurement route for each individual project needs to be approved by the Steering Committee today.
- The Financial case looks at the affordability envelope. As the SOC had no affordability target, this OBC will layout and ask the government for a certain level of funding to be approved for each individual project. The OBC outlines a total spend of approximately $653M, however the OBC will set a range of the funds projected from $625M to 685M to complete the projects. The reasoning behind this is that when the individual projects are executed and the cost exceeds the predicted estimates and generally they will cost more, the Final Business Case (FBC), for that particular project, will have to justify affordability and confirm their value for money. The FBC will generate actions that could reverse the cost, such as value engineering the project, so that the project could revert within the affordability envelope.
- AA had a concern that the $653M was projected over a 20-year plan and inflation over that period would increase these numbers and asked if this had been a consideration in the OBC. JM confirmed that this is the case and inflation factors are included for the project schedule outlined in the OBC. SS explained that the FBC would include any explanation of cost increases if in the event the project/s were delayed over a greater period and bring the estimates "up to date".
- SB interjected and advised that an informal discussion with the Steering Committee and the Board was required on the phasing of the projects prior to presenting to Cabinet. The projects would have to be prioritized as it is impossible that $653M would be granted by the government in any short term, therefore the spend needs to be prioritized over a period of time that it is acceptable. AA added that the last OBC did have a project prioritization schedule by year and it is the expectation that this will be the case in this OBC. SS confirmed that would be the case. SB continued and advised that the OBC has to have a reasonable approach to year over year spend that the Authority is able to manage.
- AA added that the projected estimates are high and from a public perspective, the public does not understand the high cost of airport development. AA requested that, if possible, if there a way of "softening" the costs, for example the terminal cost of approx. $400M, be reduced into a per square foot cost and relate these costs to other comparable airport developments. SB added that there is a need to show in the OBC the breakdown of costs as to how these figures were determined.
- SS continued to outline the Authority's cash on hand of approximately $9M and an unused government debt facility of approximately $29M. The remainder of funds required would have to be from a government-backed source. It is important to realize what the government is willing to offer as options such that planning of the phasing of projects can begin. This will allow KPMG to smooth out the cost allocations by year.

- SB added that it is unclear as to what Cabinet would support in the way of annual capital spending, however, what is clear is that the capacity issues of ORIA are returning, post pandemic, and resolutions will need to be found. SB noted that it his perspective that ORIA and any related capacity projects are the priority over any projects on the Brac.
- RW added that it is from his perspective that the GA project A.1 is not a priority. The capacity issues within the terminal area and cover from inclement conditions are more important. AA interjected and advised that the GA terminal project is a Government Strategic Policy and should remain as the priority.
- RW concluded by confirming that RW, PVM and AA would meet to discuss the priorities and revert to KPMG with a list of prioritized projects.
- SS continued to outline the Management Case that will confirm that all of the projects would be conducted by the CIAA and will include Little Cayman. The management of the construction of the projects will remain with the PWD. The main objectives of the Management Case is to ensure that any construction project is done on time and within budget and accountability and responsibility of the project deliverables is understood and known from the onset. The OBC will outline the need to have continued public and stakeholder engagement throughout the projects to ensure that the projects unfold to expectations. SS added that the FBC would effectively detail how the monitoring of the benefits and risks of the project will be performed.

The Committee were requested to approve the delivery method for all four projects:

- A discussion on the available delivery models and the advantages and disadvantages to each delivery route. The discussion concluded with the Steering Committee approvals as follows:

Project Delivery Model Steering Committee Approvals Table

		Project			
Committee Member		A.1	A.2	B	C
		G.A.	ORIA	CKIA	LCY
Preferred Delivery Route		DB	DBB	DBB	DBB
Alternative Delivery Route		PPP	DB	DB	PPP
Stran Bodden (Chair)	*MoTT*	✓	✓	✓	✓
Albert Anderson	*CIAA*	✓	✓	✓	✓
Rosa Harris	*DOT*	A	A	A	A
Fabian Whorms	*CA*	✓	✓	✓	✓
Dwight Rankin	*CIFS*	A	A	A	A
Eimer Powery	*CIAA*	✓	✓	✓	✓
Karen Baptiste	*CIAA*	A	A	A	A
Charles Clifford	*CBC*	✓	✓	✓	✓

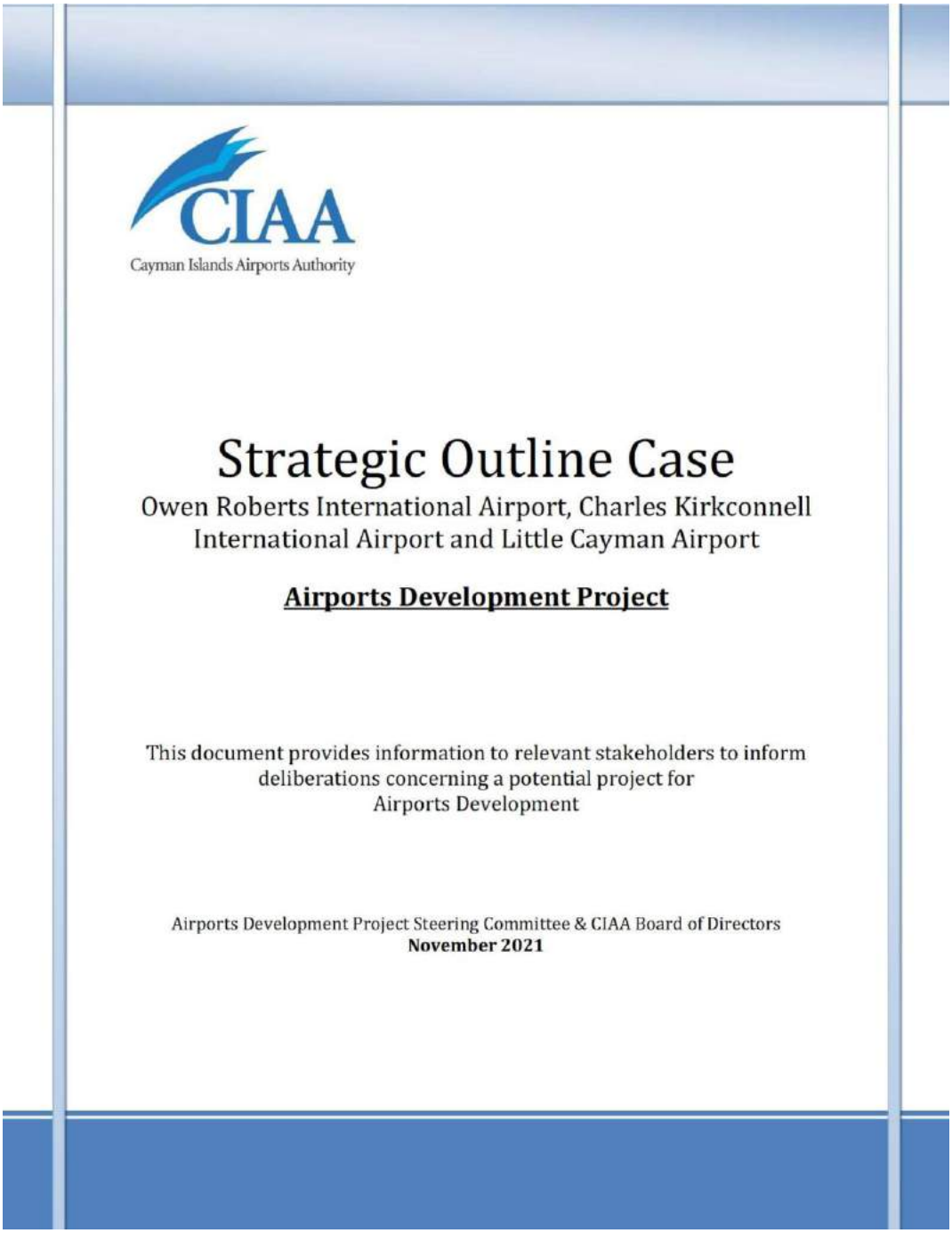
A= Absent

DBB = Design Bid Build
DB = Design Build
PPP = Public Private Partnership

- SS added that if it was determined in the future that an alternative delivery model was recommended this alternative would be outlined in the OBC for action if required.
- The OBC is currently under review by the PWD and RW will revert to KPMG by end of day 18.11.2022. Projected submittal to the Steering Committee by 25.11.2022. The Board meeting on the 24.11.2022 will consist of a project update only.

	• SS advised the Committee that there is <u>not</u> a requirement of an OBC approval from the Board. Once there is a Steering Committee approval then a presentation to Cabinet can commence. SB interjected that the Board will need to approve prior to submittal to Cabinet. • RW outlined the schedule leading up to presentation to the Cabinet. Key milestone dates would be to submit to Steering Committee the draft for review by 25.11.2022. The final draft by the 08.12.2022 with a view to approve. Submission, with revisions, to the Board by the 13.12.2022 and Board approval at the Board meeting scheduled on the 15.12.2022. Submission to the Minister to follow on the 16.12.2022. It is expected that the presentation to Cabinet would now be in first quarter 2023. • PVM requested an answer on whether the 3D renderings of the four projects were required. All agreed that this would be a good thing to have prior to the presentation to Caucus; however, nothing should be done until the public outreach sessions have been concluded and no changes to the concepts are envisaged. The cost for these renderings is approximately $6K. • The Steering Committee meeting terminated at 4:10pm	
	END OF MEETING RECORD ***Next Steering Committee Meeting:*** ***8th December, 2022***	

7.15 Strategic Outline Case



CIAA
Cayman Islands Airports Authority

Strategic Outline Case

Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport

Airports Development Project

This document provides information to relevant stakeholders to inform deliberations concerning a potential project for Airports Development

Airports Development Project Steering Committee & CIAA Board of Directors
November 2021

Airports Development Project
Strategic Outline Case
Table of Contents

Definitions

ASSI	-	Air Safety Support International
ALP	-	Airport Layout Plan
BA	-	Business Aviation
CEO	-	Chief Executive officer
CAACI	-	Civil Aviation Authority Cayman Islands
CBC	-	Custom and Border Control
CFC	-	Cayman Flying Club
CIAA	-	Cayman Islands Airports Authority
CIDOT	-	Cayman Islands Department of Tourism
CIG	-	Cayman Islands Government
CITA	-	Cayman Islands Tourism Association
COVID	-	Corona Virus Disease
CKIA	-	Charles Kirkconnell International Airport
DOE	-	Department of Environment
DOEH	-	Department of Environmental Health
FFR	-	The Framework for Fiscal Responsibility
GA	-	General Aviation
GDP	-	Gross Domestic Product
GHSP	-	Ground Handling Service Provider
HNW	-	High Net Worth
HSA	-	Health Services Authority
ICAO	-	International Civil Aviation Organization
LCA	-	Little Cayman Airport
MET	-	Meteorological Office
MRCU	-	Mosquito Research Control Unit
NCC	-	National Conservation Council
NRA	-	National Roads Authority
OBC	-	Outline Business Case
ORIA	-	Owen Roberts International Airport
PFC	-	Passenger Facility Charge
PMFL	-	Public Management and Finance Law
PPP	-	Public Private Partnership
PWD	-	Public Works Department
SITA	-	Sister Islands Tourism Association
SOC	-	Strategic Outline Case
SPM	-	Senior Project Manager
TT	-	Travel and Tourism

CAYMAN ISLANDS AIRPORTS AUTHORITY
STRATEGIC OUTLINE CASE

Project Title: Airports Development Project

Sponsoring Ministry: Ministry of Tourism and Transport

Senior Responsible Officer: Chief Officer, Mr Stran Bodden

Signed: **Date: November 2021**

Introduction:

We are seeking approval from Cabinet to validate this Strategic Outline Case (SOC) for the Airports Development Project and to proceed to develop an Outline Business Case which will outline what is the necessary infrastructure required at Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport through the process of developing a new Airports Master Plan which would include an analysis of a new General Aviation (GA) Facility at Owen Roberts International Airport.

The Cayman Islands are served by three airports; Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport. All three airports cater for commercial and general aviation traffic and at the end of 2019; leading up to the COVID pandemic era, the commercial, business and tourist sectors had increased, specifically putting stress on the airports systems and their infrastructure. The exact scope of development for Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport will be determined as part of a substantive Outline Business Case (OBC) process and is beyond the scope of this document, however, the prioritization and phasing of any proposed works will be of key importance. The plans for Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport should include energy efficient design and make use of all available natural energy sources to reduce overall operational costs over the long term. Included in the airports infrastructure development, a crucial element of the Cayman Islands Government's (CIG) Strategic Policy Statement is to enhance or rebuild the current GA Facility at Owen Roberts International Airport. The CIG has outlined in their policy that there needs to be a main focus on attracting the "High Net Worth" (HNW) individual to the islands and that the current GA Facility is old and outdated and is not a good representation of the island from a luxury brand perspective.

The mechanism to identify solutions to the stressors, sustainability options, and necessary infrastructure expansion, including a new General Aviation Facility at Owen Roberts International Airport, is by developing a new updated Airports Master Plan.

The current Airports Master Plan was issued and approved by Cabinet in 2014. This document has been the guide for the most recent infrastructure developments that have been completed over the last 7 years. For example, the 2014 plan recommended that a new commercial terminal was required with larger capacity and this was completed in 2019. The plan highlighted the urgency to strengthen the runway and this was completed in 2020. Other infrastructure improvements outlined in the 2014 plan have been completed, however, this plan is now considered dated and in need of replacing. It is common practice and is recommended that all airport master plans should be updated or renewed every 5 to 7 years (it may be argued that the Owen Roberts International

Airport has seen such aggressive passenger growth year over year that a new updated plan may be needed every three years). We are now reaching the end of 2021 and we are at the upper limit of this range, therefore a new Airports Master Plan is required to ensure that an airport roadmap is in place that aligns with the CIG Strategic Policy Statement and Cayman Islands Airports Authority's (CIAA) goals that will be identified in the OBC.

The CIAA will follow the proper open, transparent and competitive procurement processes ensuring value for money in the search for consultancy services to produce an Outline Business Case.

Section 1: Project Overview:

The intent of sourcing a consultant is to secure, in a substantial, complete and professional manner, all necessary professional services to write an OBC for the Airports Development Project in an effort to have the CIAA continue to be a centre for aviation excellence. The OBC will outline the following:

a) The need to develop an Airports Master Plan to provide a strategic framework based on sound research to guide the Cayman community in future business decisions with respect to Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport.
b) Advise the best solution for a new GA Facility by identifying the ideal location and procurement method that will best optimize GA airport revenues, enhance the high net worth passenger experience and provide adequate parking and storage facilities for GA aircraft.

It is clear that the Airports Development Project requires an Airports Master Plan to identify objectives, including a new GA Facility at ORIA, with actions that are tangible and achievable and within the financial capabilities of the CIAA to implement in any given time. The plan will be developed with strong direction and commitment from the CEO of the CIAA, the CIAA Board of Directors, the Airport Steering Committee, the aviation community at large and input from external commercial organizations. It is envisioned that the Airports Master Plan will provide the CIAA the context in which to make decisions, address new initiatives, and explore opportunities that will facilitate the long range development of the Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport. In addition to this, the Plan will forecast out at least 20 years and provide an analysis of air service traffic growth, the nature and mix of this traffic, airport facility requirements, necessary infrastructure, location of airport services, land appropriation requirements, an updated land use plan, neighbouring land uses, aids to navigation, ground transportation access, environmental issues, and noise and its effect on the community. Importantly, the Airports Master Plan will provide a detailed financial management plan for all future capital improvements and program initiatives. Public consultation and outreach will be required, using the best approaches to gather public input and support.

Section 2: Strategic Aims, Needs, Objectives and Constraints

Project Aim:

The success of the Travel & Tourism (TT) industry prior to the COVID pandemic and the expected return of tourism post COVID is important for Cayman, as measured by several metrics including long-term growth, total contribution to GDP, capital investment and contribution to employment.
TT contributed $1,100M, or 25.5%, of Cayman's GDP in 2019. This figure represents a 3.5% increase over the 2018 TT contribution to GDP. A large majority of travel to the Caribbean Islands, and particularly to Cayman, is for leisure. Of the $650M in international visitor spend in Cayman, 87% goes toward leisure spending, while the remainder is business spending.
Though the 2017 hurricanes have caused some temporary inflation and relative growth in Cayman, the following statistics focus largely on the magnitude and growth of travel & tourism within Cayman:

- Forecasted long-term growth of TT for the Cayman Islands, measured through the industry's direct contribution to GDP, is 4.5% p.a. from 2018 through 2028. Cayman's forecast TT growth is the third highest among competing Caribbean destinations, behind only Antigua & Barbuda and St. Kitts & Nevis. The Caribbean average forecast TT growth rate is 3.6% p.a., almost a full percentage point lower than that of Cayman.

- Of all capital investment in Cayman, 23.9% went toward TT in 2017. This investment is nearly double the Caribbean average of 13% and the second highest among competing Caribbean destinations, behind Antigua & Barbuda's 41% investment in TT.

- TT's total contribution to employment has risen by ten percentage points, up to 31%, during the ten-year period between 2007 and 2017. This percentage contribution is around the average of Caribbean Islands, but is the third largest growth after Aruba (up 22 percentage points, to 87%) and the formerly Netherlands Antilles (up 14 points, to 42%).

However, the COVID pandemic has been instrumental in changes on how tourism is managed on other islands as they realign their commitment to tourism. Regional competitor countries such as Jamaica, Bahamas, Barbados, BVI, Aruba and Turks & Caicos Islands, having recognized the need for airport growth, have made or are in the process of making the relevant investments and incentives to position themselves for future expansion of their tourist industry. Unfortunately the Cayman Islands are not maintaining its competitive edge in this regard. Although there have been major renovations to the commercial terminal completed in 2019, there are still capacity constraints. Passenger numbers in 2019 reached record numbers and leading up to the COVID pandemic, March 2020, the expectation was that 2020 would surpass 2019. The 2014 Master Plan identified that the numbers that were realized in 2019 would trigger additional development of a new terminal renovation/expansion at CKIA or ORIA or the process of developing a new terminal at ORIA to support the rising passenger numbers. The strategic aim of the Airports Development Project is to have an OBC that recognizes these projections with updated information. The process to obtain this information is through an Airports Master Plan.

The increased development of the airports is an important growth strategy for the Cayman Islands tourism market and business sector. Additionally, rising medical costs in the USA are driving medical tourism and this sector is expected to rise with two additional hospitals coming on line in Grand Cayman over the next three years which will inevitably add to increasing passenger

numbers. As such, a new master plan will be supported by key industry stakeholder groups such as Airlines, Cayman Islands Civil Aviation Authority (CICAA), Cayman Islands Department of Tourism (CIDOT), airport ground handler service providers, Customs and Border Control, key business leaders and business partners and others.

Our strategic aim is to continue to stay ahead and grow with these changes by developing the airports at a sustainable rate and keep up with and outdistancing our competitors. It is critical for the CIAA to have the tools necessary to make valid informed decisions and a new updated Airports Master Plan is required that will identify the step by step infrastructure development needed, including a new GA Facility at ORIA, to remain a strong challenger in the business and tourism industry.

Project Need:

The Airports Development Project will need to provide solutions, through a master planning process, to address the development requirements of the airport/s to accommodate current and future necessities. Previous master plans for long term development of Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport were produced in 2002, 2004, 2007 and the current plan was published in 2014. These provided options for services and infrastructure development to address terminal building congestion, capacity demand, and the wider airport facilities including apron/runway extension and regulatory requirements. These plans are very dated and there is a need to develop a new Airport Master Plan. During the preparation of a new plan, the planning consultant will review the existing master plans and will prepare a new master plan that will provide the bases and direction for any future development for all three airport facilities.
The 2014 Airports Master Plan also outlined the need for a new GA Facility at ORIA. In 2021 this need has not changed and has become even more important that the current facility is replaced with a modern terminal and a ramp capacity that meets requirements and satisfies the CIG Strategic Policy. The new Airport Master Plan will confirm the need and update what is required through a systematic process which will result in a direction on how the CIAA is to procure a new GA Facility.

Project Objectives:

1) The first strategic objective is to determine the optimal development of a new GA Facility at ORIA. The Airports Development Project will through a master planning process, outline the correct location and procurement method that will best optimize GA airport revenues, how to enhance the high net worth passenger experience and best options to provide adequate parking and storage facilities for GA aircraft.
2) The second objective is to have a current up to date Airports Master Plan recognizing all the relevant changes that have occurred since the 2014 plan was published
3) There is an objective to involve all airport stakeholders. Stakeholder engagement is a key element to develop a robust Airports Master Plan for Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport and the potential need for a new GA Facility at ORIA. All stakeholders that have a vested interest in the airport/s will be interviewed and the master planning process will include a public consultation program. Allowing the public to voice their concerns on all three islands is essential to establishing good communications on airport development intent, the supporting reasons why and gaining a full understanding of their concerns.
4) There will be an environmental objective. A full consideration of environmental factors during the planning stages will typically result in an overview of the airports environmental

setting, the identification of potential impacts of airport development alternatives and the identification of the permitting required for recommended projects.

5) A crucial objective is to establish a new set of aviation forecasts which will be the bases for effective decisions with regard to airport planning which would include, for example recommendations on expanding the current terminals at ORIA and CKIA or alternatively construction of a new terminal and the timing when needed. Additionally, the forecasts would determine the need and sizing of a new GA Facility at ORIA. The COVID pandemic has severely disrupted the aviation industry globally and foresight of how this disruption will affect future travel is essential for planning purposes. These forecasts are essential for determining any future development at Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport
6) A complete analysis and determination on future needs for facility requirements at Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport. The analysis will clearly define the aviation problems and why the airport needs to resolve them.
7) The seventh objective is to develop an organized approach to identifying and evaluating alternative development options for effective planning.
8) A complete review of the current airports layout plans (ALP) and how the ALPs could be integrated into the review of the aviation activity forecasts, facility requirements and an important options analysis.
9) Compiling a facilities implementation plan will provide guidance on how to implement the findings and recommendations of the planning effort. The plan will balance funding constraints, project sequencing limitations, environmental processing requirements and property acquisition. The facilities implementation plan will also dovetail into the ALPs and the CIAA's financial plan.
10) The final very important objective is to perform a financial feasibility analysis to determine the CIAA's ability to fund the projects in the new Airports Master Plan and any new GA Facility. The plan will emphasize the projects that are expected to be implemented over the near term (0-10 years) as presented in the Capital Improvement Plan and how they will be funded.

Project Constraints:

Financing: The CIAA is currently constrained by numerous economic factors primarily due to COVID pandemic effects on the travel industry. Due to restrictions under the Public Management and Finance Law 2018 (PMFL), the CIAA is unable to finance airport projects through conventional borrowing methods therefore, funding for this Airports Development Project needs to be achieved with internal funds. The CIAA is dependent on revenue streams stemming from the airline industry as a means of funding its on-going operations. These revenue sources, Passenger Facility Charges (PFCs), rentals, car parking, fuel % and aeronautical fees, have been blunted due to the COVID pandemic but they are expected to bounce back post government pandemic restrictions.

GA Facility Ownership & Operations: Due to the importance of ORIA as a strategic national asset, the CIAA will retain the legal ownership and operations of any new facilities. Any financial model chosen for procurement of a new GA Facility will include consideration of that requirement against the need to provide assurance and security to a private sector investment partner.

The Framework for Fiscal Responsibility and PFML: The Framework for Fiscal Responsibility (FFR) Guidelines came in to effect in 2012 and was revised in 2018. Government is required to follow these guidelines to ensure a fair and transparent procurement procedure.

Project Phasing: The PMFL (2018 revision) sets out the five key stages that will be undertaken by the CIAA in the planning, development, and execution of the Airports Development Project. Those include (1) Strategic Outline Case (SOC) and OBC; (2) procurement (3) contract management; (4) delivery; and (5) evaluation.

Outdated Airport Master Plan: Master Plans for long term development of ORIA were produced in 2002, 2004, 2007 and the current plan in 2014. The current plan is now considered obsolete and in need of a replacement.

No "In house" expertise to develop an OBC: The Airports Authority does not have staffs that are qualified to assemble an Outline Business Case or an Airports Master Plan. To formulate an OBC/Master Plan will require financial expertise, aviation forecasting, large scale infrastructure cost estimating and environmental knowledge.

Transportation network: The consolidation and update of the Airports Master Plan should also address the development of the ground transportation infrastructure in the vicinity of the ORIA airport. Recent NRA studies (2016) have shown an increasing traffic demand but there has been limited planning to increase road infrastructure leading to and from the airport.

Available land: The consolidation and update of the Airports Master Plan should also address the appropriation of land in the surrounding area of the current airport site for future development.

Natural Environment: The conservation of the natural environment is of significance to the Cayman Islands, including during and after any construction activities. The Department of the Environment (DOE) and the National Conservation Council (NCC) require being closely involved. Any Airports development proposals shall require oversight by these two bodies. The role of the Department of Environment (DOE), the National Conservation Council (NCC) and the local community as key stakeholders in this aspect is recognized and appropriate consultation and input will be undertaken throughout key phases of the project.

Regulations: Any Airport development proposals shall require oversight by the Cayman Islands Civil Aviation Authority and meet the standard requirements of ICAO Annex 14, as well as other security specifications that must be agreed with the Air Safety Support International (ASSI) before being implemented.

Section 3: Stakeholder Analysis

Key Airports Development Stakeholders and their Involvement in the Airports Master Planning Process:

The following list of key stakeholders is who will be engaged during the development of the OBC and subsequent Airports Master Plan. Material representations and concerns expressed by internal and external groups or individuals will be a key component of the decision making process as the Airports Master Plan develops.

Cabinet: Cabinet has a key role in the project process and will provide the Cabinet strategic policy guidance. The guidance will give the guiding parameters of the project and Cabinet will need to commit the funding of the Airports Development Project and subsequent GA Facility Project. Cabinet will have a high level of interest and will be involved in the procurement process in accordance with the provisions of the Framework for Fiscal Responsibility (FFR)

Cayman Islands Airports Authority (CIAA): All departments of the CIAA departmental framework will be enlisted to contribute initially to the Airports Master Plan and at various stages as the plan develops. Inceptive meetings will be conducted with each department individually to gather information on the current status of Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport with a determination to identify what issues are in need of addressing. The involvement of all departments is important to developing a sound foundation of data for the master planner to utilize in assembling the new Airports Master Plan.

All Airlines: The CIAA needs to provide airport facilities that have the capacity to efficiently and comfortably accommodate the current passenger throughput and sustain efficient aircraft movements while allowing for future growth. Airlines share a mutual interest with the CIAA in ensuring a high standard of visitor experience. Airline feedback during the master planning process is essential.

Department of Environment (DOE): The DOE seeks to facilitate responsible management and sustainable use of the natural environment and the natural resources of the Cayman Islands, through environmental protection and conservation. The DOE have a major stake in the future development of the airport and how any infrastructure expansion affects the environment and agreeing with any mitigation measures employed.

National Roads Authority (NRA): If the Airports Master Plan identifies an expanded or new terminal for future growth, it is due in part to passenger numbers increasing. The airport ground transportation infrastructure for moving passengers in and out of the ORIA airport complex is significantly limited. The current traffic system will need to be studied and appropriate measures put in place to handle the increasing volume of traffic. The NRA will be a key stakeholder in the master planning process identifying mitigation measures and the new Airports Master Plan will assist NRA in developing their own planning needs.

Car Rental/Ground Transport Industry: The car rental and ground transportation industry plays a vital role in facilitating the movement of airline visitors to various points on Grand Cayman. A vibrant airline market provides income, business opportunities and jobs for stakeholders in this

industry. Any new or expanded terminal would have major impacts on how the car rental and ground transportation community conduct their business.

General Public/Residents: During the master planning process, there will be public outreach sessions on all three islands to get a full understanding of the public's opinion and capturing their suggestions to potentially adapt to the Airports Master Plan. Airport development will have a direct impact to the airport neighbours and community such as noise and air pollution, changes to surrounding infrastructure, etc. so it is essential that the public are involved in the process.

CI Department of Tourism (CIDOT): As tourism contributes significantly to the economy of the islands, CIDOT would like to see enhanced airport facilities in place to accommodate existing and future stay-over tourist arrivals. CIDOT play an important role in the master planning process by outlining the current tourism prospects and a forecast for future tourism development.

Cayman Islands Tourism Association (CITA): As a key industry representative group, CITA has a major stake in how visitors interpret their airport experience and whether they would become return visitors. CITA's input to the Airports Master Plan is critical to get a full understanding of the feedback from tourists and business travellers

Cayman Finance Ltd: This Airports Master Plan will take into consideration any needs that will support the financial services community. Cayman Finance Ltd, who represents the financial services sector of the Cayman Islands, is an important stakeholder and will be consulted to determine as to the needs and the requirements of the finance business traveller.

Customs and Border Control (CBC): The CBC is a key stakeholder whose operations are being affected as a result of increased passenger movements. CBC facilitates the flow of individuals in and out of the Island and would want to ensure that any future terminal expansion or new terminal will meet their requirements in terms of their operations. CBC's input to the Airports Master Plan is very important to have a full understanding of their issues and gaining a perspective of their own internal planning.

Ground Handling Service Providers (GHSPs): GHSPs provide turnaround coordination and baggage servicing to aircraft. Increased aircraft arrivals and departures will positively impact these businesses. Their input to the Airports Master Plan is necessary to gain a full understanding of their needs and requirements.

Fuel Providers: The aviation fuel providers are essential to the smooth operations of the airlines and airport operations. Both fuel providers, SOL and RUBiS, will be approached for their perspective on the current status of the airport operations and to identify any upcoming issues that they may foresee, especially as their new joint venture aviation fuel farm is coming on line in July 2022.

Health City/ Health Services Authority (HSA)/Doctor's Hospital/Astor Medcity Group: All four medical care providers will be contacted to gather their perspective on how medical tourism will grow and how the current airport operation affects medical tourists and what can be improved.

CI Civil Aviation Authority (CICAA): As the regulator of the airports on grand Cayman and the Brac, CAACI consultation and Airports Master Plan oversight will be required for all aspects which relate directly to air safety and compliance with regulations.

CI Fire Service: The fire department is required to provide rescue and fire-fighting response to aircraft involved in emergencies in order to comply with international regulations. The Fire Service performs an important part to the safety of the airport and their input to the master plan is essential.

General Aviation/Business Aviation (GA/BA) Service Providers: All GA/BA providers will be included in the Airports Development Project and subsequent master planning process to allow for insight into their activities and how these can be efficiently incorporated into a new GA Facility.

Mosquito Research Control Unit (MRCU): MRCU currently operates out of a purpose built aircraft hangar and research facility on the airport site. Frequent users of the airfield, the MRCU have a large interest in any airfield development and MRCU insight will be invaluable.

Air Ambulance Providers (Medevac): There are currently two dedicated medevac handlers that provide the ground and passenger handling services for all air ambulance operations. Both companies will be involved in the master planning process such that any awareness of issues that need addressing can be adapted in any new Airports development.

CI Water Authority: The Water Authority, not unlike the DOE, has a vested interest in any airport development on all three islands. Protection of the ground water is essential and a full understanding of the Water Authority's perspective on airport development is crucial prior to any implementation.

Department of Environmental Health: The DoEH plays a big part on how waste is managed at the airport and how waste is separated and disposed of. Their input on the current status of the waste management programme at the airport and any issues that need addressing is very important to include in the Airports Master Plan.

National Trust/ Sister Island Committees/Central Caribbean Marine Institute: all three of these groups play a major part in the protection of wildlife habitat in the Cayman Islands and have a vested interest in any major airport development on all three islands. It is essential that their voice is heard to allow for important decision making that potentially could irreversibly affect wildlife habitat.

The Police Department: Both Police ground and air operations will be involved in the master planning process. Information on how they conduct their services at the airport and what issues are concerns are key elements to be identified in the Airports Master Plan.

Meteorological Office (MET): The MET office, currently established in the existing GA terminal will be part of the master planning process. A full understanding of their internal planning and what issues they have as concerns are important to identify and include in the Airports Master Plan.

Cayman Islands Chamber of Commerce: The Chamber of Commerce represent a variety of members that conduct business on island and overseas. Their input with respect to their member's concerns on airport operations and what are the key issues to be addressed are valued and will be included in the master planning process.

Cayman Flying Club (CFC): The CFC is a newly founded club and currently does not have a presence on the airfield. However, as the club is in its infancy, it is important to understand what

their internal plans are, what services they are intending to offer and how their club will operate on the airfield.

Section 4: Management, Implementation & Timeline

Proposed management structure and key personnel:

Reporting Structure: The CIAA board has appointed a Steering Group to guide the Airports Development Project through-out its development. A Senior Project Manager, employed by the PWD, will provide the management and represent CIAA interests during the development of the Airports Development Project. This Senior Project Manager, seconded to the CIAA for the duration of the project, will manage the CIAA interests and will report directly to the CIAA CEO and to the PWD Deputy Director.

General: The development of the OBC for the Airports Developments Project will be conducted by an external consultant. This consultant will be managed by the Senior Project Manager who will additionally act as the conduit between the consultant and all stakeholders that have an interest and/or will assist in the development of the Airports Developments Project. The Senior Project Manager will also drive the consultant efforts in drafting the course of action for the GA Facility Project.

The proposed Key Personnel anticipated for each stage of the Airports Developments Project's OBC development are as follows:

1) Pre Procurement Stage:

- Preparation of Strategic Outline Case (SOC)
- Key Personnel: PWD Deputy Director, PWD Senior Project Manager, and the Steering Committee.

2) Tendering Process:

- Preparation of Prequalification, Tendering and Contract Documents.
- Key Personnel, PWD Deputy Director and PWD Senior Project Manager

3) Contract & Performance Management- Airports Developments Project OBC

- Key Personnel: Steering Committee, PWD Deputy Director and PWD Senior Project Manager

Legal, contractual or procurement issues: Adherence to the Cayman Islands legal framework is required at every stage of this project. The PMFL clearly sets out the key stages for the project and the various procurement requirements to ensure value for money.

Outstanding Management/Implementation consideration:

The appointment of a Senior Project Manager is essential to the expediency and accuracy of this project. This will afford a dedicated resource to the advancement of this project and bring the Airports Developments Project to completion. The level of funding for the PWD project management support should be identified as an integral part of the project costs.

Timeline:

Airports Master Plan Projected Timeline	Status	Entity	Date
Strategic Outline Case (SOC)	Approval	Steering Committee	18.11.2021
	Approval	CIAA Board	25.11.2021
	Approval	Cabinet	End of 4th Qtr 2021
RFP for OBC Consultancy Services	Process	PWD/CIAA	Dec 2021-Feb 2022
	Approval	Steering Committee	Feb-22
	Approval	CIAA Board	Feb-22
	Approval	Cabinet	Mar-22
	Award	CIAA	Mar-22
OBC and Master Planning Development	Process	Consultant	Mar 2022 - Aug 2022
Completion of OBC and Airports Master Plan	Approval	Steering Committee	Aug-22
	Approval	CIAA Board	Aug-22
	Approval	Cabinet	Sep-22

Section 5: Consideration of Options

The following are considered options with respect to an Airports Development Project:

1) **No Change**: – continue utilizing the outdated 2014 Airports Master Plan as is:

    - CIAA to continue with reference only to a document, published in 2014, which is considered outdated and will be used for decision making on infrastructure development.

2) **Develop an Outline Business Case for the Airports Development Project and successive new Airports Master Plan:**

A new Airports Master Plan will consider all three airports, Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport, and will outline the following:

    - It will deliver a long term strategy that supports the vision of the airports future.

- Will provide an airports development plan that fits the budget
- Addresses stakeholders issues and delivers infrastructure that is fit for purpose
- Delivers infrastructure that comes on line as and when needed
- Outlines development phases and the associated growth triggers
- Minimizes the risk of compromising the three airports' ultimate development potential and ultimate future
- Will determine the options for a new GA Facility, including but not limited to:
  a. Do Nothing
  b. Improve Status Quo: Continue operation of existing GA Facility with essential upgrades; no implementation of current 2014 Master Plan
  c. Development of a new GA Facility in location as outlined in Master Plan (2014)
  d. Implement a phased approach of enhancement and expansion of the existing GA Facility; based on an updated master plan which is to be developed during the OBC process
  e. Development of a new GA Facility based on updated master plan to be developed during the OBC process.
  f. Other.

Section 6: Costs, Benefits & Risks

Broad Project Costs

- For the Airports Development Project OBC stage, the major cost will be for the procurement of a consultant to administer the OBC. For subsequent stages (outlined below) the cost of consultants and project management will be a constant, but the method of handling the procurement and construction costs of the GA Facility will be varied (see note below).

- The estimated cost for services rendered by a consultancy to:

  - construct an Outline Business Case for the Airports Development Project to include:

    a. Direction on how to develop a new GA Facility
    b. Develop a 20 year Airports Master Plan

  is approximately (Redacted) (see appendix 2 for breakdown of estimated line item costs).

Note: For the GA Terminal Project the OBC, outlined as a deliverable above, will establish the preferred location and the optimal procurement method. Additionally the OBC will determine the costs involved to develop the project which will be dependent on the delivery option and the location chosen.

Non-monetary Costs

- It is clear in 2019 that the commercial terminal departures hall, screening and check-in and immigration hall have capacity issues during peak times. Increasing passenger dissatisfaction and increasing incentives developed by competitive islands will elevate the numbers of the non-returning visitors to the Cayman Islands
- The GA apron aircraft parking has reached capacity during peak times and this has been a major distraction to the private plane owner with respect to visiting the Cayman Islands. This has led to individuals that own private aircraft to use alternative destinations.
- Depending on the preferred location of the GA terminal this may lead to Environmental impacts that will need to be managed. These impacts will be outlined in the OBC.

Benefits:

The Airports Development Project and subsequent Airports Master Plan is a long term guide to development that supports the business development strategy for all airports, Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport, with an underpinning of an assessment for financing and an indication of required investment levels over the next 20 years. Considering the economic importance of Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport and their contribution to the Cayman Islands economy, the CIAA must have on hand a "road map" that reflects the future infrastructure requirements, latest market conditions, available technological improvements and emerging trends. The types of benefits that will have a positive impact when a new plan is in place will be:

- The CIAA will possess a vision of how the ultimate development potential of the airport could be realized
- It will have a physical representation of the Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport long-term capital investment/business plan
- It will provide to the CIAA an indication of how capacity enhancement may proceed over the short (0-10 years), medium (10-20years) and long (20+ years) terms.
- The Airports Master Plan will link the air traffic type and demand and how this affects planning
- Will outline the economic and environmental factors.
- The plan will indicate any investment requirements and related trigger points
- The CIAA will have all financial implications and strategies to reach their goals.
- The master planning process will provide a context for constructive consultation to take place between all stakeholders with the objective of reaching a consensus on all major decisions and required changes.
- CIAA will have an understanding of where the new GA Facility will be located, how large a terminal and apron, hangar space requirements, time lines for development and how the project will be procured

Risks:

The following are the expected broad risks if we do not proceed with the Airports Development Project and have an updated Airports Master Plan available as a reference:

- There is a real risk that short term decision making will result in capital intensive capacity enhancement projects that are poorly located, inappropriately sized and out of the phased sequence.
- Without an Airports Master Plan that has definition to the current status of all three airports, Owen Roberts International Airport, Charles Kirkconnell International Airport and Little Cayman Airport, there is a real risk of wasted capital on projects that potentially restrict the airport's overall capacity and performance, thereby impeding the airport's ability to fully utilize the runway system's ultimate capacity.
- The Airports Master Plan is an essential reference document so that all airside, landside and airport support elements can develop, expand and improve in the operational flexibility and efficiency of their business in a structured, balanced and orderly fashion.
- There is a real risk of falling behind and not staying ahead of capital investment and infrastructure needs.
- The risk that the airports will not be adapting to the rapid rise of environmentally friendly and sustainable technologies.
- A continued distraction to the High Net Worth private aircraft owner due to little to no direction on the optimal solution for a new GA Facility with aircraft storage hangars and expanded parking apron.
- Increasing negative passenger experience runs the risk of higher numbers of non-returning visitors. Both Commercial and GA.
- Not having the tools and insight to compete with aggressive tourism infrastructure developments on competitive Caribbean islands.

Section 7: Funding & Affordability

Due to the CIAA's inability to undertake conventional borrowing, the GA Terminal Project will have to explore several financing options ranging from self-finance, through Airports Authority revenue streams to private public partnership (PPP) and supported, as necessary, by Government loans in 2022/23. This will be defined in the OBC process.

Independent professional advice will be required to prepare and develop the Outline Business Case, and the consultant services, both financial and technical, will be competitively tendered. CIG/CIAA will seek to utilize in- house expertise, for example for project management resources, to minimize consultant costs.

The current and prospective fund reserve and revenue streams of the CIAA will have to be reviewed to ensure adequate funding for the increased operational costs resulting from airport development.

End

7.16 Steering Committee approval of draft OBC - Meeting Minutes, 8 December

CIAA Airports Development Project
Steering Group Meeting Record

Ministry:	**Ministry of District Administration Tourism & Transport**
Meeting Title:	**CIAA - Steering Group Meeting**
1. Date/Time of Meeting:	**Scheduled: Thursday 8th December, 2022 2:00 – 4:15 pm**
2. Location:	**ORIA : Board Room and Virtual**
3. Attendees:	**Steering Group in Person:** Roy Williams ((RW)); Albert Anderson (AA); Eimer Powery (EP); **Virtual Attendees:** Fabian Whorms (FW); **Board Members present:** Stran Bodden (SB) **Guest/s:** Philip Van-Manen (PVM - Stantec); Sam Story (SS - KPMG); Jack MacKenzie (JM - KPMG); Wil Stewart (WG- Chalmers Gibbs); Luiza Dawson (LD - Chalmers Gibbs)
4. Purpose of Meeting:	**Steering Group Meeting:** Chair – Stran Bodden (SB) Secretary – Roy Williams

Not present: Jonathan Jackson (JJ); Rosa Harris (RH); Dwight Rankin (DR); Karen Batiste (KB); Charles Clifford (CC)		**Action**
	Approval of the November meeting minutes: No comments and minutes were accepted	**No Action**
	Airports Development Project	
	• RW began the meeting with advising the committee that the presentation would be primarily focused on the Outline Business Case (OBC) with a view to receive comments and have an approval that would allow the OBC to be presented at the next airport Board meeting scheduled for Tuesday the 13.12.2022. RW reminded the committee that the OBC was sent out for review to all members on the 02.12.2022 so that any comments can be brought to the meeting for discussion. RW added that KPMG will give a short slide presentation and encourages comments and discussion on any relevant topic. • Prior to the presentation start, FW interjected with a concern that the cost for the Little Cayman airport (circa. $42M) seemed high and could be a problem when presented to the Government. FW continued to ask if this total sum was broken down and whether this new airport could be phased into smaller more palatable blocks to ensure that, an approval would be given to move forward with a new airport. PVM advised the committee that there is a multi-layered breakdown available and the project can certainly be phased. AA added that his has been discussed; however, the final approach to the project has not been finalized at this time.	

Certainly, the first phase could be a new runway to get certification but a new terminal could be postponed to a later date based on funds available. AA continued to add that this approach was used with the 2014 master plan, where certain projects were phased and scheduled differently to accommodate certain needs that developed. JM added that the OBC would show the phased approach to all the projects and how select projects were broken up into sub-phases.

- KPMG started their presentation by advising the committee that their slide presentation is a condensed overview of Section 1 of the OBC - The Executive Summary.
- SS began the presentation by establishing that the OBC objectives are to ensure that each airport project is capable of catering for the forecasted demand; to ensure that they are affordable; and to consider whether they represent value for money. Connectivity between the islands is considered a priority. There are concerns around the payback period and ROI for the projects on the Brac and Little Cayman. In these cases, the value for money aspect was put aside and for qualitative reasons these preferred concepts were decided to have a higher benefit. SS added that the OBC has been drafted using the latest Green Book guidance and that the Green Book was revised in early 2022 which reflected a change from using a quantitative to a qualitative approach to establish a preferred option. This new methodology have been adopted in this OBC.
- SS continued to advise the committee that the high-level structure of the OBC follows the five case model. The Strategic Case, Economic Case, Commercial Case, Financial Case and the Management Case. SS gave a broad explanation of the business cases outlined and advised that decisions made at the OBC stage can change based on need as long as changes to an approved OBC can be documented and justified as to why that change occurred, in the FBC. SS gave some examples of past projects that required change due to unforeseen circumstances after an OBC was approved. Any reset to an OBC would be addressed in the Final Business Case for that project. RW asked if it was required to justify any decrease in cost in an FBC. SS advised that no justification would be required, but it would be useful to explain how a lower cost had been achieved i.e. via competition.
- JM outlined the key drivers of the projects and how they are presented in the OBC. JM gave a brief description of the capacity issues at ORIA, the Government need for branding and attracting the high net worth individuals. JM detailed the issue of the inefficient layout of the ORIA terminal, the issue of passengers exposed to the elements getting from the parking lot to the terminal and from the terminal to the aircraft. There are regulatory concerns in both at CKIA and Little Cayman and JM addressed the issue of the lack of an Air Traffic management Surveillance System at ORIA and CKIA. JM continued to outline the need to maintain a competitive edge with competitor islands and the need to address any environmental issues on all three islands.
- A discussion continued about the annual passenger movements, both historical and projected, and how it is shown in the OBC in graph form. It was agreed that as the Dept. of Tourism figures were more optimistic than the forecaster's, it would be a benefit to show the optimistic figures in the graph along with the base case and include the pessimistic figures. AA pointed out the Department of Tourism is only looking at tourist arrivals; however, the OBC is looking at all arriving passengers.
- PVM advised that it would be a benefit if the CIAA were to observe very closely the passenger figures over the 2022/2023 high season to see if the projections are valid. This would include the importance to measure General Aviation (GA) traffic also, especially aircraft parking overnight.
- SS noted that the arriving passengers are somewhat irrelevant as the true focus should be on the peak times where the lack of capacity is the concern. Most of the time the capacity of the airport terminal at ORIA is underused. SS continued to advise that when future discussions with airlines and the possibility of future additional air service, the discussion on arrival slots should be around the "slack" times to capture the use of the underused capacity.

AA continued to relay that the Minister outlined potential airlines from Europe and the Middle East would not be an issue with the capacity constraints because their arrival and departure times would fall outside of the peak. AA continued to add that the newly introduced slot management currently being used that is now in place has mitigated the capacity issues at peak times, however, there is always the potential that airlines will argue that there are only certain times that they can operate in to establish their own efficiencies and may result in their decision not to operate to the Cayman islands.

- PVM stated that the passenger growth is predicted to be approximately 1.9% per annum for ORIA and it is critical that infrastructure keeps up with the growing demand as capacity constraints will only get worse.
- The passenger graph in the OBC that shows the three airports future projections was discussed and it was agreed that as the scales were very different from airport to airport there should be three graphs that identify each airport individually on different scales. JM agreed to make the change.
- JM gave a summary of the benefits, which are outlined in the OBC for each project. These are the qualitative reasons to determine the preferred options for each project. SS continued to add that the OBC outlines the process to arrive at the preferred options, from the long list through to short list, using the SWOT analysis, describing why options were discounted, using a risk analysis and how the OBC describes the costs and benefits for each project and how the preferred options were chosen.
- JM explained how the difference between the undiscounted costs is a combination of the capital costs and the quantified risks, the environmental and social costs. Revenue benefits are included and any other wider benefits were taken into consideration. These net down into a figure and are then discounted for the time value of money. JM explained that any costs or benefits are worth less the further into the future they are realised, due to the impact of discounting (i.e. to reflect the time value of money and present figures in net present terms).JM confirmed that inflation is not identified at this stage but is included in the Financial Case.
- FW interjected that he was concerned that every tourist that travelled to Little Cayman was processed through ORIA or CKIA and these numbers should be included in either the CKIA or the ORIA numbers. FW noted that if the Little Cayman numbers were to be removed then the ORIA and the CKIA numbers would go down therefore he asked if it could be shown that the benefits for Little Cayman extend to both ORIA and CKIA. JM confirmed that this has been captured in the OBC, however, added that it is not possible to justify the projects for Little Cayman and CKIA as value for money and very little, if any, return on investment. However, the interconnectivity of the islands is of a high value and it has been concluded by the Steering Committee and documented in the OBC that the projects for these two islands are the Preferred Options.
- JM continued by relaying the preferred delivery routes shown in the OBC for each project and reminded the committee that the committee at the November meeting agreed these approaches. A discussion followed on the priority of the GA terminal and whether that is still a priority. If it is not a priority then should the preferred delivery route change. AA and SB confirmed that there has been no statement from Cabinet that has changed the priority and should remain as a priority project.
- JM explained the phasing of the four projects and outlined their respective sub-projects and how they are shown in the OBC. The OBC has a table that reflects what percentage of each sub-project is conducted in any particular year, which lays the foundation for funding requirements by year. JM covered all the priority projects, what year and timeframe (short/medium or long term) they would begin, when they would be complete and the advantages of the benefits that would be realized as projects came to conclusion.

- RW stated that the project table could easily change based on the discussions with the Government. It is clear that Cabinet could revise priorities. The GA terminal could be delayed and the Little Cayman project could potentially disappear completely. Little Cayman is a priority project due to the regulatory issues. One sub-project on the Brac is a regulatory issue that needs to be addressed as a priority. All other projects are a nice to have and have been projected to start in the mid and long term sections. JM confirmed that inflation has been factored into all the projects and advised that inflation in the priority projects is relatively low, since they start sooner. Conversely, projects that have been scheduled later, have a higher factor of inflation.
- AA requested that the phasing table included a label for each project. SS suggested the grey area could have the label inserted. JM confirmed that this would be the case.
- The question of the 30m regulation in the Brac was raised and whether that should be a priority. RW answered that the land acquisition is prioritized but acting on the relocation of the parking is delayed to 2030. The reason for this is ASSI has confirmed that unless there is an increase in international flights into the Brac then the 30m rule is not required. AA interjected and advised that this may not be the case if the ASSI inspector was replaced and a new inspector may have an alternative viewpoint. It was agreed to leave the OBC as is for now.
- A brief discussion on the runway rehabilitation at CKIA was had and why the project was pushed out to 2030 due to runway patching work being scheduled for 2023. The discussions continued whether a contractor that was engaged to perform the patching could also include the runway RESA and airstrip widening work. RW added that if the Environmental Impact Assessment (EIA) for this work could be completed early in 2023, then the joining of these projects could occur. It was agreed that this could be a possibility and should be managed.
- FW requested confirmation that the "filling" of the ponds was included in the OBC and master plan and the issue of bird strikes was addressed. This was confirmed by PVM and a discussion followed on the bird strike issue and the need to use methods to mitigate and control birds. PVM outlined that this is laid out quite clear in the Master Plan that the bird issue is a problem and it includes identified methods that could be adopted to mitigate. FW added that the worldwide average for bird strikes is one in every ten thousand aircraft movements. FW continued to advise the committee that in the Brac, Cayman Airways experience one in every 300 movements, which is a much higher incidence rate, and this is why the mitigation factors need to be addressed as soon as possible.
- JM continued with the presentation, explaining the inflationary increases, and outlined that if all projects were to be completed in 2024 than the cost of the four projects would cost $658 M however, as the projects are straddled over 20 years the real costs, which include inflation, would be c.$800 M. However, these are just the costs but are NOT the funding requirement.
- SB requested an explanation on what is planned for 2023 and what is the $34M allocated for that year to be spent on. RW advised that the plan was to begin the EIAs for each priority project and begin the conceptual design work for each priority project. In effect, this would mean that by end of year 2023 all priority projects would be in a position to begin based on funding availability. Included in this initial spend in 2023 is land appropriation which is required before any projects can begin.
- JM continued with an explanation on how the OBC reflects the revenue and funding requirements. The graph in the OBC that reflects the revenue generation comparison with business as usual (BAU) and project execution show how within 60 years (this follows the Green Book Guidance) the cash reserve will arrive at the same level. If projects were allowed to move forward, then regardless if funds have been expended and projects completed the CIAA would be in the same position from a cash perspective. This is due in part to improved revenues from project implementation and recognized increased revenues.

- SS interjected that the subject of revenue generation would not necessarily be exclusive to the CIAA. Wider benefits would arise and it may warrant the drafting of an Economic Impact Statement to fully understand the comprehensive benefits to the Cayman Islands as a whole.
- AA added that the spend is over a 20 year period and the revenue generation is over a 60 year period and asked if these were relevant observations. JM advised that the funding requirement from government is over the first seven years and the OBC looks at this as a loan, which is repaid over 30 years in a one off paymentThe peak funding requirement is at the end of the medium term works, which is approximately $463M. It is not possible to ask the government for a $500m loan therefore the year-by-year breakdown is shown as $50m per year leading up to the terminal expansion project where the loan would increase to $100m per year for three years and then drop down to $50m for the final year.
- FW requested some explanation about the offset of the funding. The concern with the Earnings Before Interest, Tax and Depreciation (EBITDA) is whether the interest is included. As the interest is quite significant, then this should be included to pass scrutiny. SS answered that the existing Government loan ($50m is interest free) and the assumption has been made that any loan from government is arranged with an interest free condition. If CIG were to charge interest then modification would be required but it does not make sense that the government would charge interest to itself. This would be a larger discussion with government as their loan is charged at 3.25% and there may be a requirement to back charge the CIAA to regain the interest. The OBC states that the current assumption used is that there is no interest and there will be a one off payment at the end of the 30-year loan period. FW requested that the OBC be very clear early on that any loan has been assumed to be interest free so that anyone reading the document would be aware that interest was not factored into the numbers. JM confirmed that this would be the case.
- SS continued with an explanation of the management case. AA interjected and observed that one of the organizational charts was used as the project management structure on page 24 and needs to be changed. JM confirmed that this would be changed. The project management flow chart was discussed and it was agreed to remove the Board tablet and make the CIAA one, as the Board is the CIAA.
- FW requested that early on in the presentation it was stated that Cayman Airways were interested in replacing the SAAB aircraft by adding the ATR 72 to their fleet however, this may not be the case and requested that the statement be changed to add "or similar". JM confirmed that this would be changed.
- PVM gave a very brief overview of the master plan summary. No questions were raised.
- EP asked what the feedback was from the public on Little Cayman. PVM advised that the public appeared to be resigned to the fact that a new airport is required. The public seemed relatively positive to the idea, however, they did not want to see the airport to be an open valve to rampant development on the island and offered that an island plan is needed to make sure these controls are in place. SS added that recently, the Ministry of Housing and Infrastructure have been running workshops to identify what needs to be done to develop an Islands Master Plan. An observation noted by SS is that for any Islands Master Plan to be successful, it should sit above the ministries to mitigate individual ministries creating their own plans in a vacuum and ministries should be required to ensure that all of their projects conform with the main development plan.

- RW advised the committee that as the presentation had now concluded a vote of approval was required from each present member. The approval table is as follows:

Outline Business Case v2 Approvals		
Committee Member		
Stran Bodden (Chair)	*MoTT*	✓
Albert Anderson	*CIAA*	✓
Rosa Harris	*DOT*	A
Fabian Whorms	*CA*	✓
Dwight Rankin	*CIFS*	A
Elmer Powery	*CIAA*	✓
Karen Baptiste	*CIAA*	A
Charles Clifford	*CBC*	A

A= Absent

- RW acknowledged the votes and moved to proceed with the draft OBC, modified with the comments outlined in these minutes and present to the Board on the 13.12.2022. All agreed.
- RW concluded with a discussion on the remaining meetings needed before presentation to Cabinet. The Board meeting is on 13.12.2022. An assent is required at that meeting to present the Steering Committee approved Draft OBC to the Minister of Tourism. SB stated that when the Board has given an assent to move forward the draft OBC would be submitted to SB for delivery to the Minister. SB advised that as the last Caucus meeting is on the 13.12.2022, there is no opportunity to present this year and it is probable that the end of January is more likely. AA added that this would allow the Minister to review over the Christmas period and revert with comments if needed. AA continued to add that it is important when presented to the Minister that the order of the priority projects still include the GA terminal and still remains a top priority subject to any changes to Government's Strategic Policies
- SB advised that the timelines for these final meetings be in order; however, there is an urgent need in the early part of the New Year to begin the process of assembling a schedule for all the upcoming works subject to Government approval.
- SB advised the committee that any movement on Little Cayman would have to come from a Government decision to proceed. It is clear that the Director of the CAA is a leading advocate for a new runway in Little Cayman and the Director has advised that he needs to see some form of progress on the Little Cayman issue. SB added that the Director informed him that during the efforts to make a runway in the past a large amount of fill was deposited on the site, which is now covered in vegetation and could be reused for development. RW interjected and asked if an EIA was a form of progress and SB advised that this would need to be discussed with the Director to see if this is a form of progression.

7.17 Stakeholder Meeting Notes (Prepared by Philip Van Manen, Stantec)

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Cayman Islands Airports Development Project | Stakeholder Meeting Notes

Meeting Dates: 20th June 2022 through 23rd June 2022
Locations: Grand Cayman Island | Cayman Brac Islands | Little Cayman Islands
Host: CIAA / PM Roy Williams
Representative Consultants: Stantec | KPMG | Munich Airport International | Chalmers-Gibbs

Stakeholder Meeting and Airport Infrastructure and Site Review Schedule **20th - 24th June 2022**

Attendees: Roy Williams (CIAA-PM) | Philip Van Manen (Stantec PM) | Rian Burger, (Stantec - Principal / Architect)
Sam Story, Jack MacKenzie (KPMG) | William Steward, Luisa Dawson, (Chalmers-Gibbs) | Lutz Wieser, Adam Symalla, (Munich Airport International)
Locations Attended: Owen Roberts International Airport, Grand Cayman | Charles Kirkconnell International Airport, Cayman Brac | Edward Bodden Airfield & Alternate Airport Site, Little Cayman

Revison 1

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
	June 19th	June 20th	June 21st	June 22nd	June 23rd	June 24th
8:00	Travel to Island			Travel to the Brac		
9:00		Meeting with the Civil Aviation Authority (at CAA Offices)	Airside Tour and GA Terminal Visit (Start at Beacon House)	Tour of CIGA and Meet with Airport manager	Round Table meeting with CIAA Departments and Munich Consultants	Open
10:00						
11:00		Meeting with CEO and COO	Meeting with Customer Service/Security (Beacon House)			
12:00		Lunch	Department of Environment	Lunch	Lunch	Lunch
13:00		Meet with Ground Handlers	ORIA Terminal Tour and Landside Operations (Start at Beacon House)	Tour of Little Cayman	open	Leave Island
14:00		Meet with ATC/CNS/AIS			Steering Committee	
15:00	Philip Arrives	Open	Facilities (Beacon House)			
15:30		Meeting with Airside Operations (Jeremy & Andy)				
16:00			Meeting With CFO (Boardroom)			
16:30			Meeting with all Airlines (Boardroom)			
17:00		Fosters Food Group		Travel Back to Grand Cayman		
17:30						
18:00						

Figure 1: Stakeholder Meeting Schedule, week of June 20th

Meeting #1: Civil Aviation Authority, 20th June at 0900

- Attendees: R. Williams, (CIAA) P. Van Manen, (Stantec) | Robert Harris, Alistair Robertson, and Craig Smith of CAA of Cayman Islands
- Overview of Project Provided by CIAA and Stantec
- Confirm notes and opinions provided by CAA in 2021; nothing changed.

Design with community in mind

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- Confirm reference to ICAO Annex 14, Overseas Territories Aviation Regulations (OTARS) and UK Standards if required.
- Tall ships / mooring of sailboats and other marine vessels in the North Sound required to ensure safety of approach to Runway 26 / take-off path for Runway 08.
- RESA, short-medium term okay with minimum, but long-term achieve recommended 240m x 90 m RESA (beyond Runway Strip).
- Non-Instrument Runway (runway strip not wide enough to enable a non-precision instrument runway)
- OLS to be maintained by CIAA
    - CIAA currently undertaking an update of the OLS / obstacle surveys
    - Future runway expansion will meet latest ICAO Annex 14 standards
- Crewe Road must be relocated further west to enable use of airport lands for runway extension / RESA (significant issue / to be discussed with NRA)
- Isolation Pad for aircraft (security / other emergencies) must be developed
- Airspace – continued coordination with Kingston FIR
- Aircraft taxiing routes at ORIA – limited to Code C at west end and Code E backtrack runway to Threshold Runway 08
    - Majority of takeoffs and landings to the east, arriving / departing Runway 08 vs Runway 26
- Consider Land Swap to improve runway length concerns (make it happen, currently cannot enable a fully loaded, direct to the UK).
- Wide body aircraft peak hour activity is not in the busy, narrow-body peak hour
- Agree with ATC Tower relocation to south side of runway (fundamentally correct)
- ARFF location: opinion is to leave where it is, serving both domestic and airfield response functions for City and CIAA
- South-side drainage improvements are required (standing water attracts birds = hazard to aircraft, increasing likelihood of bird strikes); west-end drainage also required
- Need to improve aircraft push-back procedures / coordination and ramp management
    - Ramp control option suggested
    - Pilots' discretion to push back; clearance to taxi provided by ATC
- Not opposed with potential for a remote ATC tower in Cayman Brac,(CKIA) but aircraft ramp at CKIA must expand to enable safer, more efficient aircraft movements (due to lack of parallel taxiway and only one taxiway connecting the runway to the apron, and Code C aircraft using the apron)
- RESA / OLS issues to be resolved at CKIA
- ATC / Value of ATC is underestimated, and CIAA must increase investment in these critical infrastructure
- Could reduce CKIA to a Code B runway and narrow the runway strip

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- Little Cayman Airport a major, long-standing concern with CAA
- Considered essential air services are approved by CAA for CAL to operate
- CAA view is that a new airport is necessary; the existing airport has an approach / departure path directly overhead the bird ponds and significant numbers of large birds
    - A long-term plan for a new airport is necessary
- The existing aerodrome has a variety of landowners, and they are all LIABLE for accidents that may occur there
- Bird strikes, and Blossom Village at east end of runway, are both key concerns of the existing runway
    - East end of runway the threshold is displaced due to buildings

Meeting #2: CIAA Executive, 20th June 11:00

- Attendees: A. Anderson, (CIAA CEO), Wayne DaCosta, (CIAA CAOO) R. Williams, (CIAA PM) P. Van Manen, (Stantec PM)
- Overview of issues, concerns
- CKIA has an annual loss of $2 million
- Little Cayman / (EBA) is a liability for landowners, CAL
    - EBA is day-use only, no lights on small runway
    - Public Works Dept. maintains runway and strip
    - CAL provides traffic control, self-ground handling
- ORIA is a slot managed airport, as of September 2021
    - Very busy peak hours: airlines refuse alternate times and/or demand better slot times
    - Weather delays in US will impact peak hour operations at ORIA
- Airspace / aircraft separation of 5 minutes is the minimal spacing required
    - (Only 12 arrivals an hour?)
    - General aviation traffic keeps the peak hours and busiest hours over capacity, leading to delays
    - Additional taxiway (parallel) is required
- Ground traffic is significant and there is limited terminal curb and limited parking space
- Need to balance capacity across the system and facilitate our guests / passengers with improvements such as cover overhead (do not let rain spoil their arrival / departure) and improve experience
- Passenger (pax) traffic is increasing / air terminal building (ATB) capacity is stretched resulting in overcapacity / internal congestion and domino-effect impact of delays from one processor to another (i.e.: check-in to security to boarding)
- Slot management is not the issue, capacity is the issue (peak hour)
- Tourism is key driver of demand

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- Tourism growth based on number of hotel rooms and hotel development (growth)
- Forecast growth follows hotel / tourism industry related room-nights projected growth – speak to Tourism Department
- Improvements to Immigration / Customs processes underway, and new thinking is required; speak to CBC
- Security regulations, requirement for 100ft. setback from terminal to curb at ORIA
- Cover over terminal curb (keep pax dry) and over airside (air bridges) is a necessary consideration
- Surveillance and ATC investments required at ORIA in short-term (ATC tower leaking)

Meeting #3: National Road Authority 20th June 1200

- Attendees: R. Williams, (CIAA PM) and P. Van Manen, (Stantec PM)
- Improved way finding signage required to assist those who rent cars around the airport and are looking to get to the airport
- Apparent lack of cooperation between airlines and airport, resulting in significant traffic peaks (should be smoothed out during the day)
    - Tourism associations cannot change nature of hotel / airline operations
- Re-route landside traffic away from congested airport area
- CIAA considering a ground transportation center for rental cars and visitors
- Recent study of ground traffic indicated Fosters supermarket is central to congestion; they may move in future, relieving some of the congestion taking place around there today
- Traffic volumes in the area require additional study and investments
- New road connecting the north end of the airport and entrance to parking lot with the tourism destined areas on Grand Cayman such as Seven Mile Beach and Carmana Bay will alleviate other congestion around the airport.
- There are a few key areas which have been identified around the airport, and studies will be provided to Stantec for review / integration.
- NRA is opposed to closing / relocating the road at the western end of the runway as doing so must not be in isolation from other traffic / road improvements
- Growing number of vehicles / drivers on Grand Cayman is a real issue; rush hours are slow and getting longer and congestion / accident rates are increasing.
- Fuel Truck traffic from fuel farm to airport / airside is an issue. They should not mix with other traffic, if possible.
- Landside parking is an issue and at peak times, there is no spaces left for parking at ORIA.
- Saturday landside congestion is significant; spread out flights to different days or improve opportunities for remote check-in

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Meeting #4: Airport Ground Handlers 20th June 1300

- Attendees: CIAA PM, Stantec PM, Munich International, Chalmers-Gibbs, KPMG, FAD, CDS, CAL, Island Air, Air Agency
- Issues:
  - Not enough space for ground handling operations in terminal
  - Equipment parking should be under cover, indoors (not on ramp)
- Fuel Operations
  - Need more space between wings of commercial aircraft for ground handling and fuel operations to occur simultaneously, but not enough space currently
  - New B737-Max8 winglets need more space to move around safely
- Air bridges
  - Needed and should be implemented
  - Will improve the pax experience, allowing cover during rain events
  - Will allow for separation of departing / arriving / domestic / international passengers
  - Weather occurrences delays boarding processes
  - Reduces number of agents required to manage arriving and departing pax
  - Prefer bridge mounted GSE (ground services equipment) such as pre-conditioned air and electrical power for aircraft
- Charging stations required for electric equipment
- Ground Handling Agencies (GHA) should have space for equipment maintenance and repair, storage
  - Would consider a shared facility, pending location
- Separate lanes for security checks for VIPs and VVIPs required
- New Airline Lounges are requested regularly by pax
- Improved space for GHA agents and employees (staff facilities, change and lunchrooms, washrooms)
- Need for ice rooms in terminal
- Expanded baggage build-up areas (outbound bags) and larger dedicated space for security of baggage
- Improved access to washrooms for GHA employees from the ramp / apron
- Space for CBC / Customs officers to process pax from returning aircraft from flights cancelled
- Ongoing CUSS / CUPPs systems issues (technical) between airlines / GHA
  - Improved technology and added space required
- Ramp – water runways towards terminal (ramp must drain away from terminal)
- Cargo screening: currently, cargo must come through hold-bag screening (new large outbound items / cargo screening drop off required)

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- Improved lavatory dump is required
  - Aging facility, should adapt to new technology to improve safety and hygiene
- Wheelchair services / attendant seating area required (standing many hours)
  - Cover for attendants
- Wayfinding signage improvements for arriving / departing pax on the ramps
- More baggage carts in the arrivals hall during peak hours
  - Consider installation of 'Smart Carts'

Meeting #5: CIAA Airport and ATC Operations, 20th June 1400
Attendees: CIAA PM, Stantec PM, Munich International, Chalmers-Gibbs, KPMG, CIAA ATC (Sean, Eric, Cleavy) and Eimer Powery, Jeremy Jackson of CIAA

- VOR / DME is aging and may be redundant in future with improved facilities
- Planned review of airspace management and technology planned in 2022
- Bobby, ATC Supervisor suggested a new ATC tower should be 5 to 7 stories (floors) tall, and must be taller than the current ATC Tower,
- Current tower was built in the 1980s and is long past the life expectancy for this tower)
- Was due for replacement 20 years ago, but has been repaired / but currently in need of new refurbishments
- Problems reported with leaking roof (from 5th floor cab to 3rd floor room)
- Problems progressively getting worse
- Moved equipment room – still vulnerable
- Running out of space, no space for approach side position of tower operations (close to departure / ground services controller positions
- ATC equipment covered in plastic to prevent water damage from leaks
- Agree with move of new ATC tower to south side of airport; would address their limited views to aircraft parking aprons (currently limited views)
- Minimum of 4 to 5 positions in tower cab required
- Need added redundancy / an contingency plan facility
  - ATC controllers must have a reliable facility to operate from in order to adequately control air and ground traffic movements of aircraft at ORIA
- Consider avian radar / improved bird management (Robo-bird UAV)
- Concerns regarding drone activity, need to have surveillance capability
- Move to modern ATC operation required (currently paper strips, not digital)
- Full modernization of CNS is required / Consider new equipment (i.e.: ADS-B)
- Add a critically important fully parallel taxiway for the runway at ORIA!
- Taxing and towing of aircraft from maintenance areas, G/A ramps, creates delays and adds to congestion of airfield in the peak hours

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- G/A – incorporate self-service fuel facility to alleviate delays in service in peak hours
- New, additional private hangars are required
- Longer runway is required to enable long-haul flights (i.e.: to UK)
- Agree that a runway extension to the east is most logical
    - Extension to the west will have issues with NRA for many years
- A separate heliport is needed for police / medical transport / tourism flights
    - Reduce and eliminate if possible mixed operation of fixed-wing and rotary-wing aircraft operations on the runway (helicopters can operate separate from runway)
- A new MRO / large aircraft hangar(s) are required (Cayman Airways Ltd. (CAL) aircraft are too wide for their current hangar
- An aircraft engine runup area is required
- Improve road / access to airport particularly around west end of airport (move road)
- Drainage and stormwater improvements are required / make hurricane resilient (lift equipment such as FEC, to avoid temporary flooding)
- Improve space for office spaces and Duty Officer use areas
- Future of Fosters: possible to convert to cargo use; catering site; other uses
- Post office / relocate away and improve cargo and CBC facilities
- Fire hall expanding (for domestic improvements)
- Radar Dome is privately held, in support of the FIR airspace radar (overflights tracking) and could be moved
    - Secondary Surveillance Radar (SSR) facility to be relocated to make way for any development at east end of airport
    - SSR lease ends in 2025
- Gun Club – could be moved
    - Consider moving the Fire Training Area to Gun Club

Meeting #6: Fosters Supermarket, 20th June 1700
Attendees: Woody, CEO of Fosters, CIAA PM, Stantec PM

- Discuss future airport master plan at ORIA
- Review lands to the west, including Fosters
- Potential for Fosters to sell land in 7 to 10 years future based on their plans to develop a new Fosters Supermarket in a different part of the city
- Other uses: cargo and/or logistics centre, aircraft parking, other non-aviation uses such as an Aviation Catering centre
- Would CIAA be interested in acquiring this land near ORIA?
    - CIAA PM – to be determined. Suggests Woody communicate his interests with the CEO.

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Meeting #7: CIAA Customer Service & Security, 21st June 1100
Attendees: CIAA PM, Stantec PM, Munich International, Chalmers-Gibbs, KPMG, Bianca (customer service) and Carl (security)

- Taxi services $60 monthly fee
  - 4 licenced operators
  - Tour operators, pay $1/pax to CIAA
- Public Transport Unit (PTU)
  - Sets fares
- Wait times for a taxi is an issue at peak times and in leanest off-peak times
- No modal split – all car
  - Includes private cars, taxis, tour operator vans, rental cars
  - Public bus said to be inadequate
  - No shared shuttle van / shared ride van services
- Need for a 30 m (100 ft.) setback from terminal to curb
  - ASSI sets regulatory standards for airport security at ORIA
  - Result is need to move existing terminal curb lanes, change parking lot layout and with limited remaining space, build a parking garage
- All rental cars are off airport property
  - No concession fees for airport authority
  - Typical to have a MAG and leasing opportunities with rental car companies if on airport
  - Close proximity of rental car companies near airport limits ability of CIAA to capture revenue from this activity; unless these services can be provided from a CIAA-based property, passengers can walk to these companies at no charge. However, these shared customers (Passengers) do not have adequate facilities and they complain about the rain / long walk off airport and small, outdated facilities (standing outside in queues is common) at offsite rental car facilities.
- New landside development opportunity within the 30 m security buffer
- Terminal curb is currently congested
  - No bus layover area,
  - No taxi queue area except on curb
  - Rental cars in 4 locations offsite, across street only
- Distance from entrance doors to check-in counters is too narrow – need to expand
- Need a pax profile (detailed survey) – to better understand the number of bags per pax
- Security screening – typically long queues
- No VIP screening lanes (Complaints from VIPs)
- 1,000 seats in the departures lounge and very few concessions / (food and beverage, duty free)

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Meeting # 8: Department of Environment, 21st June 1200

Attendees: R. Williams, CIAA, P. Van Manen, Stantec, and DOE represented by Gina, Lauren, David, Fred, (and two others, names unknown)

- Gina on the Technical Review Committee
  - DoE has the right to review the projects
  - Suggests National Conservation Council sets need for consultations with DoE
  - Regulatory Reviews / Data to be made available to Stantec
- Consider impacts of airport developments on the following:
  - Marine ecology
  - Coastal resiliency /
  - Environmental sustainability
  - Noise impact
- DoE expects consultants to identify key issues related to variety of areas
- DoE indicated the potential for high, impacts on local environment at Little Cayman
  - Consider issues of essential services to Little Cayman;
  - Understands 2 options: continue to use existing airfield, or develop a new airport
  - Planning Level EIA required
  - Consult with the public / Section 41 of the NCC / CCMI
- DoE expects a scoping report
  - EIA is a separate activity prior to project construction and part of preliminary design
  - Currently master planning is concept level only, and reviews overall feasibility and follows the Green Book process as part of the Outline Business Case / OBC
- DoE approval is required before we can go to Cabinet, in Gina's opinion
- Stantec and CIAA to consult and coordinate with DoE; Lauren will communicate with Philip and Roy.
- Sea Level Rise should be considered, if not resolved
- Climate change policy to be considered
- Have a structured engagement plan
- Obtain environmentally sensitive areas from recent LiDAR survey / Study. Data owned by Cayman Islands - Lands and Survey Department – and can be obtained form John Hall, Director.
  - Supports understanding of impacts from proposed airport developments

Meeting #9: CIAA Airport Operations / Facilities, ORIA, 21st June 1300

CIAA PM, CIAA Eimer Powery, Operations Director | Stantec PM | Munich International | Chalmers-Gibbs | KPMG

- Improve baggage (arrivals) belt protection (not covered)

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- Apron stands 1-8 are old; need to be renewed
  - Brick inlays make up several of these stands; porous
  - Concrete aircraft stands preferred
  - Asphalt roads, taxiways okay. 0
  - Aircraft fuel spills result in ground water issues and drainage issues
- A comprehensive airport drainage plan is required
- Gold Taxiway, north side – lights, pavement – were under water with heavy rains, mild flooding (better drainage required)
- Fencing, south side, has trees on the property boundary impacting the OLS transitional surface
  - Pave the airport security perimeter road
- Old sewage treatment plant to be replaced eventually
- Consider aircraft fuel spills on pavements, and fuel truck operations
  - Improve
- Runway electrical systems – move FEC to secure location
- Solar farm / solar panels – incorporate where feasible (hangar roofs, outside of runway strip)
- Cayman Brac – requires a new taxiway – from apron to runway, and apron expansion
- Runway requires a runway turn pad at each runway end
- Vault for transformers (wet, hold water) that drains / remains dry and new edge lights
- ATB renovations and expansion needed
- Runway / taxiway pavement surfaces under paint is deteriorating
- Separate G/A area, away from commercial terminal
- Added maintenance space required for storage, materials, equipment, etc.
- Air handling units required for air start of commercial aircraft engines

Meeting #10: CIAA Financial Department, 21st June 1600

Attendees: CIAA PM and CFO, Stantec PM, Munich International, Chalmers-Gibbs, KPMG

- Consultant team requires 2019 financial (base planning year), revenues, expenses
- CFO advised that only financials from the last audited statements are from 2017
- Some additional financials will be provided as required / available
- Government Load to CIAA: repayable over 15 years
- PFC – held in escrow
  - PFC amount is $17 / departing passengers
- Fees and charges, such as parking, require Government Cabinet approval to revise
- 1.4 million pax at ORIA in 2019

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Meeting #11: Airlines, ORIA, 21st June 1630

Attendees: CIAA PM, Stantec PM, Munich International, Chalmers-Gibbs, KPMG, Philip – United Airlines, Winston, JetBlue, Cayman Airways, (no name), Marva Reed, Delta Airlines, Kevin Bollard, Delta, American, Southwest were also represented (no names)

- Slot management is a challenge, as it limits the number of slots that can be used by an airline at any one time
    - Instead of three flights arriving in an hour from three destinations, United is limited to say one or two
- American reported that demand for Caribbean Region for Nov-Dec 2022 appears strong (they expect pandemic restrictions to ease soon)
- Delta suggested no real growth until mask mandate and vaccine requirements ease
- Jetblue reported high demand for upcoming winter season
    - Restrictions in place in Cayman Islands are holding back pent-up travel demand into Cayman, therefore they are reallocating planes to other markets, such as Jamaica, where there are no restrictions remaining in place
- The lack of affordable living accommodations for employees in Grand Cayman is a challenge for airlines and ground handlers alike
- American reported the issue of protection from the elements on the landside terminal curb (from car to terminal) and on airside with air bridges (for cover over airside connection from aircraft to terminal) is required to improve operational efficiencies and experience for customers
- Delta reported that their passenger survey indicated that 85% of their passengers did not necessarily want bridges, they like the authentic arrival feeling of using airstairs / ramps and walking into the terminal on ground level (when they do not get rained on!)
- Local passengers seem to prefer / request air bridges more often
- Airlines generally agreed that air bridges would result in fewer agents required to manage pax on each flight, and pax could be segregated more easily, in addition to obvious benefits of being protected from the elements
    - Improved safety and security
    - Better experience for passengers with disabilities
    - Climate controlled
- United and Delta indicated a growing trend to use of digital boarding passes and check-in procedures. United indicated 94% of their passengers check-in online in advance.
- Residents and visitors must have their documents verified at the counter, unless the airline accepts digital passports / information
- No USA Pre-Clearance Facilities are desired – resounding NO. Studied, too expensive.
- Improve concessions at the departure gate areas

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- Common Use Terminal Equipment (CUTE – CUSS and CUPPS systems) require modernization and technological improvements
- CBC is supportive of enhanced digital tools to improve immigration and customs services
- Additional departure gating seating and space is required
- Checked baggage system is not great – and the security machines are SLOW!
    - Modernize and invest in security systems and baggage conveyor system improvements, from check-in to baggage make-up area, and create more redundancy in the system
    - Height of baggage conveyor system behind check-in desks is too high off the ground, leading to employee productive time-lost due to injury / strains and which requires additional support of ground handling employees; the area behind the desks is crowded
    - Some hand searching of bags, with pax present, is still required.
    - Walk through metal detector units and pax screening lanes can be modernized
- Depth of check-in hall is an issue
    - Too narrow
    - Queuing is a challenge for each airline
- Wayfinding signage could improve – too many asking questions of where to go…
- Noisy in terminal… acoustics not great;
    - PA System seems to be very loud in some areas
- Need for 2nd floor pax lounges (airlines, third party lounge providers, etc.)
- Need for additional employee parking
- Staff Room for airline / Ground Handling employees is required

Meeting #12: Cayman Brac Airport Manager, 22nd June 0900
Attendees: CIAA PM, Stantec PM, Cayman Brac APM, Munich International, Chalmers-Gibbs, KPMG

- Review of issues already identified by others on Grand Cayman, APM in agreement generally
- Added option to accommodate 2 Code C (B737 Max 8 types) on apron simultaneously, along with another smaller Code B (Saab 340) in peak hours
    - Minimum 3 to 4 aircraft stands
- Need new Bravo Taxiway, apron to runway – east of apron
- Access road – direct for ARFF onto Runway now ready
- A B737 Max 8 on Stand 1 blocks access on the apron for aircraft moving from Runway 09-27 and Alpha Taxiway.
    - Expand apron towards runway, if able
- Water reservoir to east will be relocated / can be moved off airport

7.18 Passenger Driven Charges Analysis (prepared by Stantec)

All charges that are passenger driven have been included. Some additional comments from Stantec:

- The table contains passenger driven charges for the selected airports, excluding government and tourism taxes. Please note that we have included and highlighted charges such as security charges and some other fees.

- It is important to note that, like landing charges, passenger charges can vary based on factors such as time of day (e.g., Cayman Islands). Cayman Island airport has a mixed terminal charge that varies by time of day, with a unit rate per departing passenger and a fixed charge per hour. This has been highlighted in the table.

- Some airports also have terminal or passenger service charges that are not based on the number of passengers, but rather on the number of aircraft seats and/or the weight of the aircraft (e.g., in Nassau). NAS has an infrastructure charge based on aircraft weight and a fixed terminal charge based on aircraft seats. However, we have only included their per passenger charges in the table since they also have a passenger facility charge per passenger.

- Santo Domingo airport has a fixed 'passenger facility charge' per aircraft with at least one passenger on board. This has also been highlighted in the table.

- We have also included and highlighted Common Use Terminal Equipment (CUTE) or CUPPS charges which generally refer to the use of check-in counters. In these circumstances the charge is for part of the service which would normally be provided by a ground handling agent (either the airport itself or a separate company) and we normally wouldn't benchmark these. Ground handling charges are usually not included because it is very hard to identify a "typical" charge for a flight by a particular aircraft type at any given airport. The level of ground handling requested by an airline can vary considerably, and the rates charged are rarely published. Rates at a given airport may vary between different suppliers and often vary for different airlines served by the same ground handler, depending on the level of service required and volume of traffic handled.

Region	City	Airport	Charge Category	Scheme of Charges	Unit Rate (USD)	Fixed Charges (USD)	Formula Description	Effective Date	Verified Date	Notes
Caribbean	Antigua	V.C. Bird International Airport	Facility	International Arrivals & Departures	37.5		Unit Rate per arriving and departing passenger	15-Oct-2021	19-Oct-2021	1. Airport Administration Charge (ACC). 2. Exempt: infants, crew, domestic pas between Antigua end Barbuda, transit (24hrs). 3. Other charges: New Access Passes EC$25.00, Renewals EC$15.00, Ramp License EC$5.00, Vehicular Ramp Passes EC$25.00.
Caribbean	Antigua	V.C. Bird International Airport	Facility	Domestic Arrivals & Departures	18.5		Unit Rate per arriving and departing passenger			
Caribbean	Barbados	Grantley Adams International Airport	International					11-Apr-2019	11-Aug-2020	1. Exempt: infants under 2 years of age, direct transit. 2. Transit: passenger who arrive in and depart from the airport on the same aircraft and flight number. 3. List of countries for which the regional transfer amount applies: Anguilla (AI), Antigua & Barbuda (AG), Aruba (AW), Bahamas (BS), British Virgin Islands (VG), Cayman Islands (KY), Cuba (CU), Dominica (DM), Dominican Republic (DO), French Guiana (GF), Grenada (GD), Guadeloupe (GP), Guyana (GY), Haiti (HT), Jamaica (JM), Martinique (MQ), Montserrat (MS), Netherlands Antilles (AN), Puerto Rico (PR), Saint Lucia (LC), St. Kitts & Nevis (KN), St. Vincent and the Grenadines (VC), Suriname (SR), Trinidad & Tobago (TT), Turks & Caicos (TC), and US Virgin Islands (VI). 4.International & Regional transfers (beyond 6 hours): BBD 55 per transfer passenger.
Caribbean	Barbados	Grantley Adams International Airport	Passenger Service	Origin & Destination	27.5		Unit Rate per departing O&D passenger			
Caribbean	Barbados	Grantley Adams International Airport	Passenger Service	Transfer (within 6 hours of arrival)	12.5		Unit Rate per transfer passenger			
Caribbean	Barbados	Grantley Adams International Airport	Regional					11-Apr-2019	11-Aug-2020	1. Exempt: infants under 2 years of age, direct transit. 2. Transit: passenger who arrive in and depart from the airport on the same aircraft and flight number. 3. List of countries for which the regional transfer amount applies: Anguilla (AI), Antigua & Barbuda (AG), Aruba (AW), Bahamas (BS), British Virgin Islands (VG), Cayman Islands (KY), Cuba (CU), Dominica (DM), Dominican Republic (DO), French Guiana (GF), Grenada (GD), Guadeloupe (GP), Guyana (GY), Haiti (HT), Jamaica (JM), Martinique (MQ), Montserrat (MS), Netherlands Antilles (AN), Puerto Rico (PR), Saint Lucia (LC), St. Kitts & Nevis (KN), St. Vincent and the Grenadines (VC), Suriname (SR), Trinidad & Tobago (TT), Turks & Caicos (TC), and US Virgin Islands (VI). 4.International & Regional transfers (beyond 6 hours): BBD 55 per transfer passenger.
Caribbean	Barbados	Grantley Adams International Airport	Passenger Service	Origin & Destination	27.5		Unit Rate per departing O&D passenger			
Caribbean	Barbados	Grantley Adams International Airport	Passenger Service	Transfer (within 6 hours of arrival)	5.0		Unit Rate per transfer passenger			
Caribbean	Barbados	Grantley Adams International Airport	Security	All Departures	3.2		Unit Rate per departing passenger	11-Apr-2019	11-Aug-2020	
Caribbean	Barbados	Grantley Adams International Airport	Terminal	All Arrivals	1.5		Unit Rate per arriving passenger	11-Apr-2019	11-Aug-2020	1. Exempt: infants under 2 years of age; specially exempted passengers; passengers arriving and leaving on the same flight; airline crew on duty; transit flights.
Caribbean	Barbados	Grantley Adams International Airport	Airport Service Charge	International Departures	70.0		Unit Rate per departing passenger	01-Oct-2018	11-Aug-2020	1. Exempt: infants under 2 years of age with and without a seat, children up to 12 years of age, online transfer 24 hours, airline crew on duty, Government officials. 2. Regional departures are to Antigua and Barbuda, Bahamas, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Lucia, St Kitts and Nevis, St Vincent and the Grenadines, Suriname,

										Trinidad and Tobago, Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Turks and Caicos Islands.
Caribbean	Barbados	Grantley Adams International Airport	Airport Service Charge	Regional Departures	35.0		Unit Rate per departing passenger			
Central	Belize City	Philip S. W. Goldson Int. Airport	Passenger Service	All Departures	15.0		Unit Rate per departing passenger	01-Jan-2018	16-May-2018	1. Exempt: transit.
Central	Belize City	Philip S. W. Goldson Int. Airport	Security	All Departures	1.3		Unit Rate per departing passenger	01-Jan-2018	16-May-2018	
Central	Belize City	Philip S. W. Goldson Int. Airport	Development	All Departures	18.0		Unit Rate per departing passenger	01-Jan-2018	16-May-2018	
Central	Belize City	Philip S. W. Goldson Int. Airport	Environmental	All Departures	20.0		Unit Rate per departing passenger	01-Jan-2018	16-May-2018	1. Collected by the airlines on the ticket and transferred to Protected Areas Conservation Trust (PACT).
Central	Belize City	Philip S. W. Goldson Int. Airport	Baggage	All Departures	1.3		Unit Rate per departing passenger	01-Jan-2018	16-May-2018	1. So called Baggage Screening.
Caribbean	Martinique	Martinique Aimé Césaire Int. Airport	Passenger Service	Departures to Guadeloupe and dependencies				02-Jun-2021	01-Jun-2021	1. Exempt: infants under 2 years of age. 2. Caribbean Countries: Anguilla, Antigua and Barbuda, Aruba, Bahamas, The Barbados, British Virgin Islands, Cayman Islands, Cuba, Dominica, Dominican Republic, Grenada, Guadeloupe, Haiti, Jamaica, Martinique, Montserrat, Curaçao, St Maarten and Bonaire, Sint Eustatius, and Saba, Puerto Rico, Saint Barthelemy, Saint Kitts & Nevis, Saint Lucia, Saint Martin, Saint Vincent, Trinidad & Tobago, Turks & Caicos Islands, US Virgin Islands. 3. Charge shown includes the passenger reduced mobility charge in the amount of EUR 0.8 per departing passenger.
Caribbean	Martinique	Martinique Aimé Césaire Int. Airport	Passenger Service	Origin & Destination	11.5		Unit Rate per departing O&D passenger			
Caribbean	Martinique	Martinique Aimé Césaire Int. Airport	Passenger Service	Transit / Transfer	10.4		Unit Rate per departing transit / transfer passenger			
Caribbean	Martinique	Martinique Aimé Césaire Int. Airport	Passenger Service	Departures to French Guiana, Caracas and South America						
Caribbean	Martinique	Martinique Aimé Césaire Int. Airport	Passenger Service	Origin & Destination	12.6		Unit Rate per departing O&D passenger			
Caribbean	Martinique	Martinique Aimé Césaire Int. Airport	Passenger Service	Transit / Transfer	11.4		Unit Rate per departing transit / transfer passenger			
Caribbean	Martinique	Martinique Aimé Césaire Int. Airport	Passenger Service	Departures to France and European Union Countries						
Caribbean	Martinique	Martinique Aimé Césaire Int. Airport	Passenger Service	Origin & Destination	26.4		Unit Rate per departing O&D passenger			
Caribbean	Martinique	Martinique Aimé Césaire Int. Airport	Passenger Service	Transit / Transfer	23.8		Unit Rate per departing transit / transfer passenger			
Caribbean	Martinique	Martinique Aimé Césaire Int. Airport	Passenger Service	Departures to all other International						

Region	City	Airport	Charge Category	Scheme of Charges	Unit Rate (USD)	Fixed Charges (USD)	Formula Description	Effective Date	Verified Date	Notes
Caribbean	Martinique	Martinique Aimé Césaire Int. Airport	Passenger Service	Origin & Destination	28.1		Unit Rate per departing O&D passenger			
Caribbean	Martinique	Martinique Aimé Césaire Int. Airport	Passenger Service	Transit / Transfer	25.4		Unit Rate per departing transit / transfer passenger			
Caribbean	Martinique	Martinique Aimé Césaire Int. Airport	Embarkation Tax	All Departures	4.8		Unit Rate per departing passenger	19-Jun-2019	19-Jun-2019	
Caribbean	Cayman Islands	Owen Roberts International Airport	Passenger Service	International Departures	36.0		Unit Rate per departing passenger	08-Dec-2016	10-Sep-2020	1. So called Departure Tax. 2. Exempt: children under 12 years of age, diplomats, transit, person exempted by the Chief Executive Officer of the Cayman Islands Airports Authority. 3. Levied on passengers departing on international flights.
Caribbean	Cayman Islands	Owen Roberts International Airport	Passenger Facility Charge	International Departures	15.6		Unit Rate per departing passenger	08-Dec-2016	10-Sep-2020	1. Exempt: children under 12 years of age, diplomatic aircraft, test flights, emergency landings, training flights by the Chief Executive Officer of the Cayman Islands Airports Authority. 2. The International Passenger Facility Charge is levied per international departures from Cayman Islands for the purpose of airport infrastructure development and terminal extension.
Caribbean	Cayman Islands	Owen Roberts International Airport	Security	All Departures	12.6		Unit Rate per departing passenger	08-Dec-2016	10-Sep-2020	1. Exempt: children under 12 years of age, diplomats, transit, person exempted by the Chief Executive Officer of the Cayman Islands Airports Authority. 3. Levied on passengers departing on international flights.
Caribbean	Cayman Islands	Owen Roberts International Airport	Terminal	12:01 - 01:59	1.2		Unit Rate per departing passenger	08-Dec-2016	10-Sep-2020	1. Exempt: diplomats, test flights, emergency landings, training flights approved by the Chief Executive Officer of the Cayman Islands Airports Authority. Unit rate to increase from $1.20 to $6.00 from 2023.
Caribbean	Cayman Islands	Owen Roberts International Airport	Terminal	02:00 - 12:00	1.2	217.2	Unit Rate per departing passenger + Fixed Charge per hour or part thereof			Unit rate to increase from $1.20 to $6.00 from 2023.
Central	Guatemala	La Aurora International Airport	Passenger Service	International	30.0		Unit Rate per departing passenger	26-Oct-2015	10-Oct-2018	1. Exempt: transit, airline crew on duty.
Central	Guatemala	La Aurora International Airport	Passenger Service	Domestic	0.7		Unit Rate per departing passenger			
Central	Guatemala	La Aurora International Airport	Security	All Departures	2.6		Unit Rate per departing passenger	26-Oct-2015	10-Oct-2018	1. Exempt: nil.
Caribbean	Havana	José Martí International Airport	Passenger Service	International Departures	0.0		Unit Rate per departing passenger	27-Jan-2021	26-Jan-2021	1. So called Passenger Service Airport Tax. Exempt: infants under 2 years of age, transit, passengers that departure from national territory after emergency landing.
Caribbean	Kingston	Norman Manley Int. Airport	Passenger Service	International Departures	30.1		Unit Rate per departing O&D passenger	01-Jan-2022	19-Apr-2022	1. Exempt: Infants under 2 years of age, no stopover - transit / transfer passengers (12 hours). emergency landings, airline crew on duty, military flights and involuntary rerouting. 2. Passenger service charge for visiting non - commercial flight is USD 19.92 per embarked passenger.
Caribbean	Kingston	Norman Manley Int. Airport	Passenger Service	Domestic Departures	7.2		Unit Rate per departing O&D passenger			
Caribbean	Kingston	Norman Manley Int. Airport	Common Use Passenger Processing Systems (CUPPS)	All Departures	3.0		Unit Rate per departing passenger	01-Jan-2018	15-Aug-2022	
Caribbean	Kingston	Norman Manley Int. Airport	Security	International Departures	16.8		Unit Rate per departing passenger	01-Jan-2022	19-Apr-2022	1. Security charge for visiting non - commercial flight is USD 16.79 per embarked passenger.
Caribbean	Kingston	Norman Manley Int. Airport	Security	Domestic Departures	8.0		Unit Rate per departing passenger			
Caribbean	Kingston	Norman Manley Int. Airport	Development	International - Airport Improvement Fee (AIF)	10.0		Unit Rate per departing O&D passenger	01-Jan-2003	22-Jul-2020	1. Exempt: Infants under 2 years of age, no stopover - transit / transfer passengers (12 hours). emergency landings, airline crew on duty, military flights and involuntary rerouting. 2. So called Airport Improvement Fee (AIF). 3. Collected by the airlines/airport on behalf of the Government.
Caribbean	Montego Bay	Sangster International Airport	Passenger Service	International Departures	25.4		Unit Rate per departing passenger	17-Jul-2021	19-Apr-2022	
Caribbean	Montego Bay	Sangster International Airport	Passenger Service	Domestic Departures	5.8		Unit Rate per departing passenger			

Caribbean	Montego Bay	Sangster International Airport	Common Use Passenger Processing Systems (CUPPS)	All Departures	3.0		Unit Rate per departing passenger		19-Apr-2022	
Caribbean	Montego Bay	Sangster International Airport	Security	International Departures	2.7		Unit Rate per departing passenger	01-Jan-2020	19-Apr-2022	
Caribbean	Montego Bay	Sangster International Airport	Security	Domestic Departures	2.7		Unit Rate per departing passenger			
Central	Managua	Augusto C. Sandino Int. Airport	Security	International Departures	3.0		Unit Rate per departing passenger	25-Jul-2013	07-Aug-2020	
Caribbean	Nassau	Lynden Pindling International Airport	Passenger Service	International Departures	25.0		Unit Rate per departing passenger	28-Feb-2019	09-Aug-2019	1. So called International Departure Tax. 2. Exempt: infants under 2 years of age; Diplomats; passengers on flights that are involuntarily rerouted; airline crew on duty and personnel on military services. services.
Caribbean	Nassau	Lynden Pindling International Airport	Passenger Facility Charge	International Departures	38.0		Unit Rate per departing passenger	01-Feb-2020	18-Feb-2020	1. Exempt: infants under 2 years of age, Diplomats, passengers involuntarily rerouted, airline crew on duty, personnel on military service. 2. Charge shown is VAT inclusive. 3. Passenger Processing Fee is waived if passengers have round trip tickets originating in FPO or MHH or TCB to USA via NAS and return from USA to FPO or MHH or TCB via NAS with same day travel. 4. Stay over is not allowed. Passengers with two separate tickets for domestic and international travel will not be exempted.
Caribbean	Nassau	Lynden Pindling International Airport	Passenger Facility Charge	Domestic Departures	10.0		Unit Rate per departing passenger			
Caribbean	Nassau	Lynden Pindling International Airport	Security	International Departures	9.0		Unit Rate per departing passenger	01-Mar-2020	08-Jun-2022	1. Exempt: infants under 2 years of age, diplomats, involuntary rerouting, airline crew on duty, personnel on military service. 2. Charges shown are VAT inclusive.
Caribbean	Nassau	Lynden Pindling International Airport	Security	Domestic Departures	7.0		Unit Rate per departing passenger			
Caribbean	Nassau	Lynden Pindling International Airport	Processing Fee	International Departures	10.0		Unit Rate per departing passenger	01-Feb-2020	08-Jun-2022	1. Exempt: infants under 2 years of age, Diplomats, passengers involuntarily rerouted, airline crew on duty, personnel on military service. 2. Charge shown is VAT inclusive. 3. Passenger Processing Fee is waived if passengers have round trip tickets originating in FPO or MHH or TCB to USA via NAS and return from USA to FPO or MHH or TCB via NAS with same day travel. 4. Stay over is not allowed. Passengers with two separate tickets for domestic and international travel will not be exempted.
Caribbean	Puerto Plata	Gregorio Luperón Int. Airport	Passenger Service	Passenger Charge	16.3		Unit Rate per departing O&D passenger	13-Mar-2018	10-Aug-2021	1. Exempt: transit, transfer. 2. Normally included in the ticket. 3. Same fees apply to charter flights.
Caribbean	Puerto Plata	Gregorio Luperón Int. Airport	Infrastructure	International Arrivals & Departures	16.3		Unit Rate per arriving and departing passenger	01-Dec-2018	10-Aug-2021	1. So called Airport Infrastructure Fee.

Region	City	Airport	Charge Category	Scheme of Charges	Unit Rate (USD)	Fixed Charges (USD)	Formula Description	Effective Date	Verified Date	Notes
Caribbean	Puerto Plata	Gregorio Luperón Int. Airport	Airport Tax	All Departures	20.0		Unit Rate per departing passenger	01-Jan-2018	10-Aug-2021	1. So called Airport Departure Tax.
Caribbean	Puerto Plata	Gregorio Luperón Int. Airport	Airport Service Charge	International Arrivals & Departures	2.8		Unit Rate per arriving and departing passenger	01-Dec-2018	10-Aug-2021	1. So called Aerodrom Fee. 2. Exempt: infants under 2 years of age, military flights, direct transit - same flight number.
Caribbean	Port of Spain	Piarco International Airport	Passenger Service	International Departures	30.0		Unit Rate per departing passenger	01-Dec-2018	19-Jan-2021	1. Exempt: children under 5 years of age; transit (24 hours); Trinidad & Tobago citizen over 60 years of age.
Caribbean	Port of Spain	Piarco International Airport	Security	All Departures	18.8		Unit Rate per departing passenger	01-Jun-2018	19-Jan-2021	
Caribbean	Pointe-à-Pitre	Pointe-à-Pitre Int. Airport	Passenger Service	Departures to Metropolitan France, EU Countries, Switzerland and all other International Destinations						
Caribbean	Pointe-à-Pitre	Pointe-à-Pitre Int. Airport	Passenger Service	Origin & Destination	26.2		Unit Rate per departing O&D passenger			
Caribbean	Pointe-à-Pitre	Pointe-à-Pitre Int. Airport	Passenger Service	Transit / Transfer	16.9		Unit Rate per departing transit / transfer passenger			
Caribbean	Pointe-à-Pitre	Pointe-à-Pitre Int. Airport	Passenger Service	Departures to Martinique, French Guiana and Caribbean countries including PUJ (except SJU)						
Caribbean	Pointe-à-Pitre	Pointe-à-Pitre Int. Airport	Passenger Service	Origin & Destination	9.9		Unit Rate per departing O&D passenger			
Caribbean	Pointe-à-Pitre	Pointe-à-Pitre Int. Airport	Passenger Service	Transit / Transfer	7.1		Unit Rate per departing transit / transfer passenger			
Caribbean	Pointe-à-Pitre	Pointe-à-Pitre Int. Airport	Passenger Service	Departures to Guadeloupe / SBH / SFG						
Caribbean	Pointe-à-Pitre	Pointe-à-Pitre Int. Airport	Passenger Service	Origin & Destination	6.7		Unit Rate per departing O&D passenger			
Caribbean	Pointe-à-Pitre	Pointe-à-Pitre Int. Airport	Passenger Service	Transit / Transfer	5.1		Unit Rate per departing transit / transfer passenger			
Caribbean	Pointe-à-Pitre	Pointe-à-Pitre Int. Airport	Passenger Service	Departures to San Juan						
Caribbean	Pointe-à-Pitre	Pointe-à-Pitre Int. Airport	Passenger Service	Origin & Destination	9.9		Unit Rate per departing O&D passenger			
Caribbean	Pointe-à-Pitre	Pointe-à-Pitre Int. Airport	Passenger Service	Transit / Transfer	7.1		Unit Rate per departing transit / transfer passenger			
Central	Panama City	Tocumen International Airport	Passenger Service	International Departures	40.0		Unit Rate per departing passenger	01-Oct-2017	07-Feb-2022	1. Exempt: airline crew on duty, transit / transfer (up to 24 hours), international to International.
Central	Panama City	Tocumen International Airport	Security	All Departures	1.3		Unit Rate per departing passenger	18-Oct-2021	07-Feb-2022	1. Levied on passengers departing and arriving on international and domestic flights for the purpose of supporting security services in Tocumen International Airport.
Central	Panama City	Tocumen International Airport	Passenger Reduced Mobility	All Departures	0.6		Unit Rate per departing passenger	01-Jan-2015	07-Feb-2022	1. Exempt: infants under 2 years of age, airline crew on duty, transit/transfer (24 hours), international to International.
Central	Panama City	Tocumen International Airport	Development	All Departures	12.0		Unit Rate per departing passenger	01-Jan-2015	07-Feb-2022	
Caribbean	Punta Cana	Punta Cana International Airport	Passenger Service	International Arrivals & Departures	15.0		Unit Rate per arriving and departing passenger	01-Jan-2021	09-Mar-2022	
Caribbean	Punta Cana	Punta Cana International Airport	Passenger Service	Transit	7.5		Unit Rate per transit passenger per			

							hour			
Caribbean	Punta Cana	Punta Cana International Airport	Check - in	Check-in counter rates	0.5		Unit Rate per departing passenger	01-Jul-2012	09-Mar-2022	1. Charge shown is for flight with the number of checked in passengers over 71.
Caribbean	Punta Cana	Punta Cana International Airport	Terminal	International Terminal User Fee	0.5		Unit Rate per departing passenger per 2 hours delay	01-May-2009	09-Mar-2022	1. Charge shown is applied for terminal usage per 2 hours of a flight delay.
Central	San Pedro Sula	Ramón Villeda Morales Int. Airport	Passenger Service	International Departures	34.7		Unit Rate per departing passenger	01-Apr-2019	19-Mar-2021	1. So called International and Domestic Departure Fee. 2. Exempt: transit passengers, connection and diversion flights and Honduran diplomats arriving for relief missions. 3. International Senior and Pensioners/Retirees (60 years or older) - USD 27.79; Domestic Departures: Honduran Retirees and Resident Aliens aged 60 and over: HNL 39.98.
Central	San Pedro Sula	Ramón Villeda Morales Int. Airport	Passenger Service	Domestic Departures	2.0		Unit Rate per departing passenger			
Central	San Pedro Sula	Ramón Villeda Morales Int. Airport	Airport Tax	International Departures	13.7		Unit Rate per departing passenger	15-Jun-2019	19-Mar-2021	1. So called Airport User Fee. 2. The charge shown includes Security (USD 2), Immigration (USD 9) and Baggage Screening Fee (OIRSA: USD 2.7)
Caribbean	Santo Domingo	Las Americas Int. Airport	Passenger Service	All Departures	19.1		Unit Rate per departing O&D passenger	15-Jun-2018	10-Aug-2021	1. Exempt: transit, transfer. 2. Normally included in the ticket. 3. Same fees apply to charter flights.
Caribbean	Santo Domingo	Las Americas Int. Airport	Infrastructure	International Arrivals & Departures	16.3		Unit Rate per arriving and departing passenger	01-Dec-2018	10-Aug-2021	
Caribbean	Santo Domingo	Las Americas Int. Airport	Airport Tax	All Departures	20.0		Unit Rate per departing passenger	01-Jan-2018	10-Aug-2021	1. So called Airport Departure Tax.
Caribbean	Santo Domingo	Las Americas Int. Airport	Airport Service Charge	International Arrivals & Departures	2.8		Unit Rate per arriving and departing passenger	01-Dec-2018	10-Aug-2021	1. So called Aerodrom Fee. 2. Exempt: infants under 2 years of age, military flights, direct transit - same flight number.
Caribbean	Santo Domingo	Las Americas Int. Airport	Passenger Facility Charge	All Traffic		40.0	Fixed Charge	13-Mar-2018	10-Aug-2021	1. So called Departure Facility Charge. 2. This charge is levied for all wide and narrow body aircrafts with at least 1 passenger.
Central	San Jose	Juan Santamaría International Airport	Security	International Arrivals & Departures	1.5		Unit Rate per arriving and departing passenger	25-Oct-2019	18-Aug-2022	1. The only exemptions processed are those that are previously authorised by the DGAC, by a formal note sent to the airport administration. There is no discount on rates established. 2. CUAC: USD 7.51 per departing passenger. 3. The only method of payment is by credit which first must be managed with the airport administration.
Central	San Jose	Juan Santamaría International Airport	Security	Domestic Arrivals & Departures	0.8		Unit Rate per arriving and departing passenger			
Central	San Jose	Juan Santamaría International Airport	Common User Terminal Equipment (CUTE)	International Departures	12.5		Unit Rate per departing passenger	18-Aug-2022	25-Aug-2022	1. So called Common Area User Charge. 2. Levied on international departures for the purpose of airport maintenance and improvement.
Caribbean	San Juan	Luis Muñoz Marín International Airport	Passenger Service	International				01-Jul-2020	02-Jul-2020	

Region	City	Airport	Charge Category	Scheme of Charges	Unit Rate (USD)	Fixed Charges(USD)	Formula Description	Effective Date	Verified Date	Notes
Caribbean	San Juan	Luis Muñoz Marín International Airport	Passenger Service	Signatory Carriers (Departures Only)	5.0		Unit Rate per departing passenger			
Caribbean	San Juan	Luis Muñoz Marín International Airport	Passenger Service	Non - Signatory Carriers (Arrivals & Departures)	6.3		Unit Rate per arriving and departing passenger			
Caribbean	San Juan	Luis Muñoz Marín International Airport	Passenger Service	Domestic						
Caribbean	San Juan	Luis Muñoz Marín International Airport	Passenger Service	Signatory Carriers (Departures Only)	5.0		Unit Rate per departing passenger			
Caribbean	San Juan	Luis Muñoz Marín International Airport	Passenger Service	Non - Signatory Carriers (Arrivals & Departures)	6.3		Unit Rate per arriving and departing passenger			
Caribbean	San Juan	Luis Muñoz Marín International Airport	Passenger Facility Charge	All Departures	4.5		Unit Rate per departing passenger	01-May-2018	29-Jun-2020	1. Exempt: zero cost tickets.
Caribbean	San Juan	Luis Muñoz Marín International Airport	Terminal	International						
Caribbean	San Juan	Luis Muñoz Marín International Airport	Terminal	Signatory Carriers (Departures Only)	31.3		Unit Rate per departing passenger			
Caribbean	San Juan	Luis Muñoz Marín International Airport	Terminal	Non - Signatory Carriers (Departures Only)	39.1		Unit Rate per departing passenger			
Caribbean	San Juan	Luis Muñoz Marín International Airport	Terminal	Domestic (Aircraft with 12 passenger seats or less)						
Caribbean	San Juan	Luis Muñoz Marín International Airport	Terminal	Signatory Carriers (Arrivals & Departures)	2.3		Unit Rate per arriving and departing passenger			
Caribbean	San Juan	Luis Muñoz Marín International Airport	Terminal	Non - Signatory Carriers (Arrivals & Departures)	2.8		Unit Rate per arriving and departing passenger			
Caribbean	St. Maarten	Princess Juliana International Airport	Passenger Service	International Departures	36.0		Unit Rate per departing O&D passenger	22-Apr-2021	15-Aug-2022	1. So called Airport Departure Tax.
Caribbean	St. Maarten	Princess Juliana International Airport	Passenger Service	Domestic Departures	22.0		Unit Rate per departing O&D passenger			
Caribbean	St. Maarten	Princess Juliana International Airport	Passenger Service	Transfer	5.0		Unit Rate per departing transfer passenger			
Caribbean	St. Maarten	Princess Juliana International	Developme	All Departures	12.5		Unit Rate	01-Apr-	15-Aug-	1. So called Airport Improvement Fee.

n		Airport	nt				per departing passenger	2021	2022	
Caribbean	St. Maarten	Princess Juliana International Airport	Screening	All Departures	11.8		Unit Rate per departing passenger	24-Jan-2019	15-Aug-2022	
Caribbean	St. Maarten	Princess Juliana International Airport	Pre-Clearance Fee	Security Charge	3.3		Unit Rate per departing passenger	07-Nov-2019	15-Aug-2022	1. So called Special Facility Charge. 2. Charge shown is levied on passengers making use of the US pre - clearance facilities and / or services.
Caribbean	Oranjestad	Queen Beatrix International Airport	Passenger Service	International Departures	23.0		Unit Rate per departing O&D passenger	22-Apr-2021	18-Aug-2022	1. Exempt: children under 12 years of age, transfer, transit (24 hours) airline crew on duty.
Caribbean	Oranjestad	Queen Beatrix International Airport	Passenger Service	Departures within the territory of the Dutch Caribbean (Bonaire)	8.8		Unit Rate per departing O&D passenger			
Caribbean	Oranjestad	Queen Beatrix International Airport	Passenger Service	Transfer	3.0		Unit Rate per departing transfer passenger			
Caribbean	Oranjestad	Queen Beatrix International Airport	Security	All Departures	3.0		Unit Rate per departing passenger	22-Apr-2021	18-Aug-2022	1. Exempt: children under 12 years of age, airline crew on duty.
Caribbean	Oranjestad	Queen Beatrix International Airport	Facility	Departures to the USA	5.3		Unit Rate per departing passenger	09-Jun-2018	18-Aug-2022	1. So called Special Facility Charge. 2. Exempt: children under 12 years of age, airline crew on duty.
Caribbean	Anegada	Auguste George Airport	Passenger Service	International Departures	15.0		Unit Rate per departing passenger	25-Jul-2013	23-Apr-2018	1. Exempt: children under 5 years of age, exchange students.
Caribbean	Anegada	Auguste George Airport	Security	All Departures	5.0		Unit Rate per departing passenger	25-Jul-2013	23-Apr-2018	1. Exempt: nil.
Caribbean	Anegada	Auguste George Airport	Development	International Arrivals & Departures	10.0		Unit Rate per arriving and departing passenger	01-Apr-2019	25-Mar-2019	1. Exempt: infants under 2 years of age; ID1 totally free of charge (i.e. no fare and no surcharges) except for bona fide flights.
Caribbean	Anegada	Auguste George Airport	Development	Domestic Departures	5.0		Unit Rate per departing passenger			
Caribbean	Anegada	Auguste George Airport	Baggage	All Departures	7.0		Unit Rate per departing passenger	25-Jul-2013	23-Apr-2018	1. Exempt: nil. 2. Each passenger departing for a foreign country on an aircraft of 14 passengers or more is charged a Hold Baggage Screening (HBS) Fee.
Caribbean	Cockburn Town	JAGS McCartney International Airport	Passenger Service	International Departures	29.0		Unit Rate per departing passenger	01-Jan-2017	03-Dec-2020	1. Exempt: infants under 2 years of age.
Caribbean	Cockburn Town	JAGS McCartney International Airport	Security	All Departures	8.0		Unit Rate per departing passenger	01-Jan-2017	03-Dec-2020	1. Exempt: infants under 2 years of age.
Caribbean	Saint Thomas	Cyril E. King Airport	Passenger Service	Departing				01-Oct-2005	07-Aug-2020	1. Preclearance departing passengers: for use of airport facilities paid by each departing passenger using the preclearance facilities or pre-cleared by USA Government personnel at another location. Also included is a per passenger security cost for the protection of departing passengers: USD 7.95 per departing passenger
Caribbean	Saint Thomas	Cyril E. King Airport	Passenger Service	All Departures	7.2		Unit Rate per departing passenger			
Caribbean	Saint Thomas	Cyril E. King Airport	Passenger Service	Arriving						

Caribbean	Saint Thomas	Cyril E. King Airport	Passenger Service	International Arrivals	8.2		Unit Rate per arriving passenger			
Caribbean	Saint Thomas	Cyril E. King Airport	Passenger Service	Domestic Arrivals	2.6		Unit Rate per arriving passenger			
Caribbean	Saint Thomas	Cyril E. King Airport	Security	All Departures	0.3		Unit Rate per departing passenger	01-Jan-1992	07-Aug-2020	

7.19 Master Plan Qualitative Data Completed Meetings

Master Plan Qualatative Data Completed Meetings 18.10.2021

Entity	Date Meeting held	Attendee 1	Attendee 2	Attendee 3	Attendee 4	Time Duration (hrs)
Air Traffic Control Meeting 1	25.05.2021	Erick B.	Bobby B.			1.25
Security Meeting #1	26.05.2021	Chad Y.	Denniston			1.15
Operations Meeting # 1	27.05.2021	Andy G.				1.2
Safety Meeting	02.06.2021	Andrew M.				1
Information Technology	03.06.2021	Mark W.	Paul J.			0.5
Civil Aviation Authority	10.06.2021	Alastair R.	Robert H	Craig S.	Nikki M.	1.5
CKIA	11.06.2021	Miguel M.	Derron			1
Fire Department	17.06.2021	Brevan	Paul W.	Tatum		1.2
Operations Meeting # 1	18.06.2021	Jeremy J.				1.5
MRCU	18.06.2021	Richard C.	Ben T.			1.15
Commercial	21.06.2021	Bianca MD.	Ivis M.			1.45
Department of Environment	22.06.2021	Gina	Fred	Wendy J.		1.15
Water Authority	22.06.2021	Hendrik V.	Yasmin J.	Trenton F.		1
CIAA Facilities	23.06.2021	Eimer P.	Nicholas J.	Kemar B.	Derick J.	1.1
CDS	24.06.2021	Erimando E.	Jonathon E.			1.1
Executive	24.06.2021	Albert A.	Wayne D.			0.56
FADS	25.06.2021	Dara F.	Frank F.	Randy		1.3
Civil Aviation Authority meet #2	28.06.2021	Alastair R.	Nikki M.	Richard S.		1.25
United	10.09.2021	Phil				0.46
SouthWest	11.09.2021	Shalico				1.5
Jet Blue	20.08.2021	Benjani L.	Winston W.			1.2
Dept. of Environmental Health	24.08.2021	Richard S.				1
Health Services Authority	01.09.2021	Dr. Simmons	Dr Williams	Steve D.		45
Cayman Airways	02.09.2021	Paul T.	Ivan F.			1
Island Air	07.09.2021	Marcus C.				1
Department of Tourism	08.09.2021	Rosa P.	Tom. L	Ricardo S.	Gary H.	2
Delta Airlines	09.09.2021	Kevin B.	Marva R.			0.55
Police	15.09.2021	Steve F.				1
Health City	17.09.2021	Shomani S.				0.75
Customs and Border Control	20.09.2021	Charles C.				1
SOL Petroleum	21.09.2021	Ricardo C.	Myron B.			0.8
RUBiS	22.09.2021	Andres B	Greg C.			0.85
CITA	24.09.2021	Marc L.				1
Police	27.09.2021	Kurt W.	Malcolm K.			0.75
National Trust	29.09.2021	Annick J.	Catherine C.			1
National Roads Authority	30.09.2021	Edward H.	Denis T.			1
American Airlines	04.10.2021	Nadine	Anagracia D.			1.25
MET	05.10.2021	John T.				0.8
Chamber of Commerce	05.10.2021	Will P.				1
Gene Thompson	07.10.2021	Gene T.	Rahul M.	Andrew V.		1
Car Rentals	08.10.2021	Brian K.	Paige F.			1
Sister Islands Committees	15.10.2021	Greg M.	Debra V.			1.2
Marine Institute	19.10.2021	Kate H.				
Medical Services	20.10.2021	Mark S.				
Sister Islands Tourist Assoc.						
				Total Hours		88.47

7.20 Master Plan Executive Summary

Cayman Islands Airports Development Project

Executive Summary

9th January 2023

CIAA
Cayman Islands Airports Authority

Stantec

The Cayman Islands Airports Authority (CIAA), in collaboration with the consultant team lead by Stantec and including BCQS, Chalmers-Gibbs, DKMA, KPMG and Munich Airport International, completed the Cayman Islands Airports Development Project to the benefit of the Cayman Islands Government and the people and guests of Cayman Islands. This Executive Summary provides an overview of necessary airport/s development over a 20-year planning horizon, which is technically, environmentally, and financially feasible and which meets the key project objectives as set out by the CIAA Steering Committee, for review and approval by the CIAA Board of Directors, the Minister of Tourism, and the Cayman Islands Government. Stantec is the Prime Consultant and is supported by a team of specialists, including our local project partners BCQS, (cost consultants) Chalmers-Gibbs, (architects) and KPMG (financial consultants). The team was supported by international partners in DKMA (economics analysis and traffic forecasting) and Munich Airport International (airport management advisors, terminal facility capacity analysis).

Executive Summary

The purpose of the Cayman Islands Airports Development Project is to create a 20-year airport infrastructure and land use plans which provides the necessary infrastructure required to accommodate current and future aviation and passenger demand. The airport master plan is undertaken with safety, operational efficiency, environmental and financial sustainability as top priorities in providing aviation transportation services for the citizens of, and visitors to the Cayman Islands.

The Airports Development Project was initiated in May 2022 and includes four (4) major programs:

Project A1: General Aviation Terminal at Owen Roberts International Airport, Grand Cayman
Project A2: Owen Roberts International Airport Master Plan to 2041, Grand Cayman
Project B: 2041 Charles Kirkconnell International Airport Master Plan, Cayman Brac, and
Project C: 2041 Edward Bodden Airport Master Plan, Little Cayman

The Airports Development Project included the following major project tasks:

a) Airports infrastructure reviews, document existing conditions, constraints, issues, challenges, and opportunities
b) Information and data gathering and processing
c) Internal and external stakeholder engagement and public consultations on each of the Cayman Islands
d) Review of economics and industry trends, and the development of traffic forecasts for each airport
e) Provision of future facility requirements based on identified demand from the traffic forecasts
f) The creation of several airfield / terminal / landside infrastructure development options at each airport
g) An evaluation of various development options, and selection of the preferred development concepts
h) Prioritization and cost estimates of all contemplated airport infrastructure for the preferred development options
i) Environmental review of the main alternative development options and preferred development options
j) Financial analysis and development of an outline business case for each of the four main projects.

Stakeholder Engagement, Public Outreach & Site Reviews

The development of the airport master plan began in 2021with a mix of external and internal stakeholder interviews undertaken by the CIAA. Then again, in June 2022, the ADP project team completed several key stakeholder interviews, confirming opinions obtained during the original stakeholder engagement interviews and enabling new feedback.

Three (3) Public Outreach / Feedback sessions were held on Cayman Brac, Little Cayman, and Grand Cayman respectively on 11th, 12th, and 13th of July 2022. A second round of three (3) Public Outreach / Feedback sessions were held on 21st, 22nd and 23rd of November 2022 on Little Cayman, Cayman Brac and Grand Cayman respectively; the public were given a presentation by the Project Team reported on the outcomes of the master planning process concluding with the preferred development options for all three airports. Generally, the public responses were very positive and recognized that much of What We Heard had been incorporated. Some of the key findings include (a) the need for sharing information with the Public; (b) concerns over wildlife habitat impacts on any potential filling of the Westerly Ponds at Cayman Brac; (c) concerns regarding any potential growth in development on Little Cayman, if a new airport is built; (d) the loss of bird and wildlife habitat, particularly for endangered species, on all three Cayman Islands; (e) the loss of mangrove and the impact on marine life of a runway extension into North Sound at Grand Cayman; and (f) the need for a new air traffic management surveillance system at both ORIA and CKIA.

The preferred development concepts for contemplated airport projects incorporated many of the shared views as heard from users, stakeholders, and the public. Ongoing investments and improvements addressing safety and regulatory concerns, protection of the environment, and improving the level of passenger experience, are all extremely important from What We Heard. A detailed report of What We Heard is provided in the Appendices to the Airport Master Plan and to the OBC report.

As a key stakeholder, it was incumbent on the project team to hold a number of in-person and virtual meetings with the Department of Environment (DoE) to better understand the environmental statutes and regulations that have recently come into force in the Cayman Islands or which are soon to come into force. The DoE provided suggestions and clear guidance that informed the project team's approach to environmental screening of contemplated airport projects.

A detailed review and assessment of all contemplated airport projects was completed based on the 'Green Book' standards (required by all British Overseas Territories on major projects) and results were reported to the DoE. The DoE provided the project team with clarifications, and access to relevant data on locations of known endangered species needed to inform sustainable airport planning practices without sacrificing known habitats for endangered and critically endangered species. Lastly, the CIAA agrees with DoE that several of the airport development projects will require detailed environmental impact assessments (EIAs) prior to completion of engineering designs and construction. The CIAA agreed with DoE to identify projects that require EIAs and to continue to work collaboratively with DoE on a case-by-case basis.

Outcomes of the Airport Master Planning Process

The project team completed site visits to each of the 3 Cayman Islands Airports to gain an understanding of the conditions of existing infrastructure, capabilities, challenges, and to review impact of regulatory standards required. The team collected several reference documents, past studies and completed a thorough review of the interview notes and relevant information provided prior to undertaking airport planning and concept developments. The planning team were provided detailed aviation traffic forecasting information for passengers, aircraft, and cargo, from which a set of facility requirements was determined and provided for planning year 2041, (20-year planning horizon). Additionally, the planning team were provided with vehicular ORIA traffic forecasts to use and develop an understanding of the landside approach road requirements and future parking capacity needs .

From the requirements, the planning team created a few alternative plans for each of the airports, for airside, landside, and terminal facilities. An evaluation of the airside, terminal, and landside facility planning concepts was completed, from which the preferred development concepts were produced. The cost estimates and environmental impacts of each of the preferred development concepts were then completed, from which final revisions to the airport master plans were finalized for each airport on Little Cayman, Cayman Brac and Grand Cayman.

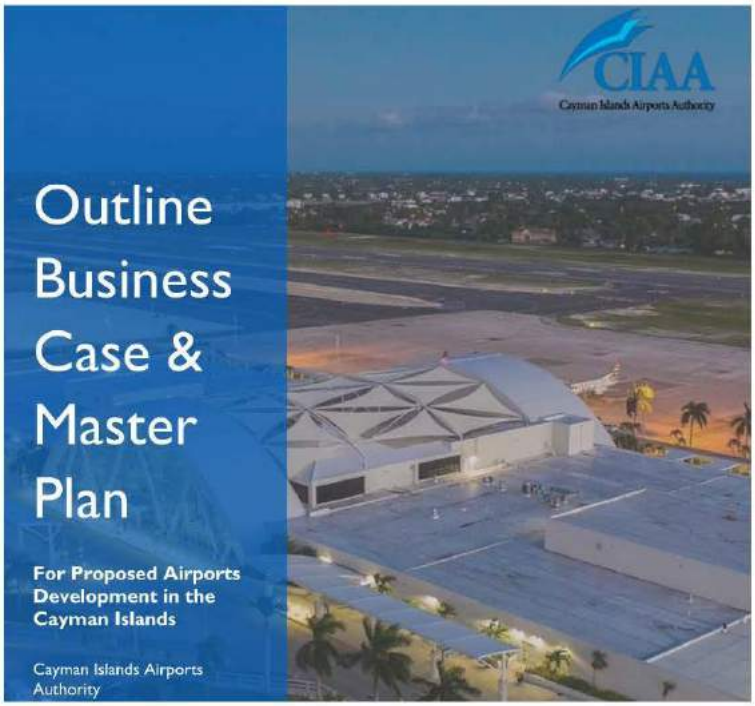
An evaluation of the alternative airport planning concepts was also included in the financial analyses and an environmental screening analysis as part of the Green Book and Outline Business Case tasks; the culmination of these planning, review and analyses provided the basis for a feasible project implementation plan over the short-term (1-5 years) medium-term (6-10 years) and long-term (11-20 years) planning horizons to enable the CIAA to accommodate the growing demand on airport facilities, meeting mandatory regulatory requirements while being environmentally sustainable and providing a world-class optimal level passenger experience.

The ability for the CIAA to incorporate new, innovative technology to improve capacity and throughput of passengers for existing facilities, and to adopt improved revenue producing services on the landside at ORIA is planned to support the objectives of improving operational efficiencies, supporting an improved level of service and passenger experience and enhancing and creating new, non-aeronautical revenue streams.

The Outline Business Case

The Airports Development Project includes a detailed Outline Business Case prepared for the CIAA by the project team's financial consultants, KPMG based on the traffic forecasts by DKMA; the costing completed by BCQS; and airport planning inputs provided by Stantec. The OBC, complying with the requirements in the Green Book Guidance for development of an OBC using the 5 Case Model, includes a detailed strategic case, an economic case, a commercial case, a financial case and a management case for a long-list and short-list of options, as aligned with the alternative development concepts provided by the planning team.

The Outline Business Case revisits the Strategic Outline Case (SOC) in more detail and identifies a preferred option that demonstrably optimises *Value for Money*. It also sets out the likely transaction structure; demonstrates its affordability; and details the supporting procurement strategy, together with management arrangements for the successful rollout of the scheme.



The OBC is the second stage in the management process of developing a business case to justify an investment decision to deliver a major public sector project in the Cayman Islands. Finally, the OBC utilized the preferred airport planning development options and implementation plan and incorporated the contemplated projects of the airport master plans into short, medium, and long-term development programs based on cost, capability, and funding arrangements.

Project A.1: General Aviation Terminal, Hangar & Apron, ORIA

The existing General Aviation (G/A) terminal at Owen Roberts International Airport (ORIA) has been maintained well beyond the building's original and extended life expectancy. The aging building requires ever-increasing maintenance and repairs. The facility fails to provide the high-value brand image that the Cayman Islands Government is working to foster to attract guests and visitors. The Cayman Islands Airports Authority (CIAA) acknowledges three key issues: a) the relatively poor condition of the terminal building, b) lack of space required for general aviation aircraft parking during peak periods, c) insufficient revenue generation from GA and d) delays to commercial airline operations due to general aviation taxiing and runway back-tracking operations at ORIA due to a lack of parallel taxiway.

Fig. 1: New General Aviation Facilities Location, ORIA

A new general aviation facility is a strategic objective for the Cayman Islands Government. Stakeholders have indicated that the inferior quality of the facilities may deter tourism growth. Security, customer experience, and operational efficiencies are lacking at the existing G/A terminal; the current FBO, CBC, CIAA Security and CIAA customer service departments are supportive of an improved facility to process its VIPs and high-value guests.

The preferred development resolves the three key issues indicated above by developing a new general aviation terminal, hangars, and aircraft parking aprons located to the east of the main commercial terminal. This brownfield site, indicated in Figure 1 overlooks North Sound (north of Golf Taxiway), resulting in minimal time for general aviation aircraft to exit the runway and arrive at the G/A terminal. In the short term, aircraft departures backtracking the runway will still require coordination to taxi through the terminal apron, until the completion of the parallel taxiway is constructed.

The preferred development option allows for over 40 aircraft to park simultaneously in peak periods at ORIA, without taking space from other aprons at the airport. The existing general aviation apron may continue to be utilized in the short term, and in future scheduled airlines will be able to utilize a portion of the general aviation aprons for temporary aircraft parking in off-peak periods. The preferred option also envisions a new GA terminal facility with hangar(s) that protect aircraft from the elements, provides a high-quality passenger experience and enhances revenue generation for CIAA. The general aviation facilities shall meet all applicable regulatory standards

and result in a higher level of safety on both the landside and airside of the facility. The additional apron space for aircraft parking will reduce the need to 'stack' aircraft 3 and 4 deep, as is done today when demand outstrips capacity for GA aircraft parking at ORIA.

Fig. 2: General Aviation Terminal & Hangar Concept

The two-level general aviation terminal is planned to be developed next to a new hangar in the east end of ORIA. A third level could be home to an airport destination restaurant and deck with views overlooking the North Sound, airport runway and the General Aviation Aircraft Parking Apron. Landside and waterside access are adjacent to the G/A terminal. Figure 2 indicates the conceptual layout of the Air Terminal Building (ATB) and hangar.

Project A.2: Owen Roberts International Airport Master Plan

The airport master plan at Owen Roberts International Airport (ORIA) is focussed on meeting key objectives, including improving the passenger experience, expanding facilities to accommodate forecast growth, improving aeronautical revenues, and developing *new* non-aeronautical revenue streams while complying with applicable aviation and environmental regulations and standards.

Operationally, ORIA is currently challenged by lack of aircraft parking in peak hours, the need for all aircraft to back-track the runway for take-off reducing efficiencies, a sub-optimal runway length and significant pressure on air terminal building processes such as passenger check-in, outbound security, aircraft boarding, and inbound customs and immigration.

A lack of adequate protection from the elements on landside and airside is a key passenger experience concern. When the weather is fine, the experience is fine; when it is raining, which is common, passenger complaints increase dramatically, particularly due to the long walks across the open apron into the terminal, and from the terminal to car rental facilities (currently off-airport) on the landside.

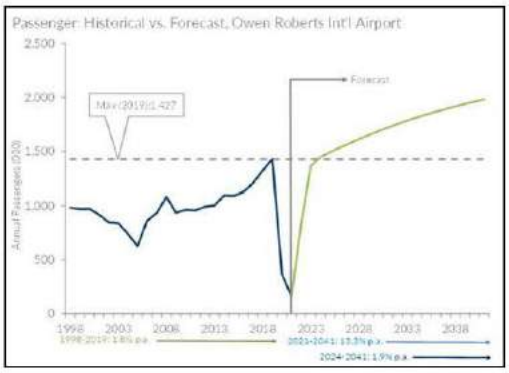
The following key environmental objectives were considered in all aspects of the airport master plan:

a) preserving the existing shoreline mangroves on the east side of ORIA and expanding red mangroves where feasible

b) reducing bird strikes by elimination of habitat and wildlife attractants, particularly improving drainage of standing water on the surface of the runway strip post-rain events

c) encouraging innovative, technologically feasible, sustainability initiatives, including but not limited to development of green (solar and wind) power, installation of fuel-water separation systems in hangars and aprons, use of carbon capture technology in concrete pavements, and a reduction in fuel consumption.

These 'green' objectives are key drivers of a living airport master plan document. Monitoring of key performance indicators (KPIs) enables CIAA to regularly reference the airport master plan when considering any project at ORIA. All contemplated projects must consider sustainability initiatives during the detailed design stage.



The baseline forecasts cover passenger traffic, aircraft movements and cargo volumes for the ORIA (ICAO: GCM). On the heels of a growing economy (itself driven by an expanding tourism sector) air passenger demand at Grand Cayman Owen Roberts International Airport is expected to reach nearly 2 million passengers by 2041. More than two years after the start of the pandemic the ingredients for a durable passenger demand recovery are in place. More specifically, there is optimism about the long-term economic prospects; international borders are reopened, and pent-up demand is apparent in the last quarter of 2022.

Fig. 3: Historical vs Forecast Passenger Demand

However, due to current global economic impacts, Cayman Islands must consider the negative impacts of high inflation, recessionary risks in the short-term, and potential for other countries to maintain, or reinstate some travel restrictions. As can be seen in Figure 3, for the entire forecast period (i.e., 2021 through 2041) passenger demand is projected to increase by 13.3%. If the growth rate, in rebound from the pandemic is excluded, the anticipated year over year growth rate between 2024 - 2041 is 1.9% p.a., and comparing historical comparison, between 1998 and 2019, air traffic increased annually by 1.8%.

In the short-term, growth will be very strong, and a return to pre-pandemic passenger levels is expected by 2024. Over ninety percent (90%) of aircraft types using ORIA are Code B and C, like the Cayman Airways aircraft pictured in Figure 4.

Fig. 4: Cayman Airways Saab 340 & Boeing 737 Max 8 at GCM

The peak hour demand requirements for passenger facilities and the key processors at ORIA was determined for a busy day, based on forecast traffic and the space / time requirements for an 'optimal' level of service, based on standards found in the IATA Airport Development Reference Manual (ADRM) Edition 12 (produced in collaboration with ACI). An 'optimal' level of service improves use of floorspace and reduces congestion at key processors which leads to a positive passenger experience. An optimized terminal, and an increased passenger volumes will lead to improved revenues from terminal concessions. The faster that passengers move through key processors such as check-in and security, the more time they will have to enjoy the amenities post-security, prior to departure which consequently increases non-aeronautical revenues for CIAA. Airport planners utilized the IATA ADRM Edition 12, to calculate space and processor time objectives for optimal terminal efficiency and to meet future peak hour demand requirements. A snapshot of facility requirements is shown in Table 1.

BD = Bag drop NB = Narrow Body WB = Wide Body	Existing capacity 2022			Demand capacity 2041		
	GCM Airport			Requirements		
	classic	auto	total	Classic (incl. buffer)	Automated (incl. buffer)	Total (incl. buffer)
Check In	39	24 Kiosks but no Bag drop	39	29	12 (BD)	41
Security Screening	4	-	4	7	-	7
Immigration	12	12	24	13	8	21
Gates	7 (NB)	2 (WB)	9	12 (NB)	2 (WB)	14
Baggage Reclaim	5 (NB)	-	5	6 (NB)	2 (WB)	8
Customs Control	4	-	4	7	-	7
AC Stands	8 (12NB)	2 (-WB)	12	16 (NB)	2 (WB)	16

Table 1: ORIA Air Terminal Building Requirements

The approach to capacity and demand management for the forecast year 2041 contemplates the need to balance capacity across the airport system. Reducing runway occupancy times and increasing aircraft parking positions on the aprons will improve airside capacity, but key processors and departure hold rooms, arrivals baggage claims and other terminal areas must also be expanded and improved to balance capacity between the various processors.

Fig. 5: ORIA Air Terminal Expansion Concept, 2041

While the short-term plan is to optimize existing terminal processors, the medium-term focus is the addition of a second level for expanded departure lounge areas, a third level access way to segregate arriving passengers, new concessions, air bridges from boarding gates to aircraft and an expanded apron and additional aircraft parking stands.

On the landside, a 100-foot setback from the terminal must be implemented to meet applicable security regulations at ORIA. This requires moving the terminal vehicular curb lanes 100 feet north, into the existing parking lots which significantly reduces parking capacity further. This precipitates the need to provide realigned approach roads, terminal curb lanes and a new parking facility.

The airport landside access and parking areas are key functions for which future demand is considered and capacity provided to meet growing demand. A series of airport approach roads and access points have been included, which will enable the CIAA to secure employee and vehicle access into the airport at multiple locations, while catering for improved efficiencies to fuel truck and other equipment movements.

The current at-grade parking lots are limited in capacity. A future ground transportation centre (GTC). That would include a multi-level parking lot, with a major car rental centre under cover, along with expanded employee parking and future concession and retail space is proposed in this airport master plan. A second-level walkway into the main terminal building will be provided to protect passengers and guests from the environment when walking between the terminal and the GTC. Figure 5 indicates the preferred terminal development concept; a full-size drawing of the terminal development plan at ORIA is available to view overpage.

The ORIA Airport Master Plan requires the expansion of the main apron and taxiways to accommodate aircraft movements in the peak hours. The completion of the parallel taxiway is planned for the medium-term. A runway extension is planned for the short- to medium-term; the runway length is based on the need to meet market demand for long-haul flights from overseas. The preferred development option is to extend the runway into North Sound.

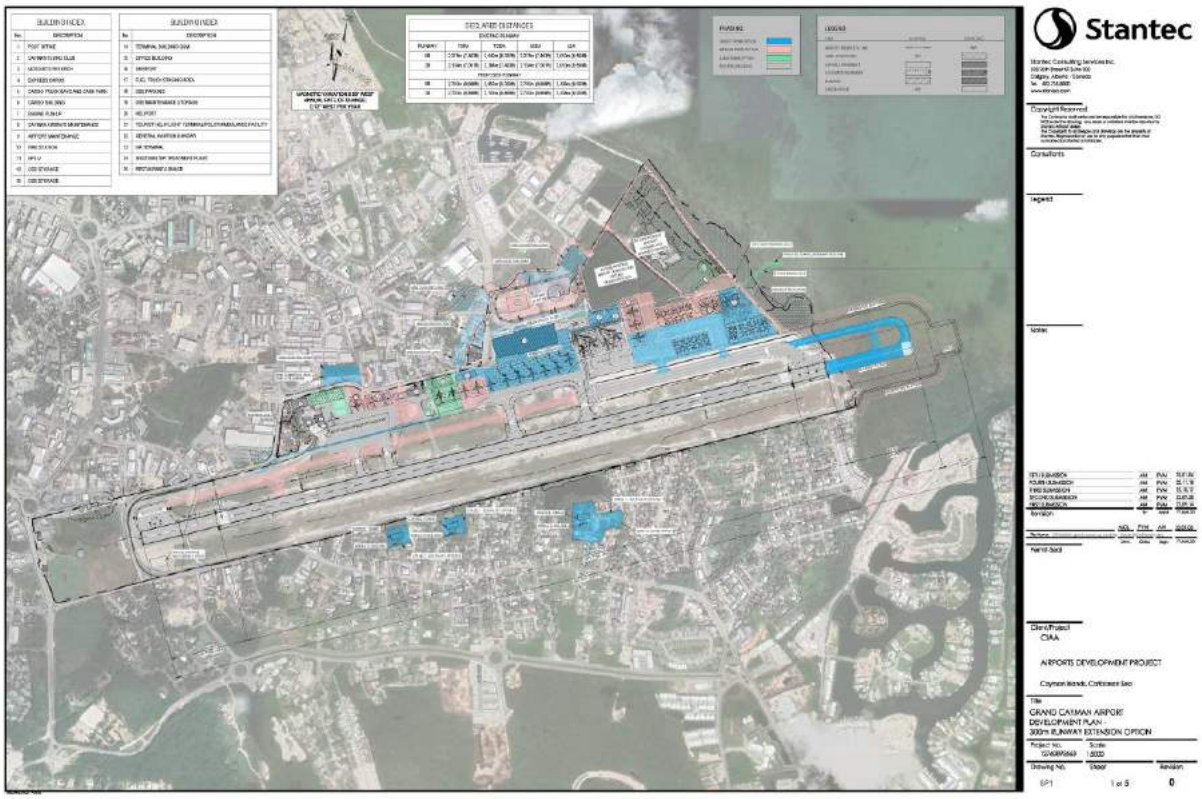
A new ATC Tower is required and should be developed on the south side of the runway to avoid glare, which would be taller, would enable air traffic controllers to have an unobstructed line-of-sight to all airport maneuvering areas and extend beyond each runway end. The final location is dependant on land acquisition. A new Air Traffic Management (ATM) System is also proposed, which will take advantage of modern technology and upgrading the level of service that CIAA air traffic controllers can do at ORIA.

A marine connection to the airport is contemplated in the medium-term, along with a future Vertiport to be collocated with the GTC. Land acquisition is needed to improve approach road access and circulation in the short-term. Figure 6 indicates the preferred airport master plan layout, to 2041; a larger, more detailed drawing is provided overpage.

Fig. 6: ORIA Preferred Airport Master Plan Layout, 2041

A new, stand-alone heliport is contemplated; this will result in a reduction in the number of rotary wing operations on the single runway at ORIA with a take-off and landing over the North Sound, leading to improved safety, operational efficiencies, and airside capacity.

Figure 6 indicates the preferred airport master plan layout, to 2041; a larger, more detailed drawing is provided overpage.


Stantec
AIRPORTS DEVELOPMENT PROJECT
GRAND CAYMAN AIRPORT
DEVELOPMENT PLAN -
300m RUNWAY EXTENSION OPTION

Project B: Charles Kirkconnell International Airport Master Plan

The Charles Kirkconnell International Airport (CKIA) on Cayman Brac has been maintained in good condition; the key investments at CKIA are related to airport regulatory compliance issues. The creation of two Runway End Safety Areas (RESAs), widening of the runway strip and removal of obstacles from the airport Obstacle Limitation Surfaces (OLS) are required in the short-term.

The baseline (most likely) forecast shown in Figure 7 assumes that traffic will continue to grow at a moderate rate and will not be limited by the available infrastructure. Most traffic at Cayman Brac will be domestic, but a limited number of international flights will also be offered to and from the USA. In 2019 international passengers accounted for less than 3% of the total passengers and this is anticipated to reach 7% by 2041 (about 6,500 international passengers per annum). By 2041 we anticipate that Cayman Brac will handle nearly 100,000 total passengers and will have nearly 3,600 flights of which 85% will be commercial flights.

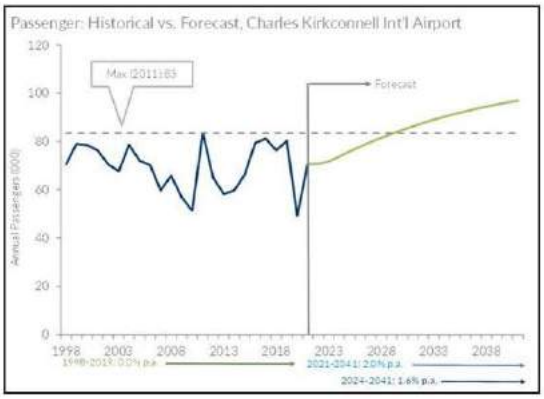


Fig. 7: Historical vs. Forecast Passenger Demand, CKIA

The air terminal building is capable of meeting current demand but can be congested at peak times. Forecast air traffic is expected to grow at a rate of 2.0% between 2021 and 2041. An expanded or entirely new air terminal building will be required to replace the existing facility by 2041 to accommodate future passenger demand. The existing building will continue to function with one to two flights at a given time but forecast growth will see an increase in peak hour passengers and flights that will exceed the capacity of the terminal facilities. Table 2 indicates the forecast facility requirements at CKIA by 2041.

	Existing capacity 2022			Demand capacity 2041		
	CYB Airport			Requirements		
According ADRM calculations	Classic	auto	total	Classic (incl. buffer)	Automated (incl. buffer)	Total (incl. buffer)
Check In	2	0 (BD)	2	4	3 (BD)	7
Security Screening	1	-	1	2	-	2
Immigration	3	0	3	6	4	10
Gates	2 (NB)	-	2	4 (NB)	- (WB)	4
Baggage Reclaim	1 (NB)	-	1	2 (NB)	- (WB)	2
Customs Control	3	-	3	4	-	4
AC Stands	2 (NB)	-	2	3 (NB)	- (WB)	3

Table 2: CKIA Air Terminal Building Requirements, 2041

The future air terminal building requirements at Charles Kirkconnell International Airport are based on the forecast passengers to year 2041, as indicated in Table 2. The space requirements in future peak hours with three to four simultaneous flights, would result in key airport processors failing to perform adequately. Terminal processors that require expansion and/or improvements include airline check-in desks, self-service check-in kiosks and bag drops, additional security screening for outbound checked baggage and passengers, additional concessions, and expanded departure hold room areas and seating. In addition, due to continued status as an international airport, CKIA must expand the arrivals hall and baggage carousels along with new Customs and Immigration facilities.

In addition to air terminal expansion, a 100-foot setback from the terminal may need to be implemented to meet applicable security regulations which will directly impact vehicular parking capacity. This must be precipitated by acquisition of land parcels for the development of new parking lots, the terminal curb, and airport circulation road changes. Figure 8 shows the terminal layout relative to the terminal curb roads and parking lots.

Fig. 8: CKIA New Air Terminal Building Concept, 2041.

The aircraft parking apron at CKIA must be expanded to accommodate additional aircraft in the peak hour. Although two aircraft can park and manoeuvre efficiently today, a third aircraft in the peak hour will result in the need to expand aircraft parking positions. The apron itself must expand in a southerly direction towards the runway to enable aircraft types common to CKIA to manoeuvre safely from aircraft parking stands to the taxiway. A future second taxiway connecting the apron with the runway is required, to reduce delays from aircraft operations on the commercial aircraft parking apron.

The airport master plan at CKIA will focus on the resolution of regulatory compliance issues in the short-term. This includes the expansion of the runway strip, construction of a RESA at each runway end and adding turn bays at each end of the runway. These are necessary and important improvements to the airfield at CKIA. The expansion of the runway strip and adding RESAs and are required under Cayman Islands Civil Aviation Regulations. The protection of the environment has guided the planning for airfield regulatory improvements. The planned RESA at the west end, pre-threshold Runway 09, have been shifted to the east to avoid the known turtle nesting sites. By shifting the runway landing threshold to the east, the runway length is marginally reduced, while enabling take-off from the runway end safety area utilizing approved starter strips, as is the case at ORIA for take-off from Runway 08. Figure 9 shows the CKIA Airport Master Plan layout below; a larger, full-size drawing is provided for ease of view overpage.

Fig. 9: CKIA Airport Master Plan Layout, 2041

The expansion of the runway strip will result in a sliver of the Westerly Ponds being reclaimed from north to south, to enable a fully compliant runway strip. Additionally, the South-Side Road will also need to be relocated out of the runway strip, along with major obstacles such as trees and power lines. The shifting of the road will impact neighbouring property owners and must be coordinated with the National Roads Authority and Public Works. As the ponds will remain in place, it is also critical that the CIAA deploy improved bird management procedures at CKIA.

An expanded Meteorological Site and National Weather Services office is planned north of the runway. In addition, a new Air Traffic Control (ATC) Tower is planned for the medium to long-term at CKIA, to replace the ageing facilities on top of the existing air terminal building. The future ATC Tower will be centrally located on airport property, north of the runway, just west of the Meteorological Site. New G/A facilities are planned for the long-term, east of the main apron once the existing water tanks are removed and relocated off airport by the Water Authority. Private developers have proposed new G/A facilities west of the Meteorological Site and future ATC Tower lands, and north of the runway, on private land. The CIAA will evaluate all proposals in the light of applicable laws and regulations.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CIAA
AIRPORTS DEVELOPMENT PROJECT
Cayman Islands, Caribbean Sea
Title
CAYMAN BRAC AIRPORT
DEVELOPMENT PLAN - LANDSIDE OPTION 2
Project No.
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Project C: Edward Bodden Airport Master Plan

The Edward Bodden Airfield (LYB) is the smallest of the three aerodromes in the Cayman Islands. The airfield is located at the west end of Little Cayman Island; the approach / departure paths are directly over West End and the Booby Ponds, a significant bird colony refuge known for daily migrations by numerous species of birds, primarily the Red Throated Booby and Frigate Bird populations.

The existing runway at Little Cayman does not meet applicable regulatory standards and does not comply with aviation regulations meant to ensure a safe airport operating environment for scheduled air carriers and the travelling public. There are several challenges at this aerodrome, including extremely limited airside and terminal capacities, lack of aviation fuel, and high potential for bird strikes and resulting damage to aircraft.

Cayman Airways Limited (CAL) provides air service from Cayman Brac and Grand Cayman airports with a De Havilland Canada Twin Otter (DHC-6) aircraft under an exemption from the CAA. As such, CAL is responsible for managing the airfield and provides measures that are meant to ensure an equivalent level of safety at the aerodrome. It may not be possible to improve the existing airfield sufficiently to make it a certified airport. The main obstacles to certification are the multiple privately owned properties on which the airport is situated, surrounding wetlands with endangered rock iguana populations, the road running through the runway strip between the runway and aircraft parking apron, and the power poles and trees penetrating the airport OLS zoning. In addition, Cayman Airways is operating under a variety of constraints and operating hazards, including the narrow, curved, and sloping runway strip, an increased number of operational employees required on site, a lack of terminal space or screening systems, and the ever-present bird strike hazard. All these issues must be addressed.

The Cayman Islands Government (CIG) owns a portion of the aerodrome and has invested in providing an Aircraft Rescue and Fire Fighting (ARFF) vehicle and a storage shed next to the existing terminal building at LYB. The CIAA does not own or operate the existing aerodrome, but would become the operator of a new, certified airport. In future, the forecast predicts the airport will remain focussed on domestic operations only. It is anticipated that passenger demand will reach approximately 40,000 passengers by 2041; figure 10 indicates the most likely traffic forecast at LYB. The future critical aircraft would likely be between 30 and 50 seats and capable of operating on a short runway.

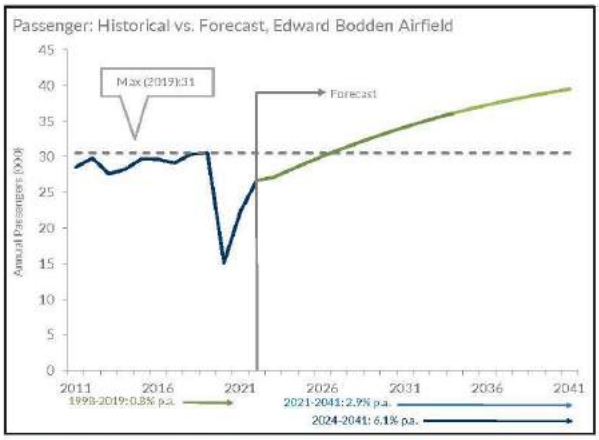


Fig. 10: Historical vs. Forecast Passengers at LYB, Little Cayman

CAL will continue to offer flights to and from LYB , but their DHC-6 Twin Otter aircraft fleet is aging and will eventually be replaced by another larger, passenger aircraft type. CAL desires to replace their existing commuter aircraft fleet of Saab 340 and DHC-6 Twin Otters with a single aircraft type, to reduce their operating costs on domestic routes. Since the future aircraft type has not yet been determined, various aircraft types, including ATR-42, ATR-72, and Dash-8 Q400 were considered in the master plan.

The public and users made it abundantly clear that protection of the environment, and the sense of place and 'charm' on arrival into Little Cayman must be maintained in any airport redevelopment. Although the public's general view was to allow the existing airfield to continue to operate in its current form, the planning team cannot recommend this course of action, due to a lack of compliance with applicable airport standards and regulations.

Various airport development plans were considered. Since Little Cayman is only five nautical miles from Cayman Brac, the first consideration was for a new ferry service, with air service from Cayman Brac provided by either a helicopter or a seaplane. A new heliport could be constructed to enable the provision of emergency / medical evacuation (MEDEVAC) flights, but this option would severely limit the number of passengers able to travel between each of the Cayman Islands. Another option contemplated a seaplane-based service, with DHC-6 Twin Otters on amphibious pontoons, allowing for a similar air service as exists today. This option would however result in severe aircraft load and weight constraints, providing less passenger volume capacity than is available today. In addition, a seaplane service can only operate during periods of relatively good weather and minimal wave action, making it more difficult to accommodate MEDEVAC or patient transfer requests than is possible today.

Beyond the provision of the ferry combined with either a helicopter or seaplane passenger service, the preferred option is therefore a new, fully compliant, airport allowing scheduled commercial air service, on CIG owned lands in the centre of the island, northeast of the existing site, as indicated in Figure 11. The proposed location of the new airport is significantly further from the bird sanctuaries than the existing site, which will reduce the risk of bird strikes by scheduled passenger carrying aircraft; this hazard will require ongoing assessments, and mitigations.

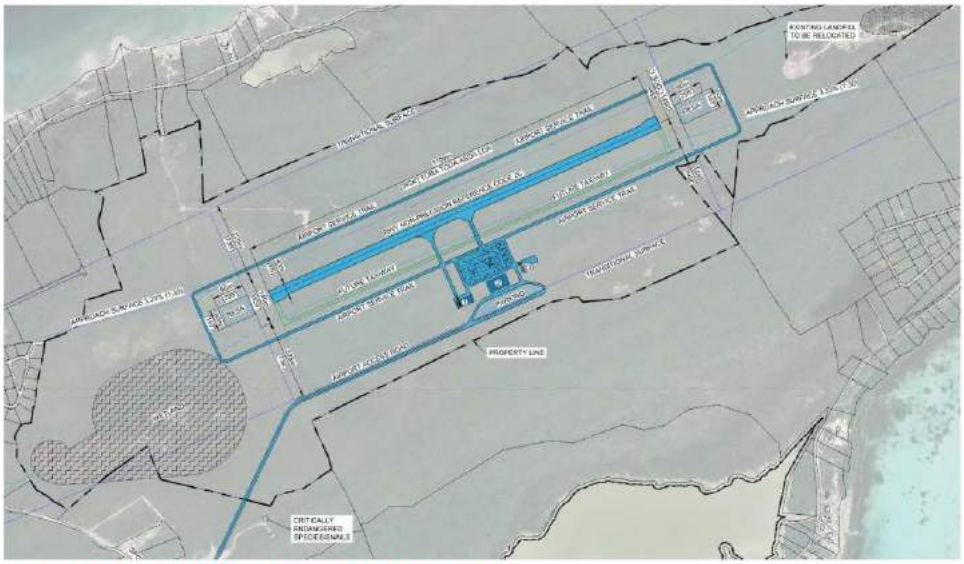


Fig. 11: New Edward Bodden Airport, Little Cayman, 2041

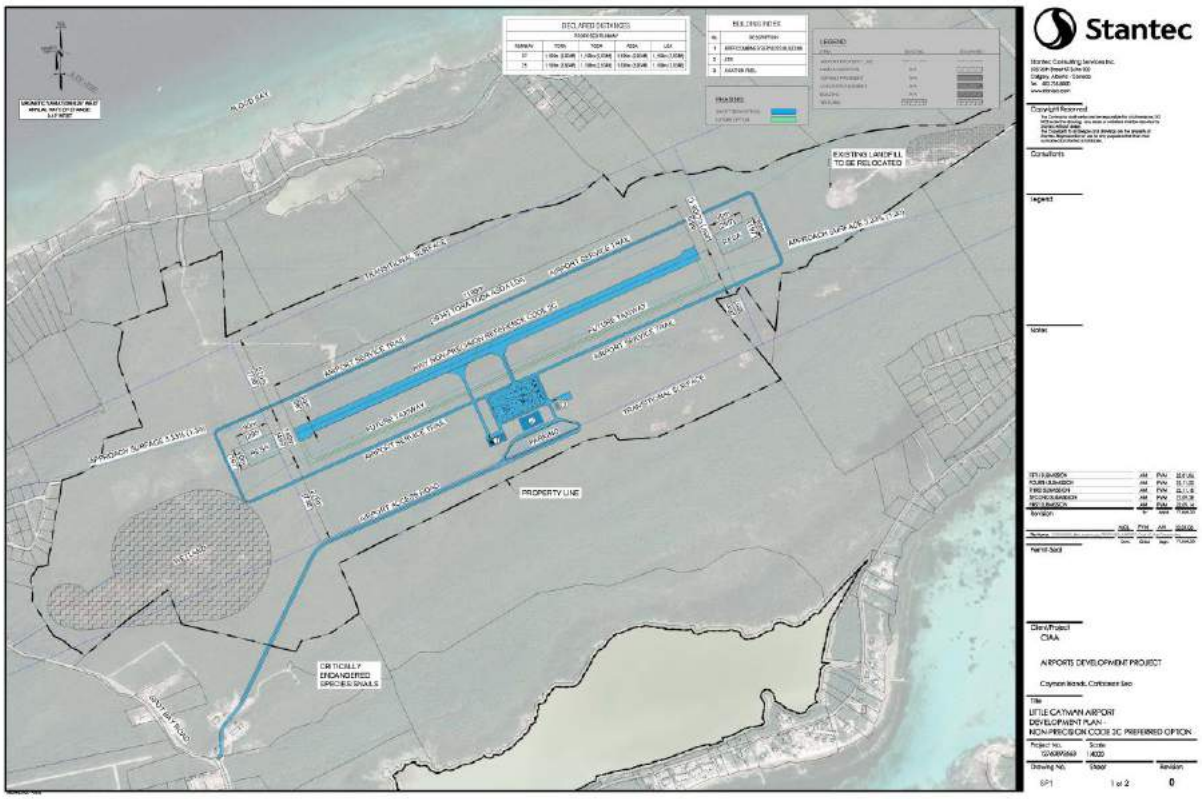
The proposed new airport includes an airport access road from Spot Bay Road, a new runway, a connector taxiway, an aircraft parking apron, and an airport terminal building to support scheduled passenger operations.

A preliminary environmental review identified the presence of a critically endangered species of snail northeast of the Public Works site and Spot Bay Road. The alignment of the access road was aligned to avoid that location. A detailed environmental analysis and site review will be required prior to any development occurring, to prevent any loss of endangered or critically endangered species on Little Cayman.

The new airport will accommodate two aircraft parking positions on the apron yet assumes that typically only one scheduled flight (30- to 50-seat aircraft) would operate at a time in the foreseeable future. There is also sufficient space on the aircraft parking apron for two to four G/A aircraft, which would enable small, domestic aircraft charters from either Cayman Brac or Grand Cayman. The footprint of the airport is planned to be as small as practical, while enabling commercial, scheduled aircraft services to Little Cayman. Feedback from the public was clear that replacement of the aerodrome should not necessarily reduce the flight frequencies currently enjoyed by local residents who regularly travel to Grand Cayman and Cayman Brac. In future, it is expected that a mix of aircraft types may be required. A 30-50-seat aircraft is anticipated to operate on weekends during peak tourism travel periods and a smaller, 9-30-seat aircraft could operate during weekdays to maintain flight frequency. However, theses decisions are best left to the scheduled air carrier operating the routes.

It is assumed that the new airport will be operated as a domestic-only facility with limited hours of operation. The planning team does not anticipate the need nor desire to accommodate international services. Lights would be added to the runway to enable emergency / MEDEVAC flights overnight, but aircraft operations should be restricted during the daily inbound / outbound (morning / evening) bird migration peak periods. The new terminal building would provide enhanced passenger check-in, passenger screening, and departures hold room space for outbound passengers, segregated from arrival passengers, at CKIA as shown in Figure 12.

Fig. 12: New Little Cayman Airport Terminal & Apron Concept, 2041


Stantec
EXISTING LANDFILL TO BE RELOCATED
PROPERTY LINE
CRITICALLY ENDANGERED SPECIES SNAILS
AIRPORT DEVELOPMENT PROJECT
LITTLE CAYMAN AIRPORT
DEVELOPMENT PLAN -
NON-PRECISION CODE 3C PREFERRED OPTION

Implementation and Phasing

The various projects contemplated in the 2041 airport master plan require significant infrastructure investments. The prioritization of the projects must consider:

a) Growing demand on landside and airside facilities
b) The need to accommodate new, long-haul destinations
c) Safety and regulatory compliance issues
d) Environmental impact assessments
e) The financial capacity of CIAA to undertake the projects.

A general project implementation plan was reviewed, and the results are indicated in Table 3 below, as a percentage of project values dispersed across the short-, medium- and long-term phases. The table highlights short-term projects with a bold red 'S' as these require immediate attention and resource allocation. The Outline Business Case will include the funding and financial requirements based on the implementation plan indicated below. The individual project scopes are identified as: A1 – General Aviation Terminal; A2 – ORIA Airport Master Plan; B – CKIA Airport Master Plan; and C – Little Cayman Airport Master Plan.

S= Short Term M= Medium Term L=g= Long Term			% of Total Value Estimate																		
			Short Term					Medium Term					Long Term								
Priority	Description of Sub-Project	Project Base	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
	General Aviation Terminal, ORIA, Grand Cayman																				
S	New GIA Terminal east side, North Sound site	A.1	10	40	50																
S	New Hangar next to g/a terminal	A.1			10	40	50														
S/M	New apron, north sound	A.1	10		15	25		25	25												
	Owen Roberts International Airport, Grand Cayman																				
S/M	Land acquisition (ATC Tower location, Andy's and Car Rental properties, Budget and lot near CAL plot (LT)	A.2	25	25				25	15				10								
S/M	Terminal Expansion	A.2	5	5	20	15	25	25	5												
S/M	Apron expansion, and rehabilitation	A.2	5	20					20	20	15	10	10								
S	Runway extension	A.2	5	5	80	10															
M	Full Parallel taxiway	A.2								5	20	75									
L	Cargo / Future MRO/Engine Run-up Aprons	A.2																	10	40	50
L	Marine Dock / Seawall for water taxi services interface with airport	A.2											5	45	50						
M	Landside works	A.2		10					10	30	50										
L	Heliport, Medevac/Police/Tourism Center	A.2											10	40	50						
S	New ATC Tower and ATM System	A.2	5	45	50																
M	Airfield drainage improvements and pumping station	A.2	5							10	85										
	Charles Kirkconnell International Airport, Cayman Brac																				
S	Landside expansion to accommodate 30m set-back security regulation	B					100														
L	Terminal expansion, meets future requirements	B											10	15	25	25	25				
L	Maintenance facility expansion	B															10	10	80		
S	Runway strip and RESA works (REVIEW)	B	5	95																	
M	Rehabilitate Runway, Taxiway, Apron,	B								5	50	45									
M/L	Site Works, fencing, contingency, fees, etc. (MORE DETAIL)	B							10	10	10	10	10	10	10	10	10	10			
M	Apron expansion and 2nd taxiway to runway from apron,	B								5	55	40									
L	General Aviation apron	B															10	40	50		
L	ATC Tower	B												10	40	50					
	New Edward Bodden Airport, Little Cayman																				
S	EIA, Runway, NEW taxiway, apron	C	5	5	10	30	40	10													
S	Access road, terminal curb road and parking lot	C	5	5	80	10															
S	Airport perimeter road and fence	C					10	50	40												
S	Site Clearing	C			25	75															
S	Terminal	C	5	5			40	50													

Table 3: Cayman Airports Project Implementation Plan