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Case Study of Air Transport in Barbados: A Decade of Evolution

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Abstract

The Caribbean island-nation of Barbados represents an intriguing and valuable case study in air transport, with very little scholarly attention to date. This paper aims to investigate the state of air transport in the country over a decade-long period using three full years as reference points starting in 2014, then 2019 before onset of the COVID-19 global pandemic; and finally, 2023. The overall air market is assessed, then major markets by region are detailed; and lastly, the CARICOM air market's direct links to Barbados are covered. By employing data from these three 12-month time periods over a decade (2014, 2019 & 2023), a clearer sense of the key insights into the country's air transport industry's size, scope and prospects can be achieved, while the composition of the air transport industry can also be better ascertained. Added to this, the likely future trajectory of the industry can be more accurately gauged and forecast. The core lessons and major implications from this study, not just for Caribbean nations and territories, but for other similarly sized and situated islands in places like the South Pacific and Indian Ocean, are many and varied. Chiefly, air transport development plays a pivotal role in not only connecting these communities with their neighboring regions and wider world, but in ensuring that island economies can diversify beyond a traditional focus on agriculture and tourism and expand into a wider array of sectors. In this context, the internal/national socio-economic benefits of air transport represent more than just the external links that air transport creates; but rather, national economic development and diversification with air transport acting as a key enabler.

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Keywords: Barbados; air passenger traffic; national development; economic diversification

1. Introduction

The island-nation of Barbados is home to just over 280,000 people (World Bank Group, 2025) and is located in the Eastern Caribbean. The island is about 23 kilometers wide, 34 kilometers from north to south, and straddles the Caribbean Sea to its west, and the Atlantic Ocean to its east. The island's only airport, Grantley Adams International Airport (BGI) is situated in the south-east of the island. Barbados' main air transport markets include the United Kingdom (UK), the United States of America (USA), Canada, Western Europe and the Caribbean. These source markets are typically served by direct routes which have been established on a foundation of past colonial ties and an extensive diaspora. Moreover, as a member of the Caribbean Community (CARICOM), Barbados has established economic, social and trade ties with 15 fellow member states and five associated member states and so air transport is essential for regional connectivity, especially for transporting people for work and education.

Air transport in Barbados and the Caribbean is an under-researched area with little existing academic literature. Therefore, this paper contributes to this realm of literature by investigating the air transport trends of Barbados' three largest arrival source markets – North America, Western Europe and the Caribbean over a 10-year period with a particular focus on the years 2014, 2019 and

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2023. This study provides an insight into the status of the island's air transport industry, particularly pre- and post- the COVID-19 pandemic, and builds a picture of the relationships between air transport, Barbados' tourism-reliant economy and its nature as a Small Island Developing State (SIDS). This study also gives some representation of the challenges and opportunities of similar SIDS such as those in the Caribbean and Indo-pacific regions which share similar environmental and socio-economic features.

2. Barbados: An overview

Tourism and air transport have long been known to have an intertwined and reciprocal relationship (Duval, 2013), and this can be especially seen in island-nations like Barbados (Morales, 2020). It is essential for Barbados to maintain a large enough tourism market that keeps generating air travel demand. However, the health of its tourism market is also reliant on the economic and social conditions of its tourism source markets, airline seating capacity and air network connectivity.

2.1. Barbados' tourism industry

Barbados' geographic location gives it its characteristic blue waters and white sandy beaches, drawing holidaymakers from around the world and making tourism one of its economic mainstays. Tourism serves as one of Barbados' largest exports with Barbados deriving on average 50% of its annual export revenues from tourism (Central Bank of Barbados, 2025) and making up 10% to 12% of the island's GDP since 1974 (Lorde et al., 2011). Barbados' tourism product offering is made up of sporting events, festivals and cruise tourism, with the sea and sun experience also playing a vital part (Bhola-Paul, 2015). With 53.1% of the island's tourist visitors arriving by air, Barbados' aviation industry serves as a vital means for connectivity and is a lifeline for the country's economy (Central Bank of Barbados, 2025).

Furthermore, in 2024, long-stay arrivals grew by 10.7% driven by increased seat capacity particularly from the USA, cricket matches and the annual Crop Over festival, which is a highlight and driver of the summer tourism season drawing regional and international visitors. The festival spans weeks of music, dance and cultural festivities mainly taking place in July and culminating with the Grand Kadooment parade at the beginning of August. Its popularity boosts air travel demand to the island during this period. Another tourism initiative Barbados launched to boost and diversify its tourism product offering, was the Welcome Stamp. Announced in 2020 this initiative allowed qualified individuals and families to live and work remotely on a 12-month visa. This initiative saw 3,058 visa approvals as of April 30th, 2024, with majority of applicants being from the UK, USA, Nigeria, Canada, India and Ireland (Forde-Craig, n.d.)

2.2. Barbados as a small island developing state (SIDS)

Another unique distinction of Barbados is that it is classified as a small island developing state (SIDS). SIDS are characterised by their geographical isolation, small land area, limited natural resources, small and limited economies and reliance on international trade (Ghina, 2003). These attributes make SIDS susceptible to environmental, economic and social vulnerabilities of which (Ghina, (2003) states that environmental vulnerability is the most significant. This is because a healthy environment is the foundation for sustaining life and is particularly important for human well-being and development. SIDS in the Caribbean are particularly vulnerable due to their high population densities, infrastructure and reliance on coastal services (Monioudi et al., 2018). The geographically insular nature of Barbados means that air transport is the only economically feasible method of transport into and out of the island and is necessary to connect the island's limited tourism-reliant economy to the rest of the world.

2.3. The impact of the COVID-19 pandemic on air transport

The COVID-19 pandemic, which rapidly spread around the world in early 2020, was a significant shock to the global aviation ecosystem, with lasting economic and operational impacts. Due to national lockdowns, international travel restrictions and reductions in business operations, there was a substantial decrease in demand for air travel. ICAO (2023) reported a 60% decrease in global passenger air traffic in 2020 compared to 2019, and 40% decrease in 2021 compared to 2019. Barbados was no exception to the impacted countries and especially suffered due to its tourism industry coming to a halt. The tourism industry contracted, in terms of long-stay visitors, by 71% in 2020 and 80% 2021 relative to 2019 levels (Barbados Ministry of Finance, n.d.), highlighting to the Barbados government, the need to diversify economy beyond tourism and the reliance on air transport to meet its economic needs. Gross domestic product (GDP) in Barbados decreased by 14% in 2020 (Dev & Stroock, 2021).

3. Literature on air transport in Barbados

Scholarly works covering air transport in Barbados are few and far between with any recognition of Barbados being covered under the context of CARICOM or Caribbean region, or part of a wider Latin America focus. Similarly, there are few consultancy reports that mention air transport in Barbados; however, these invariably focus more regionally on Caribbean air transport or on tourism than specifically air transport (Álvarez et al., 2019). This is further reiterated by (Oliveira & Oliveira, (2022) who highlight that air transport research is challenging to locate for the Caribbean generally. One academic journal article published by Yarde &

Jönsson (2016), is a rare example of research into the island. In this, Yarde and Jönsson analyzed the status of aviation liberalization in CARICOM and its impact on tourism from the perspective of Barbados.

Warnock-Smith & Christidis (2021) investigated the air network connectivity and competitiveness between the European Union and Latin America/Caribbean for the period 2002 to 2016. Although the study primarily focuses more broadly on the network connectivity between the two regions, Barbados' links to the European market such as EU market entrance, air service agreement openness and having a top 20 EU-Latin America route in 2016, emerge as notable points for discussion. This broader regional literature highlights the heavy reliance of Caribbean nations, including Barbados, on a few transatlantic routes operated by legacy carriers, and a heavy reliance on the tourism sector, which limits economic diversification. However, there remains a lack of granular, country-specific analyses that track how these trends have evolved over time, particularly in the wake of the COVID-19 pandemic.

Fioravanti et al. (2015) published a report on behalf of the Inter-American Development Bank covering Caribbean air transport which aimed to provide a deeper focus on the factors influencing the development of the regional air transport market. The report found that the key challenges inhibiting the region's development were its limited small-scale operations, small local airlines and airports which are limited in their flexibility to handle the seasonal tourism industry and its economic dependence on a few large tourism origin economies particularly North America and Europe.

4. Methodology

This paper adopts a single in-depth case study approach using passenger journey data sourced from OAG Schedules and Traffic Analyser database for the years 2014 to 2023 (OAG, 2025). "Research by case studies is common in aviation management studies" (Efthymiou & Christidis, 2023, p. 4); for example, investigating the impact of COVID-19 on the air transport sector in China (Warnock-Smith, Graham, O'Connell & Efthymiou, 2021) and a case study analysis of air service subsidies in the Maldives (Rishan, Heiets, Wiedemann & Gerasymchuk, 2025). This paper examines passenger journeys to and from Barbados (originating outside of Barbados) across three distinct 12-month time periods; 2014, 2019 and 2023. These time periods were strategically selected to compare and contrast the industry over a 10-year history providing key insights into the evolution of the nation's air transport industry. Specifically, 2014 represents an initial baseline, 2019 captures conditions immediately preceding the COVID-19 pandemic, and 2023 reflects the post-pandemic recovery phase. It should be noted that OAG data has some limitations with the accuracy and quality of its dataset and sources often taken for granted (Teixeira & Derudder, 2020). Even so, for the purposes of this paper the insights it makes possible outweigh any real-world (including real-time) accuracy concerns.

In addition, examining the long-stay tourist arrivals for 2023 gives insight into the correlation between air passenger journeys and tourism. A long-stay tourist is defined as "any person (national or alien) normally resident abroad who enters the island and remains for not less than twenty-four hours and not more than six months for the legitimate non-immigrant purposes such as vacation, recreation, sports, conference, health, family reasons, religious pilgrimage or study" (Central Bank of Barbados, 2025, para. 2).

The analysis focuses on the three largest inbound visitor markets to Barbados – North America, Western Europe and the Caribbean. These regions are further segmented into:

- North America: USA and Canada
- Western Europe: UK and European Economic Area (excluding Liechtenstein) member states and Switzerland
- Caribbean: CARICOM member states (including associated member states) and non-CARICOM Caribbean countries

This context and these parameters allow for an exploration of the role and impact of the air transport industry on Barbados, including its symbiotic relationship with the tourism sector and its potential to expand and diversify in future. This then allows for key insight generation and the wider application of these insights to similarly positioned small island states highly reliant on air connectivity and tourism income.

5. Findings

The follow section details the key results from the OAG data covering Barbados, with a focus on overall passenger trends, the key air markets involved and the key characteristics of CARICOM air traffic and links.

5.1. Overall passenger trends

Figure 1 shows the total passenger journeys to and from Barbados, excluding journeys originating in Barbados. This figure illustrates the trends in Barbados' air passenger traffic over a 10-year period, with a particular view on pre- and post-COVID-19 pandemic. The plotted red line provides additional context, demonstrating the impact of the COVID-19 pandemic on traffic volumes in Barbados, revealing that air transport is still underperforming in comparison to its 2019 level, though the one million passenger mark has been passed. The upward trend noted from 2014 to 2023 reflects a consistent growing demand, suggesting that

that had it not been for the pandemic, Barbados would have likely achieved by 2023 and even more so by 2025. This emphasizes Barbados' capacity for expansion in its air transport connectivity.

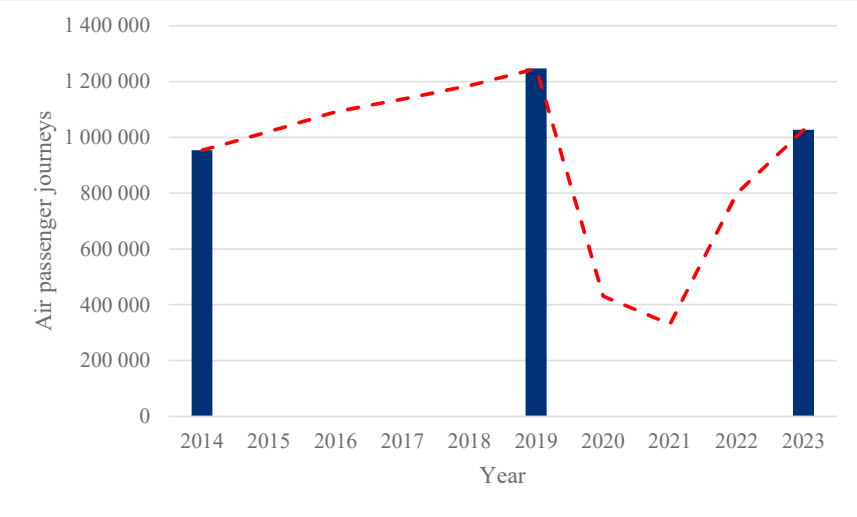


Fig. 1. Trend of air passenger journeys to and from Barbados (excluding journeys originating in Barbados) from 2014 -2023 (OAG, 2025)

Across the 10-year period, Barbados saw phases of air passenger traffic growth, contraction and recovery in the journeys originating outside of Barbados. In 2014, these air passenger journeys to and from Barbados totaled 953,792. There was then a notable 31% increase to 1,246,717 by 2019 just before the COVID-19 pandemic. The increase in annual arrivals between 2014 and 2019 reflected steady inbound tourism growth, including ongoing expansion of the cruise sector as Barbados increasingly became the starting point for many Eastern Caribbean cruises. Despite the onset of the COVID-19 pandemic which caused a collapse in global passenger volumes particularly across 2020 and 2021, by 2023, Barbados' air market recovered to 82% of its pre-pandemic volumes seen in 2019, with 1,027,451 air passenger journeys. This compares to global air traffic which was at 94.1% of 2019 pre-pandemic levels in 2023 (IATA, 2024), meaning Barbados has lagged behind the global average in its post-pandemic recovery. This may be due to airlines struggling to meet demand elsewhere and taking longer to resume services and frequencies to the island. This helps to highlight the country's vulnerability to external shocks and recovery resilience, especially with the tourism industry accounting for the majority of air travel demand. Furthermore, connectivity in the Caribbean remains challenging as passengers from Latin America often transit via Miami and North America more generally due to a lack of available direct flights into the region (Walker & Ranson, 2024). Higher costs have slowed recovery, especially for Barbados which is located on the southeastern edge of the region.

5.2. Key air markets connecting Barbados

Figure 2 shows Barbados' largest source market regions by air. Examining these markets reveals insights into the island's air transport and tourism links. The USA, the UK and CARICOM account for the largest markets across the 10-year period. In 2014, the UK was the largest source market with 150,024 passenger journeys followed by CARICOM with 117,965 journeys, and then the USA with 111,391 journeys. However, in 2019 a shift in the leading passenger market from the UK to the USA can be seen. USA passenger journeys increased 83% between 2014 and 2019, peaking at 203,827 passenger journeys. These USA journeys were up 14% compared to the UK. The USA passenger market continued to outperform all other source markets through to the post-pandemic recovery period in 2023.

The strength of CARICOM as one of Barbados' key passenger source markets sitting closely alongside the USA and the UK may be attributed to the CARICOM Single Market and Economy which facilitates the free movement of CARICOM nationals to live, work and study within another member state, driving travel between the islands. Regional carriers, Caribbean Airlines, LIAT (until 2020) and InterCaribbean Airways, play instrumental roles in maintaining regional connectivity. In contrast, non-CARICOM Caribbean countries made up a significantly smaller proportion of air passenger journeys. This disparity is likely due to the geopolitical fragmentation in the region. A majority of the CARICOM nations were former overseas territories of Britain and gained their independence in the mid-twentieth century and are therefore linked by their historical colonial ties.

Meanwhile, the remaining non-CARICOM Caribbean countries are Dutch and French overseas territories or gained independence from Spain. These historical colonial differences have created social and economic barriers between islands, limiting a greater integration of air transport networks and movement of people (Briceño-Ruiz, 2013). This reality reflects the key findings of research into global air networks which shows that "air transport routes currently favor Global North destinations, reflecting

historical patterns of migration and colonialism" (Franciscone, Xiaolong & Fernandes, 2024, p.15). In comparison to the consistently large UK market, EU passenger journeys remain consistently low across the 10-year period, just surpassing non-CARICOM traffic but significantly less than the air passenger journeys from Canada.

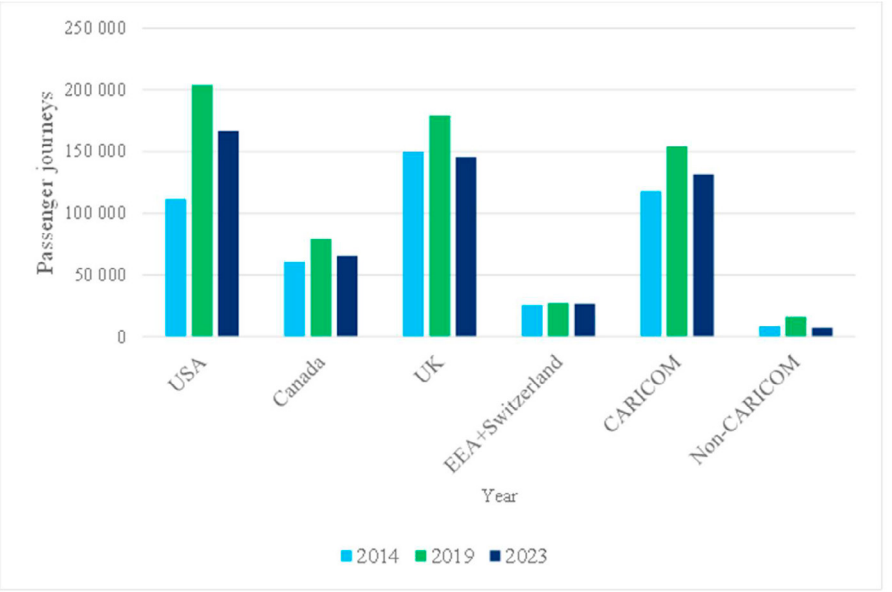


Fig. 2. Air passenger journeys by air transport source market region (OAG, 2025)

5.3. Key characteristics of CARICOM

The key characteristics of air connectivity between Barbados and other CARICOM member states are looked at in more detail in this section. As seen in Figure 2, passengers starting their journeys from CARICOM member states made up the largest proportion of air traffic to Barbados in the decade under question. Figure 3 is a map illustrating the top five destinations served by airlines operating from Barbados; these are listed in Table 1.

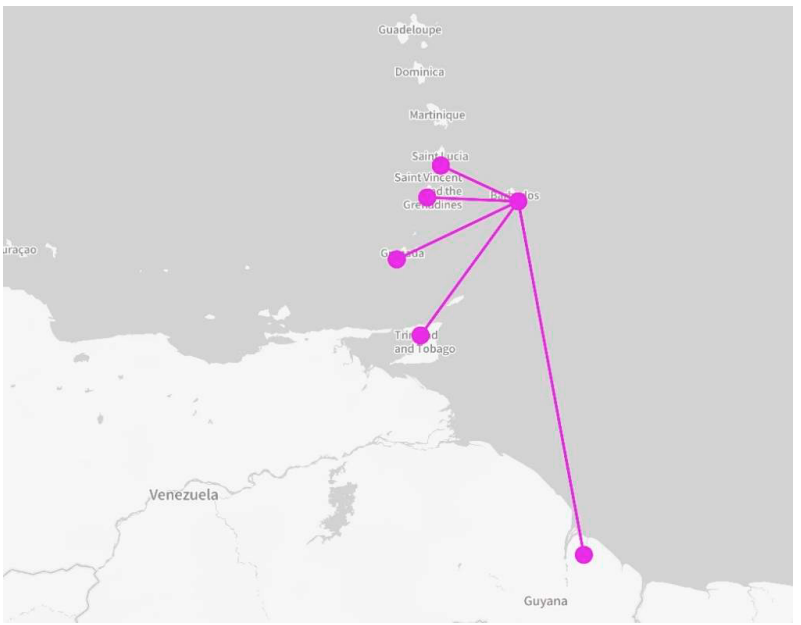


Fig. 3. Map showing top five CARICOM destinations served within the Caribbean region from Barbados (OAG, 2025)

In 2023, 6.6% of passenger traffic through BGI was transit or transfer passengers, showing that well over 90% of air travelers are long-stay visitors (or residents or citizens). Barbados has substantial potential to more actively pursue transit and transfer passengers as its location on the eastern edge of the Caribbean provides it with a geographical location well-positioned to generate onward traffic to the north, west and south from traffic originating in the UK and Europe, and also from North America. The top five CARICOM destinations by highest annual traffic volume shown on Figure 3 and detailed in Table 1 illustrate this very well.

Table 1. Top 5 CARICOM destinations by passenger journeys served to and from Barbados in 2023 (OAG, 2025).

CARICOM destination	Passenger journeys	Airport codes
Trinidad and Tobago	28,921	POS
Guyana	23,345	GEO
St Vincent and the Grenadines	15,376	SVD
Grenada	15,256	GND
Saint Lucia	13,930	UVF

6. Discussion and analysis

This case study of air transport in Barbados is predicated on an assessment of the core market trends for the country covering the decade from 2014 through 2023. First, the section discusses and analyses the overall air market trends for Barbados, then major air markets serving Barbados on a regional basis; and finally, the potential for economic diversification and growth in CARICOM is explored.

The past decade has seen a shift toward air arrivals from North America into Barbados, though CARICOM air traffic has remained the dominant driver of demand. Being a tourism-dependent nation means that the island has always tailored its tourism product to its source markets, and airlines are doing the same as well. In addition, COVID-19 played a role in shifting airline market shares. For example, LIAT ceasing operations at the beginning of 2020, created an opportunity for InterCaribbean Airways to expand its network and frequency, especially intra-CARICOM connectivity and CARICOM/Non-CARICOM interconnectivity.

Barbados experiences a noticeable amount of air traffic seasonality, as with the Caribbean more generally, with air traffic at its highest from mid-December to mid-April each year. At this time dry and warm weather predominates, coinciding with winter in the Northern Hemisphere. In contrast, traffic is lower during the wet season from June to November when heavy rainfall and storms are not uncommon. This seasonal variation represents about a 30% difference in seat capacity from the high to low season (Morales, 2020).

Meanwhile, year-round services to the UK reflect the ongoing cultural and economic links between the two countries, with England having colonised Barbados in the early 1600s, and soon turning it into the world's top sugar producer for a time. In addition, “Barbados is the oldest continuing parliamentary democracy outside England”, gaining independence from Britian in 1966 (BTMI, 2025, paras. 6 & 7). This colonial history, ongoing political stability, together with the island’s proximity to the USA and Canada (with flight times of between 4 and 5 hours), generate air travel demand which has followed a similar pattern over the past decade for most major markets. This being the case, one notable point is that the USA has surpassed the UK for total air passengers in the Barbados market during this time period (Dev & Stroock, 2021). Two of the USA’s biggest carriers – American Airlines and Delta Air Lines – offer year-round direct services to Barbados, along with British Airways and Virgin Atlantic (Saint Peter’s Bay, 2025).

Outside of the immediate Caribbean region, the North American and European (including UK) markets represent the next biggest. Even so, when these are further separated into USA and Canada, and the UK and other European countries, it can be seen that besides the UK, demand from other European countries is not particularly significant. This reflects colonial, cultural, linguistic and trade ties being strongest elsewhere in the Caribbean. Meanwhile, though direct air services to the UK are year-round and are more substantial than other European countries, the US has been growing in size and importance, while Canada possesses a relatively significant market share too at nearly 70,000 passengers per annum (OAG, 2025).

Major carriers from the US, Canada and the UK, and to a lesser extent other European countries, dominate international airline services to Barbados. American Airlines, Delta Air Lines, Air Canada, British Airways and Virgin Atlantic are the biggest of these players, while KLM Royal Dutch Airlines and Lufthansa’s subsidiary Condor offer more seasonally focused services. A range of other airlines such as JetBlue and WestJet make up a secondary tier of airlines flying to the country, though with mostly seasonal services (Saint Peter’s Bay, 2025; OAG, 2025).

From 2015, the tourism authorities in Barbados made a concerted effort to attract visitors from the USA, “including increasing the amount of airlift into the island and establishing new U.S. gateways” (Dev & Stroock, 2021, p. 13). However, mass tourism is not translating into more foreign capital entering the island economy; for example, the financial receipts from tourism in 2008 were $1.2 billion US dollars (USD), while in 2019 these only managed to rise to $1.25 billion USD, despite 1.38 million tourists visiting in 2019, compared to 1.16 million visiting in 2008 (Dev & Stroock, 2021). An evolution in the profile of tourists visiting the island has not necessarily brought economic growth and development, so much as foreign debt and mounting concerns for the natural

environment. In this context, the impacts of climate change are becoming increasing alarming in island nations including Barbados (Barbados Today, 2025).

Barbados retains a considerable potential for air market growth and diversification over the coming decade and beyond. A range of important sectors can drive air travel demand beyond tourism flows, including higher education, business, visiting relatives and friends (VFR) traffic, religious and cultural pursuits, and non-governmental organizations (NGOs). A lot of the island's potential in this regard is linked to its geographical location on the eastern edge of the Caribbean, a prime location to encourage traffic flows throughout the region (and further afield), and to also work even more closely with the cruise industry to ensure visits on average are more substantive and lead to increased per visitor spending (Dev & Stroock, 2021).

Moving beyond a tourism destination to more a regional hub could be modelled on places such as Dubai and Doha where religious, cultural and educational developments, along with traditional sporting events and festivals, have seen substantial visitor growth rates in recent years (Hilal, 2020). It is not unrealistic to imagine a future where Barbados is considered the hub for air traffic in the eastern Caribbean. The traffic data featured in Figure 2, together with the top five CARICOM destinations shown on the map in Figure 3, help to highlight the north-south (North America to Caribbean/Latin America), and the east-west (UK & Europe to Caribbean/Latin America) transit and transfer traffic that could be facilitated and encouraged via developing Barbados as a major regional hub (OAG, 2025).

7. Future research

Future research could conduct an in-depth case study into other island nations such as Mauritius, the Seychelles or Fiji, or investigate island territories like Tahiti or New Caledonia. A focus could also be pursued using a comparative case study approach, bringing together a cluster of small island nations and/or territories to investigate key similarities and differences. Future research could also compare and contrast the underlying realities and drivers for air transport in former British island territories or colonies, versus those from France, the Netherlands and/or Spain, to see to what extent colonial heritage and impacts have shaped post-colonial air networks and key destinations served. Airline networks, including the specific destinations served, cannot be holistically understood for most small island states without closely considering the impacts and consequences of colonization. Future research could unpack these realities and contribute to a better understanding of why air links are established and maintained, including the potential for new routes and for the expansion of existing routes.

The Caribbean region, especially that represented by CARICOM, reflects a mix of national interest and regional integration efforts which are not always well aligned (Warnock-Smith & O'Connell, 2011). For instance, the lack of a national carrier home-based in Barbados could be compared with similar island nations that do have a national airline to protect. Meanwhile, the regional competitiveness of major airports throughout CARICOM could form the basis of future research into the extent to which air transport is contributing to regional integration, economic growth and tourism flows.

8. Conclusion

Barbados reflects a valuable case study into how and why air transport is so important to the communities and economies of small island-nations and territories. Not only do many of these countries rely heavily on the symbiotic relationship between air transport and tourism for economic growth and national development (as does Barbados), but they also depend on reliable and year-round air services to connect their communities and economies with the world at large. Seasonal fluctuations in travel demand also necessitate greater focus on year-round tourism and travel offerings, and on economic diversification initiatives to mitigate risks from external shocks and sudden downturns.

Barbados also helps to reveal how and why the history of colonialism continues to shape air market evolution for many small island nations, including the viability of year-round air services versus seasonal offerings. For instance, this in part helps to explain why neighboring islands and archipelagos can have very limited to no air connections with each other as they trace their colonial heritage to different European powers like Britain, France or Spain. Even so, these traditional links tend to obscure the tourism and trade potential that inter-island links can both tap into and encourage. The cruise industry certainly continues to demonstrate that there is demand for multi-island itineraries, with people often keen to visit and experience the rich cultural and linguistic tapestry of the Caribbean. However, many would like to do so without the need to be on a cruise where visits tend to be day trips, or where going on circuitous airline journeys is required.

Air transport's contemporary and likely future trajectory cannot be holistically understood without more research from emerging air markets, and this includes small air markets like Barbados where market size does not correlate with key lessons and insights available – a small island-nation, but an important and valuable case study with implications for air markets around the world.

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