

AIR TRANSPORT COMPETITIVENESS AND CONNECTIVITY IN THE CARIBBEAN

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JUSTIN RAM

DAMIEN REEVES

RONALD JAMES



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Prepared by¹: Damien Reeves*, Ronald James* and James Wiltshire**

Abstract

Air connectivity is a critical element to economic growth and development, especially for the small island nations of the Caribbean. Improved connectivity means additional air services, frequencies and traffic volumes. These have been found to contribute to increased employment opportunities and to benefit the wider economy. The International Air Transport Association's Connectivity Index shows that air connectivity growth in the Caribbean has been generally and relatively weak, and limited to a few countries. Based on the application of a gravity model, high costs are among the primary factors contributing to weak intra-regional air travel demand and the related constraints on connectivity. Introducing policy remedies could lead to increased long-term employment, adding approximately 288,000 jobs, as well as USD4.4 billion in GDP across the Caribbean.

JEL Classification Numbers: L93, R48

Keywords: Caribbean, air connectivity, air transport

¹ * Caribbean Development Bank; ** International Air Transport Association

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Abbreviations

| | | |
|---------|---|---|
| ASA | - | Air Service Agreements |
| BMC | - | Borrowing Member Country |
| bn | - | billion |
| CARICOM | - | Caribbean Community |
| CDB | - | Caribbean Development Bank |
| GDP | - | Gross Domestic Product |
| ICAO | - | International Civil Aviation Organization |
| IATA | - | International Air Transport Association |
| LIAT | - | Leeward Island Air Transport |
| mn | - | million |
| MASA | - | Multilateral Air Services Agreement |
| OECS | - | Organisation of Eastern Caribbean States |
| p.a. | - | per annum |
| TFCs | - | Taxes, fees and charges |
| USD | - | United States Dollar |
| VAT | - | Value-Added Tax |

Executive Summary

Air connectivity is a critical element to economic growth and development, especially for the small island nations of the Caribbean. Improved connectivity means additional air services, frequencies and traffic volumes. Both of these have been found to contribute to increased employment opportunities and to benefit the wider economy.

Improvements in aviation connectivity enable economies to attract more tourists (including non-leisure visitors), conduct more trade and attract more foreign investment. Without these important air links, a country's economy and employment potential would suffer.

Air connectivity growth in the Caribbean has been generally and relatively weak, and limited to a few countries. While there has been traffic growth in some countries in the Region, such as the Dominican Republic and Cuba (largely related to tourism), growth has been negative or weak for many Borrowing Member Countries (BMCs) of the Caribbean Development Bank (CDB). Overall, traffic growth in the Caribbean has been positive over the past 10 years but this is driven by growth in extra-regional traffic. Intra-regional traffic has fallen.

The International Air Transport Association's Connectivity Index shows a decline in intra-regional connectivity for all but nine countries between 2008 and 2018. This is in contrast to the overall increase in global connectivity for the majority of Caribbean countries. The rate of growth in the Caribbean has lagged behind most regions of the world, indicating that there may be constraints on connectivity and growth.

High costs are one of the primary barriers to connectivity in the Region.

The lack of growth in Caribbean connectivity is due to a combination of:

- taxes, fees and charges in air transportation, as they add to the cost of travel;
- regulatory barriers, namely a lack of liberalisation in air services;
- institutional impediments, including inefficient use of infrastructure;
- Inadequate and/or ineffective tourism development and investment.

There are policy remedies available to enhance air connectivity.

There are several policy options that can help improve air connectivity. These include:

- *A reduction in aviation taxes.* Taxes make travel more expensive, especially for intra-regional travel.
- *A reduction in airport charges.* Lowering charges may allow airlines to operate in markets that are considered thin and where operating costs are important for viability. This may also be a way for airports to attract air services, especially for extra-regional travel.
- *Bilateral air service agreements.* Many studies have shown that the liberalisation of air service has led to increased air carrier competition, increased routes and connectivity, reduced air fares, and increased air traffic volumes.
- *An improvement in infrastructure.* Air connectivity growth can be achieved with more efficient use if Caribbean governments invest in aviation infrastructure.

Using these policy remedies could increase long-term employment, adding approximately 288,000 jobs as well as USD4.4 billion in GDP across the Caribbean. Specifically for the 19 BMCs, the increase in long-term employment and GDP would be 139,400 jobs and USD1.9 billion respectively. The long term refers to 2036 and is based on a scenario including all of the policy remedies mentioned above, which could lead to a 26% increase in passengers across the Caribbean.

One: Introduction

The Caribbean Region is mainly an archipelago of islands throughout the Caribbean Sea; the continental states of Belize, Guyana and Suriname are considered Caribbean in the context of this working paper. The Region's states are characterised by smallness, in terms of land mass, population and economic size. Formerly agrarian-based economies, services (in particular, tourism) have emerged as the predominant economic activity. Several Caribbean countries relied on agricultural exports as the main source of hard currency until the mid-1990s. In the 1990's however, trade liberalisation resulted in an erosion of preferential agreements with Europe. This meant that the main export products for many Caribbean economies, sugar and bananas, were unable to compete globally and those industries suffered.

The decline in agriculture gave way to the development of the tourism industry, which now accounts for a sizeable share of GDP and foreign exchange earnings of most Caribbean states. A critical element of a well-functioning tourism industry is connection to source markets; but the archipelagic nature of the Region limits the availability of ground transportation (for both trade and travel). Connectivity to the rest of the Caribbean—and the world—is based on the availability of sea and air links. However, geography and size (of population and economies) present considerable challenges to connectivity, especially intra-regionally.

Air transport has emerged as the preferred means of travel both intra-regionally and extra-regionally to support trade and investments in the Region. The Air Transport Action Group (ATAG) (2016) reports that aviation supports millions of jobs worldwide, and that for small island states (such as those in the Caribbean) air transport is vital for the provision of services such as health care and disaster relief. Air transport is also vital to the Region's tourism industry, which is its primary income earner and supports various other businesses.

However, in order for the benefits of air transport to be fully realised, proper connectivity is crucial. The International Civil Aviation Organization (ICAO) defines air connectivity as an indicator of a network's concentration and its ability to seamlessly move passengers from their origin to their destination². Briceño-Garmendia et al (2015) define it as a measure of non-stop accessibility, expressed as airport pairs being served³. But connectivity means different things to the various categories of travellers, and is therefore measured using different metrics. For example, PricewaterhouseCoopers (PwC) (2013) highlights the following:

- Business travellers tend to be time-sensitive and relatively indifferent to fare levels. Frequent and flexible service that enables passengers to quickly change flights to a more convenient time matter most to this segment. Thus, air connectivity for them could be measured by frequency of service, convenience of schedule, travel time, and number of direct routes available.
- Leisure travellers (which also include visiting friends and relatives) care more about fares, with cost-effectiveness often the most important factor in decisions about whether to travel and where, especially for short breaks. An unacceptably high fare could cause

² ICAO (2013), Worldwide Air Transport Conference (ATConf/6-WP/20).

³ Cecilia Briceño-Garmendia; Heinrich C. Bofinger; Diana Cubas; Maria Florencia Millan-Placci. Connectivity for Caribbean Countries: An Initial Assessment. Policy Research Working Paper 7169. World Bank Group

them to change their minds about their destination. Measurements of air connectivity for this segment should, therefore, include fares.

This paper makes no distinction between business travellers or leisure travellers since the available data do not allow for such levels of disaggregation. Therefore, references to tourist arrivals treat these two groups as homogenous. But the treatment of connectivity is sufficiently broad to cover the determining factors for each group.

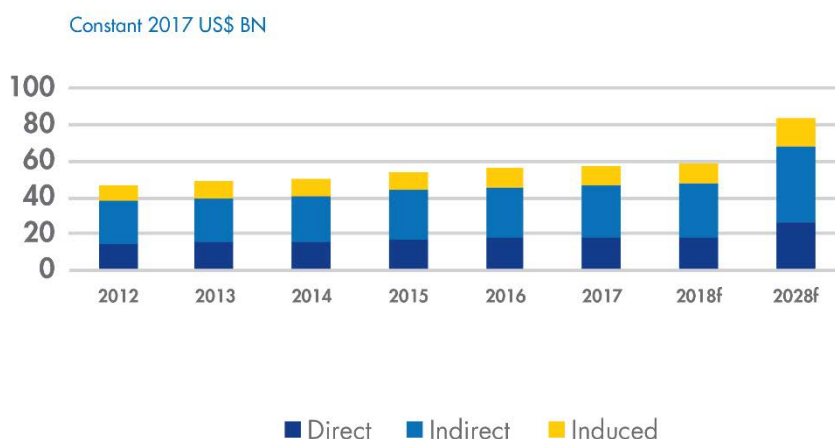
This paper forms part provides an overview of the initial findings of the status of air connectivity in the Caribbean, looking at both intra-Caribbean and extra-Caribbean travel. In addition, it discusses key impediments to connectivity and the potential benefits from removing or reducing these impediments. Through the use of a modified gravity model it estimates the impact of improving connectivity, both in terms of air traffic and for the wider economy.

This analysis is not limited to the 19 Borrowing Member Countries (BMCs) of CDB. Six additional countries and territories were included in the study in order to compare and contrast. These were Aruba, Curacao, Cuba, Dominican Republic, Guadeloupe, and Martinique.

Tourism Trends

The dominance of regional tourism is reflected in the industry's overall contribution to GDP and employment. Estimates from the World Tourism and Travel Council (WTTC) (2018)⁴ show that the total contribution of travel and tourism to Caribbean GDP (including wider effects from investment, the supply chain and induced income impacts) was USD57.1 billion (bn) in 2017 (15.2% of GDP) and is expected to grow by 3.3% to USD59 bn (15.4% of GDP) in 2018. It is forecast to rise by 3.6% per annum (p.a.) to USD84 bn by 2028 (17.8% of GDP).

⁴ World Travel and Tourism Council. Travel & Tourism Economic Impact 2018: Caribbean. <https://www.wttc.org/-/media/files/reports/economic-impact-research/regions-2018/caribbean2018.pdf>

Figure 1.1: Caribbean: Total Contribution of Travel and Tourism to GDP

Source: Travel and Tourism Economic Impact 2018.

WTTC (2018) estimates that travel and tourism directly generated 758,000 jobs in 2017 (4.3% of total employment) and this is forecast to grow by 2.8% in 2018 to 779,000 (4.4% of total employment). The estimates take into consideration employment across the broad spectrum of the travel and tourism industry, including persons employed by hotels, travel agents, airlines and other passenger transportation services (excluding commuter services). It also includes, for example, restaurant and leisure industries directly supported by tourists.

Air transport needs to be sufficient to support this projected growth in tourism. With this in mind, this paper considers the current level of connectivity within the Region, noting how it has fallen in some countries in recent years. In particular, intra-regional connectivity has fallen. This has implications for developing the regional segment of the industry including multi-destination tourism.

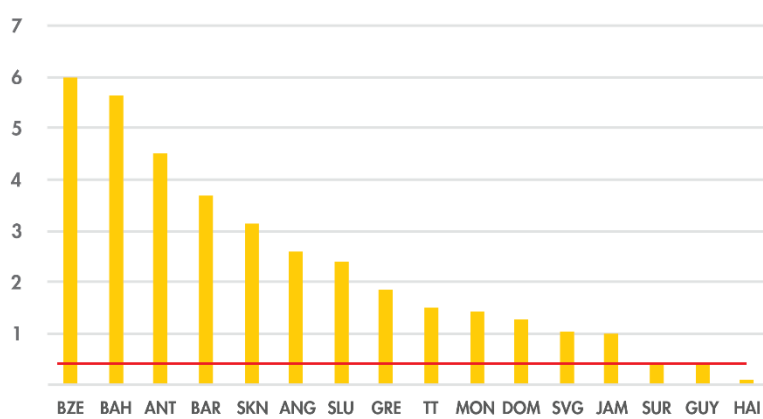
The rest of the Paper is as follows:

- Section Two summarises recent developments in air traffic in the Region.
- Section Three discusses connectivity in the Region, and the relationship with tourism and economic growth.
- Section Four considers reasons for constraints on, and in many cases, losses of connectivity.
- Section Five attempts to model improved connectivity and economic outcomes based on identified scenarios.
- Section Six summarises the findings, and makes policy recommendations.

Two: Air Transport in the Caribbean

Many Caribbean countries are highly dependent on air transport. This can be shown by aviation intensity, which is the volume of air passenger journeys adjusted by the population size of the country. Globally, the average value is approximately 0.5 trips per capita. Figure 2.1 shows that many Caribbean countries are above this average. Countries with very small populations, such as the British Virgin Islands (BVI), Cayman Islands, and the Turks and Caicos Islands (TCI) (not shown), have in excess of nine trips per resident.

Figure 2.1: BMCs' Passenger Boarding per capita, 2017

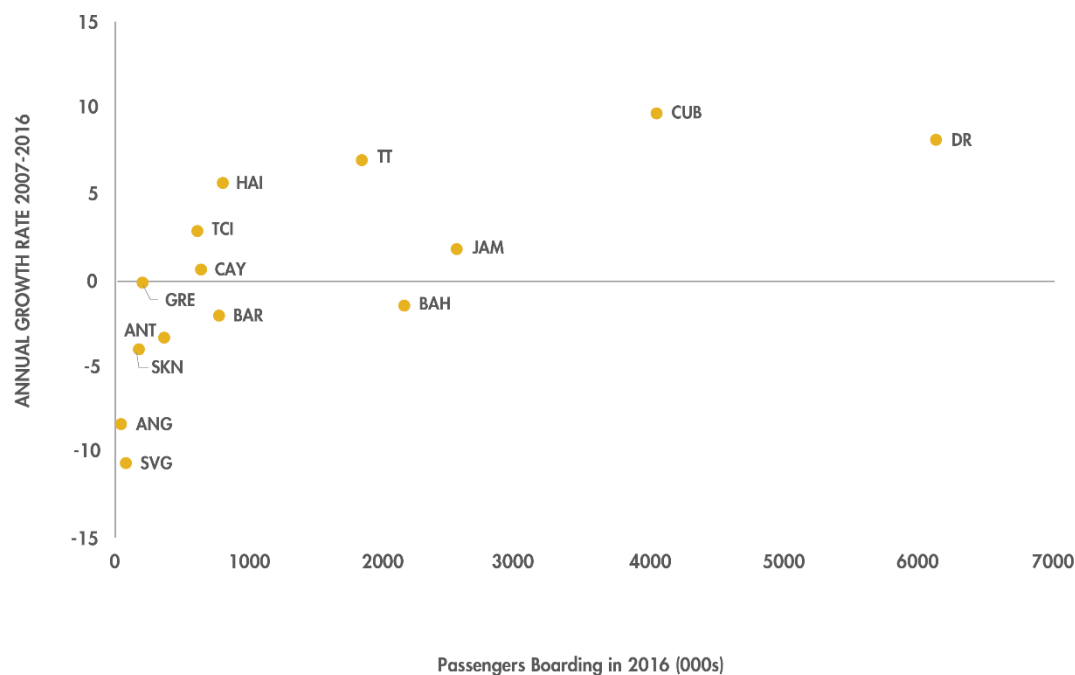


Source: IATA based on PaxIS, World Bank.

Passenger traffic volumes vary by country. Figure 2.2 shows that in 2016, countries with the highest passenger volumes were the Dominican Republic (6.1 million), Cuba (4.0 million) and Jamaica (2.5 million). This reflects the high volumes of inbound tourism that these countries accommodate each year.

Recent growth in passenger numbers has also varied by country. Both the Dominican Republic and Cuba experienced rapid growth—8.3% p.a. and 9.8% p.a. respectively between 2007 and 2016. Jamaica grew at 2.0% p.a.⁵. Growth was relatively high in Trinidad and Tobago, Haiti, and TCI, but was negative in countries such as Antigua and Barbuda, and Barbados.

⁵ Growth refers to the Compound Annual Growth Rate.

Figure 2.2: Passenger Boarding by Country 2007 - 2016

Source: IATA.

Overall, Caribbean air traffic grew by 3.8% p.a. This was lower than global growth (4.9% p.a.), as well as South America (6.6%) and Asia Pacific (8.1%). However, the Caribbean outpaced the United States of America (1.3%) and Europe (3.7%).

When disaggregated at the level of intra- and extra-Caribbean travel, Figure 2.4 illustrates that the growth is exclusively attributable to the increases in extra-regional travel to and from the Caribbean, while travel within the Caribbean declined. This is discussed further in the next section.

Connectivity in the Region is characterised by three components: (1) long-haul routes focused on enabling inbound tourist traffic; (2) a regional intra-Caribbean network comprised mainly of several short, low-capacity routes between island countries; and (3) domestic routes⁶.

⁶ Not all countries are large enough to accommodate more than one commercial airport, so domestic air travel is limited to 12 of the 25 countries covered.

Figure 2.3 Passenger Traffic Growth from the Caribbean 2007-2016

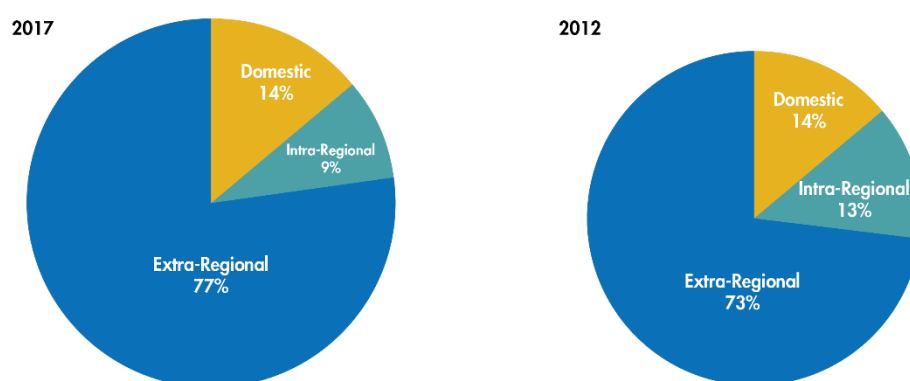


Source: InterVISTAS analysis of passenger data supplied by IATA.

Intra versus Extra-regional Travel

A decomposition of air traffic by connectivity type/category is shown in Figure 2.4. In 2017, extra-regional traffic accounted for 77% of total passenger traffic, while intra-regional traffic accounted for 9% and domestic traffic, 14%. Between 2012 and 2017, extra-regional traffic rose from 16.1 million to 23.1 million, an increase of 43%; while intra-regional traffic fell by 9%, from 3.0 million to 2.6 million.

Figure 2.4 Destination Markets from the Caribbean by Passengers, 2012 and 2017



Source: Passenger data provided by IATA.

The dominance of extra-regional travel is reinforced by an examination of the top city pairings offering the highest capacity for air travel (see Table 2.1).⁷ Extra-regional flows arrive

⁷ These are the top city-pair markets in each segment, but do not make up the overall top pairs.

predominantly from the United States of America, Canada and Europe. The largest intra-Caribbean city pair has less than half the weekly capacity of the largest extra-Caribbean pair.

Table 2.1: Top Extra-Regional City-Pair Markets to/from the Caribbean, by Average Weekly Seat Capacity 2017

| Origin Airport | Origin Country | Destination Airport | Destination Country | 2017 Average Weekly Seat Capacity |
|-----------------------|-----------------------|---------------------|----------------------------------|-----------------------------------|
| <i>Extra-Regional</i> | | | | |
| NAS | The Bahamas | MIA | United States | 7,009 |
| MBJ | Jamaica | YYZ | Canada | 5,769 |
| NAS | The Bahamas | FLL | United States | 5,619 |
| PAP | Haiti | FLL | United States | 5,506 |
| BGI | Barbados | LGW | United Kingdom | 4,974 |
| <i>Intra-Regional</i> | | | | |
| GEO | Guyana | POS | Trinidad and Tobago | 3,273 |
| BGI | Barbados | POS | Trinidad and Tobago | 2,258 |
| SKB | Saint Kitts and Nevis | ANU | Antigua and Barbuda | 1,835 |
| BGI | Barbados | SVD | Saint Vincent and The Grenadines | 1,758 |
| POS | Trinidad and Tobago | GND | Grenada | 1,654 |

Source: SRS Analyser.

The importance of air transport to the Region cannot be overstated. Most Caribbean countries are island states that rely heavily on tourism as a source of income; therefore, air connectivity is critical for supporting the tourism industry, as well as for the movement of the Region's people. The data show that traffic volumes in the Caribbean are relatively high from a per capita perspective. In addition, traffic volumes are growing but relatively slowly when compared with the global increase. Regional growth is dominated by a rise in extra-regional travel, which has been occurring at the same time that intra-regional air traffic has been contracting. These trends suggest that intra-regional travel is a key constraint.

Three: The Importance of Connectivity

Aviation generates significant benefits for the global economy⁸, and through its contribution to tourism, it is an integral part of the Caribbean economic landscape. In recognition of this significant value added, several Caribbean governments have taken steps to increase connectivity and airlift into their respective territories. For example, St. Vincent and the Grenadines opened its first international airport in February 2017; this now allows for direct international access from and to the country's key travel source markets. Antigua and Barbuda built a new terminal building at the VC Bird International Airport to accommodate increasing passenger traffic; and Saint Lucia intends to do the same at the Hewannora International Airport in the coming months. An important caveat to this discussion is that investments in infrastructure and equipment are only part of what is necessary to increase and improve connectivity to, and within, the Region.

Beside improvements to aviation infrastructure, there have also several positive developments in terms of airlift. New carriers such as JetBlue have entered the airline market, providing extra-regional services; and some existing legacy airlines have expanded their services into new markets. LIAT, one of the main regional carriers, completely overhauled its fleet with brand new aircrafts.

In order to illustrate the unique benefits that air connectivity brings, it is necessary to focus on the catalytic effects that air travel has on the economy. Catalytic benefits are those that are created by, rather than within, aviation⁹. In the Caribbean, the relationship between aviation and economic growth is mainly through the facilitation of travel to support the critical tourism industry, as well as cargo movement. But it can also support other sectors, by lowering the costs of doing business; making it easier to collaborate on research and innovation; and increasing productivity¹⁰.

Types of Air Connectivity

Air connectivity can be categorised into three main categories: direct, indirect, and hub connectivity:

- **Direct connectivity** reflects the direct services available from a given country, city, or airport. It can be measured by the number of destinations served. Routes can be weighted by the relative importance of the destination, as well as frequency or capacity.
- **Indirect connectivity** incorporates those destinations that can only be reached with one or more stops. Connections can be weighted in terms of quality, with key factors being connecting time at the transit airport and the degree of diversion involved compared with a hypothetical direct flight.

⁸ See PWC (2013), Poole (2010), IATA (2006), Bel and Fageda (2008), Brueckner (2003), InterVistas (2006)

⁹ Dan Elliott. *Frontier Economics - The benefits of air connectivity*.

<http://www.futureairport.com/contractors/airports-and-destinations/frontier-economics/>

¹⁰ See PWC (2014).

- **Hub connectivity** is relevant for those cities or airports that function as hubs, and reflects the number of flight combinations that can be connected into credible itineraries, taking into account minimum and maximum connecting times. As with indirect connectivity, connections can be weighted in terms of quality based on the diversion factor and connection times involved.

Measuring Connectivity

Connectivity is not simply a matter of the number of routes or number of frequencies operated, but is fundamentally about access to markets and regions. A country or region that has regional and intercontinental linkages to a limited number of destinations will be a less desirable place to do business and to visit. Travel costs for people and for goods will be higher due to the need to purchase multiple flight legs. In contrast, a community with direct access to a broad range of markets, especially the fastest growing markets, will be a lower cost place to do business and will attract more inbound visitors.

To capture this effect, the International Air Transport Association (IATA) has developed an index of air service connectivity, which aims to measure the quality of the air transport network from. The IATA connectivity index measures access between an airport, region or country, and the global economy. The index considers the number and size (in terms of passenger air traffic) of destinations served, as well as the frequency of service to each destination and the number of onward connections available from those destinations. Thus, the index recognises that connections to major global gateways provide greater global connectivity than connections to the same number of smaller locations.

The index is calculated from airline schedule data for passenger services and is based on both domestic and international services. It measures the number of frequencies and available seats to a particular destination. It then weights the number of available seats by the size of the destination airport (in terms of number of passengers handled in each year). This weighting reflects both the size and economic importance of the destination and the potential for convenient onward connections.

The index is calculated as:

$$\frac{\text{[Number of destinations x weekly frequency x seats per flight]}}{\text{Weighted by the size of the destination airport}} \div \text{Scalar factor of 1,000}$$

A higher figure for the index denotes a greater degree of access to the regional and global air transport network.

In 2018, Jamaica and The Bahamas are scoring highest for extra-regional connectivity, while Trinidad and Tobago has the best intra-regional connectivity. (A full list of connectivity scores is provided in the appendix.) These outcomes are not surprising. Jamaica and The Bahamas are both prime tourist destinations, and their proximity to the continental US means that there is a significant penetration of international carriers. In terms of regional connectivity, Trinidad

and Tobago is the main hub for one of the Region's largest domiciled carriers, Caribbean Airlines, and is also well served by LIAT.

Route Development: Decline in connectivity in the Region

Figures 3.1 and 3.2 show trends in connectivity. The first figure shows how Caribbean countries' global connectivity changed between 2008 and 2018, while the second figure does the same for intra-regional connectivity.

Figure 3.1: Change in Global Connectivity (2008 – 2018)

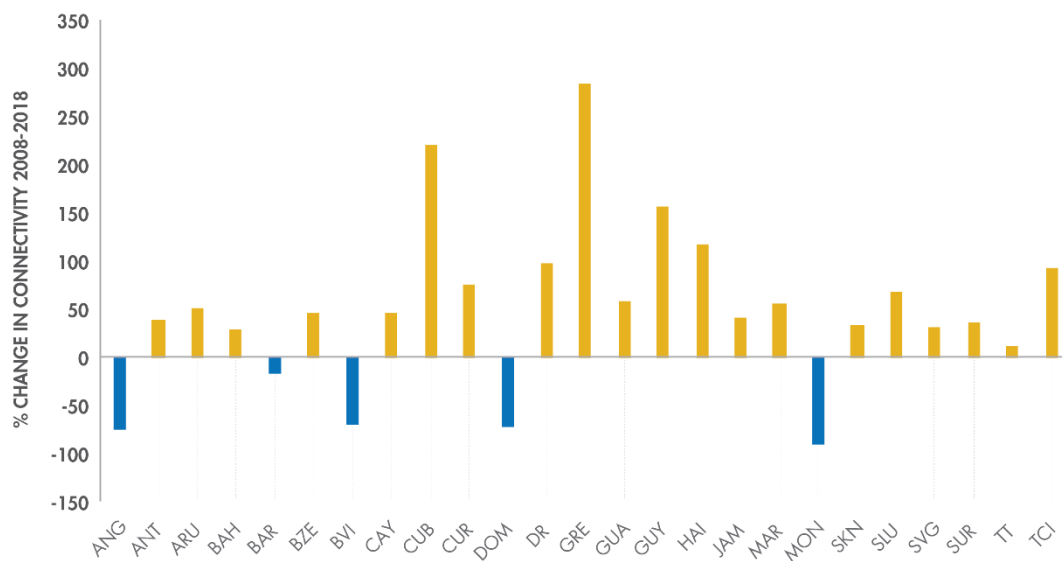
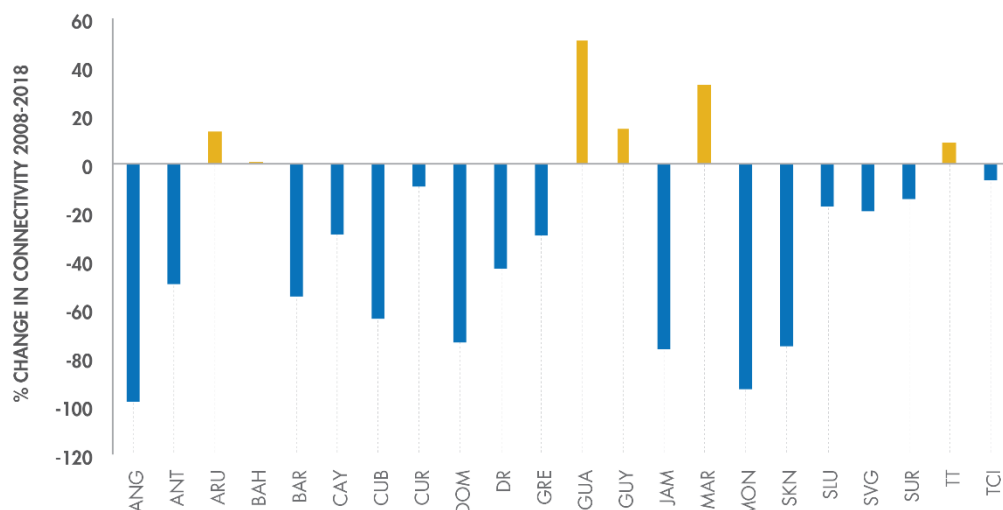


Figure 3.2: Change in Regional Connectivity (2008 – 2018)

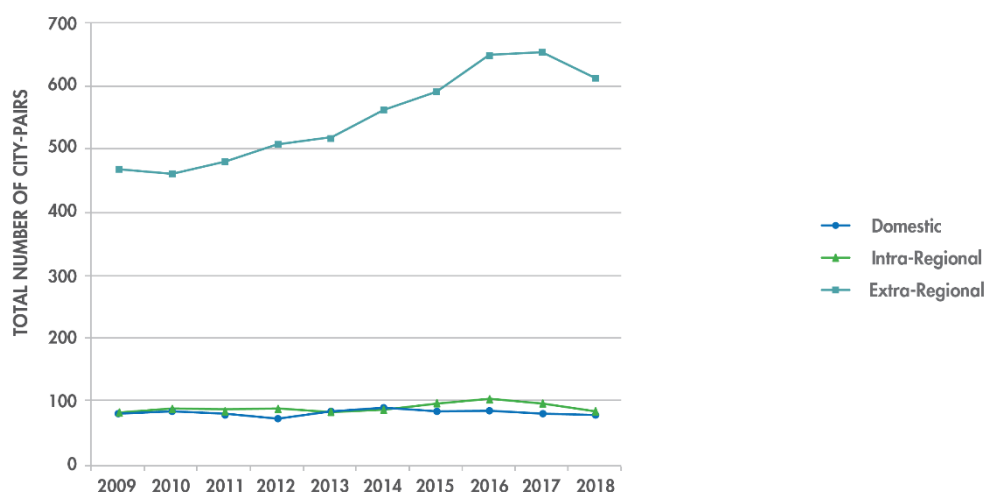


Source: IATA.

Global connectivity has risen in most countries in the Region, with only five countries experiencing a decline. However, in terms of intra-regional connectivity, 16 countries, including 13 BMCs, experienced a drop. This difference in performance partly reflects the

reduction in intra-regional passenger numbers discussed in Section Two. It is further supported by analysis of the number of city pairs served. Figure 3.3 shows the growth in city pairs for the Caribbean by destination market. City pairs are dominated by extra-Caribbean connections. There is a lack of growth in the number of city pairs served in the domestic and intra-regional Caribbean markets. This in large part reflects the impact of fleet reduction and route consolidation by LIAT on the growth of intra-regional connectivity. While some small carriers have taken over these routes, their seating capacities are nowhere near that which was lost by the truncation of the regional carrier's fleet.

Figure 3.3: Total City Pairs by Destination Region (2009-2018)



Source: SRS Analyser.

Link between connectivity and economic growth

There is a bi-directional relationship between GDP growth outcomes and aviation development¹¹. Air transport can play a key role in facilitating economic development, particularly in developing countries, by enhancing the direct, indirect and induced benefits associated with greater connectivity. Conversely, the economic growth of a country can also have significant effects on air transport expansion¹².

The channels through which air transport activity may impact economic growth are varied. First, air transport is a significant foreign exchange source (Van De Vijver et al., 2014). Second, air transport has an important role in stimulating investments in new infrastructure. Third, given the complex mix of transport-related sectors, air transport stimulates other industries through direct, indirect and induced effects. Fourth, air transport contributes to the generation of employment and the rise in incomes (Özcan, 2013). Fifth, air transport causes positive economies of scale, helping to boost a country's competitiveness; and finally, air transport is an important factor in the diffusion of technical knowledge.

¹¹ PWC (2013)

¹² Gabriel Brida, Bibiana Lanzilotta, Martín Brindis, Silvia Rodríguez. Long-run relationship between economic growth and passenger air transport in Mexico. September 2014.

However, economic growth of a country can also have significant effects on air transport expansion. For example, the development of the hard infrastructure such as airports provides an opportunity to promote export activities including tourism, enhanced business operations and productivity, and influence company location and investment decisions (Halpern and Bråthen, 2011).

Connectivity to source markets is crucial to any country's tourism strategy, as well as its prospects for developing other sectors to be internationally competitive. The aviation industry plays a crucial role in helping to facilitate tourism; and tourism growth requires sufficient air capacity. While the direction of causality may be uncertain, there is a positive correlation between air connectivity and tourism development. Similarly, the relationship between air connectivity and economic growth is positive, as is the correlation between tourism activity and economic output. In light of this, the positive outcomes in extra-regional travel are relatively encouraging, although there is still scope for improvement in comparison with other regions. The decline in intra-regional connectivity, however, is a concern for tourism development as it undermines the industry's growth potential.

Four: Identifying the Causes of Lost Connectivity

Having previously discussed the importance of connectivity for economic growth, and noting a decline in connectivity since 2008 for a number of CDB's BMCs, this section identifies and discusses possible causes of connectivity loss or limitation. This forms the basis for creating scenarios for improving connectivity going forward.

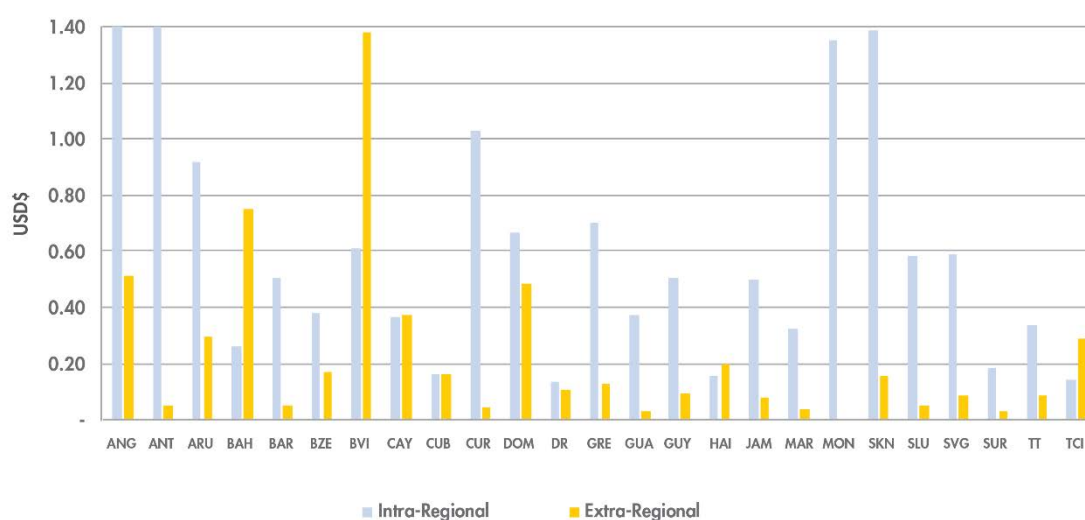
There are various complex and interrelated factors that limit air connectivity growth in the Caribbean. These apply where the connectivity index has risen, just as much as where it has fallen. Connectivity is basically determined by the availability and cost of, air travel. Factors that influence both availability and cost are: (1) policy, such as taxation, (2) regulatory frameworks; and (3) availability and use of adequate infrastructure.

The Price of Travel

One possible explanation for the lack of intra-regional connectivity is the price of air travel. As with most goods and services, there is a negative relationship between air fares and the demand for air travel. A 2007 literature review of studies spanning the previous 25 years, found that increases in air fare lead to lower passenger traffic demand¹³. The studies conclude that air travel is particularly price elastic especially for leisure travellers, though less so for business travellers.

Travelling within the Caribbean is expensive as illustrated in Figure 4.1, which shows average revenue per passenger, per kilometre. This allows comparison between intra-regional and extra-regional routes. The intra-regional figures are generally higher than extra-regional.

Figure 4.1: Average Revenue per Passenger per Kilometre, by Country (2016)



Source: IATA PaxIS.

¹³ InterVISTAS (2007), 'Estimating Air Travel Demand Elasticities'.

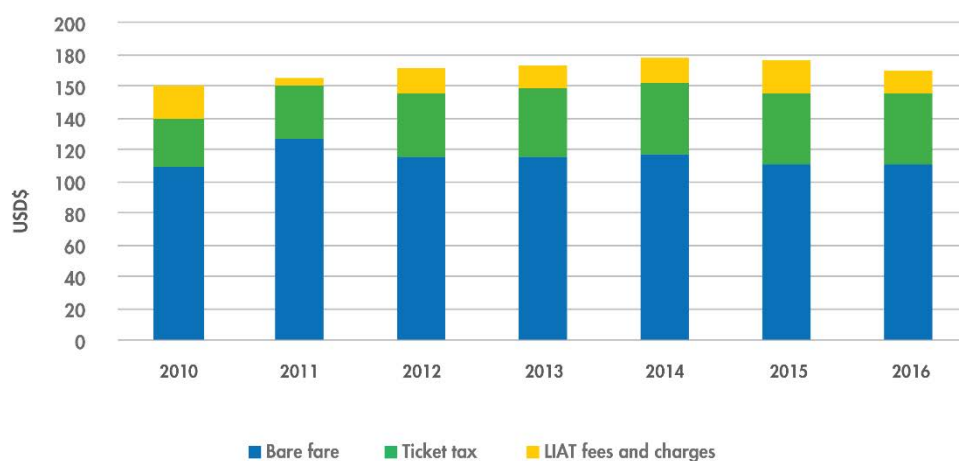
Sector lengths on intra-regional flights are short, and there is limited scope for economies of scale. Many costs are fixed and do not vary significantly as a function of sector length. While this should incentivise airlines to identify efficiency gains in order to remain competitive, the limits to which they can do this will affect how they set their fares.

In addition, this inbuilt disadvantage may be further distorted by taxes, fees and charges that further increase the cost of travel. Where these are passed on to passengers, demand for air travel and, therefore, connectivity, will be further reduced.

Airport charges are levied for various services supplied to airlines by airports. They may be either included explicitly or implicitly in the airfare that a customer sees. While such charges are not as significant for airlines as fuel, labour and capital costs, they will affect demand to the extent that they are passed on to passengers. Taxes on air travel are generally passed on to passengers. Unlike charges, they do not provide any direct benefit to passengers, as they are collected to fund general government expenditure.

Taxes, fees and charges (TFCs) are high on both extra and intra-regional travel. A CDB study (2015) found that for American Airlines (AA) routes, 6 of 10 destinations with the highest TFCs were in Caribbean Community (CARICOM). More recent analysis of LIAT ticket data by CDB found that taxes and charges added 54% (40% from taxes and 14% from charges) to the cost of an average one-way ticket in 2016, suggesting that they made up 35% of the ticket price. Between 2010 and 2016, LIAT's average base fare increased by 2%, but taxes increased by 42%. Overall, fares rose by 11%, while the number of tickets sold fell by 18% from 913,000 to 750,000.

Figure 4.2: TFCs and LIAT Average Fares (One way)



Source: LIAT.

TFCs continue to make up a large portion of the overall ticket price in 2018. The table below summarises TFCs and fares for return travel from June 6 to 13, on a number of extra-regional and intra-regional routes. TFCs as a share of full fares tend to be much higher for intra-regional flights than for extra-regional flights. This suggests that the distortionary effect of TFCs on demand for travel is greater for flights within the Region.

Table 4.1: TFCs June 2018¹⁴

| | BASE FARE | TAXES | FEES AND CHARGES | FULL FARE | TFCs/FULL FARE (%) |
|--|-----------|-------|------------------|-----------|--------------------|
| <i>Intra-Regional</i> | | | | | |
| BGI (BARBADOS) – SVD (ST. VINCENT) | 298 | 52.16 | 121.7 | 471.86 | 37% |
| ANU (ANTIGUA) – SVD (ST. VINCENT) | 210 | 21 | 213.9 | 444.9 | 53% |
| POS (TRINIDAD) – KIN (JAMAICA) | 400 | 85 | 125.79 | 610.79 | 35% |
| NAS (BAHAMAS) – PLS (TCI) | 213 | 98.13 | 60 | 371.13 | 43% |
| BGI (BARBADOS) – GRE (GRENADA) | 198 | 34.66 | 136.04 | 368.7 | 46% |
| SLU (CASTRIES, SAINT LUCIA) – BGI (BARBADOS) | 150 | 11.26 | 182.08 | 343.34 | 56% |
| <i>Extra-Regional</i> | | | | | |
| BGI (BARBADOS) – MIA (MIAMI) USA | 640 | 148.6 | 58.91 | 847.51 | 24% |
| POS (TRINIDAD) – PTY (PANAMA CITY, PANAMA) | 459 | 158.8 | 60 | 677.8 | 32% |
| NAS (BAHAMAS) – JFK (NEW YORK, USA) | 328 | 69.7 | 85.81 | 483.51 | 32% |
| UVF (VIEUX FORT, SAINT LUCIA) – MIA (USA) | 665 | 86.5 | 124.91 | 876.41 | 24% |

Source: LIAT, CAL, Bahamasair, AA, Copa

The Regulatory Framework – Air Service Agreements

Air service agreements (ASAs) allow for the movement of passengers and goods between countries. Historically, these were rigid agreements, which included provisions for various aspects of service including: allowable routes; the number of airlines permitted to operate; capacity; and rules on airfares¹⁵. However, in recent years some countries, such as the United States of America, have either partially or fully liberalised their ASAs with other countries; moving towards open skies agreements, which allow any airline of the countries party to the agreement to fly between any points in those countries.

Many studies from around the world have found that air service liberalisation led to increased competition in markets, providing greater choice and lower fares for passengers, both for business and for leisure¹⁶. As a result, connectivity increased, which, in turn, created further opportunities for air traffic volumes to increase.

The Caribbean is yet to experience such liberalisation, although progress has been made. Although the 1996 CARICOM Multilateral Air Service Agreement (MASA) was not fully ratified, a revised MASA was signed by a number of CARICOM member states in February 2018, and the Heads of Government urged countries to take steps towards implementation¹⁷. If fully implemented, the MASA will “expand[s] the scope for airlines owned by CARICOM nationals to provide air services throughout the 15-member grouping” and “allow[s] for no restriction

¹⁴ For return travel between 6 and 13 June 2018, except NAS-PLS (7 and 14 June). As viewed on 11 May 2018.

¹⁵ InterVISTAS Consulting (2015), “Economic Impacts of Air Service Liberalization,” http://www.intervistas.com/wp-content/uploads/2015/07/The_Economic_Impacts_of_Air_Liberalization_2015.pdf

¹⁶ ICAO (2004), IITL (2008), InterVistas (2014), ICAO (2017).

¹⁷ Communiqué issued at the conclusion of the twenty-ninth inter-sessional Meeting of the Conference of Heads of Government of the Caribbean Community 26-27 February 2018, Port-au-Prince, Haiti.

on routes, capacity or traffic rights” (Wiredja, 2018). The Organisation of Eastern Caribbean States (OECS)¹⁸ as a subset of CARICOM has made further progress. In 2010, the Revised Treaty of Basseterre was signed by OECS members. It stated that OECS members will “facilitate the concept of a progressively more integrated operating airspace” and establish “a single Economic Union Area air space [...] for the purpose of ensuring efficient and safe air traffic management”.

Regarding extra-regional routes, a few Caribbean countries have signed bilateral ASAs with countries such as the United States of America and Canada, as well as the European Union. There is scope for moving to a fully-liberalised open skies agreement in the extra-regional market as other Caribbean countries follow suit; the full implementation of the MASA is intended to serve this purpose.

Infrastructure

Infrastructure utilisation in the Region is relatively low. Nassau’s airport has the busiest peak number of hourly movements, with 20 movements between 17:00 and 18:00. The only other airport in the Region with a peak movement volume in excess of 10 is Montego Bay with 16 between 12:00 and 13:00. Although the movement numbers at regional airports are low by global standards. The movement profiles show a significant proportion of flights scheduled within relative concentrated time windows, with airports relatively empty at other times.

Overall, there is no strong evidence that airport infrastructure is a binding constraint on connectivity, but there may be issues at peak times. It may be that the available infrastructure is not being used efficiently, either on the airside or within the terminal. For example, airport operations which allow for sub-optimal processes and practices such as slow immigration and customs processing and long waiting times for checked luggage, lead to queues and other inconveniences at the Region’s airports, in spite of relatively low traffic volumes.

Intra-regional aircraft utilisation is also low, which affects intra-regional travel. This can be impacted by some airport operations. Sometimes aircraft appear to be arbitrarily forced to park on the airport ramp in positions that are inefficient for aircraft operations and inconvenient for passengers. At times, no passengers can disembark before a health inspector arrives at the aircraft. These challenges further affect connecting intra-regional passengers. Other operational challenges for airlines are the restriction of airport operating hours and/or the imposition of overtime fees for aircraft operations outside of “standard operating hours” or on weekends. This impacts connectivity, by penalising late evening arrivals and early morning departures scheduled to maximise regional network connections and facilitate connections to European and North American destinations. Such schedules are not responsive to local passengers’ needs.

Aircraft utilisation is also low due to scheduling, maintenance policy, and other operational factors. These tend to drive up fixed costs. Flight crew utilisation may also be low because of sub-optimal scheduling. This will drive up payroll costs and inflate other miscellaneous

¹⁸ The OECS is a 10 member grouping of islands spread across the Eastern Caribbean. Together, they form a near-continuous archipelago across the eastern reaches of the Caribbean Sea. They comprise the Leeward Islands: Antigua and Barbuda, St. Kitts and Nevis, Montserrat, Anguilla, and the British Virgin Islands; and the Windward Islands: Dominica, Saint Lucia, St. Vincent and the Grenadines, Grenada, and Martinique.

allowances such as hotel and duty allowance costs, which in turn increase the airline operators' overhead costs.

Other Potential Impediments to Connectivity

There are significant regulatory barriers that potentially limit connectivity. For example, the 2015 CDB study argues that the amount of time needed for carriers to receive operating licenses serves as a 'tacit form of protectionism', to the detriment of the sector. Prospective operators are prevented from entering the market due to a lack of licensing approval.

A lack of tourism development may also be inhibiting global connectivity for some of the islands. As tourism becomes more competitive globally, "high-end" destination quality will require continuous investment. It is prudent for governments to consider diversifying their products and their markets, as traditional tourists can be affected by economic developments in their own countries which will determine their disposable income and, therefore, willingness to travel (Laframboise et al., 2014). The lack of intra-regional connectivity is both a cause and a consequence of the lack of a regional approach to tourism product development. Better connectivity would facilitate multi-stop visits from outside the Caribbean, as well as increase Caribbean-sourced tourism.

Five: The Benefits of Enhanced Connectivity

Having considered the strong link between air transport connectivity and economic growth, the constraint on connectivity growth (and in some places its decline) is a concern for the Caribbean. This section focuses on possible explanations for the current level of connectivity, and suggests methods for improvement.

Four scenarios are modelled which could increase future connectivity and economic growth:

- **Scenario 1** assumes that lower taxes and charges will lead to cheaper airfares, and stimulate passenger demand. Taxes are reduced by 25%, and airport charges are reduced to the level of the 25th percentile of the Caribbean countries, or about USD30.
- **Scenario 2** assumes a more liberalised market with fewer restrictions on operation, leading to increased passenger demand. Liberalisation has been shown to increase passenger demand by up to 30%¹⁹, depending on existing levels²⁰.
- **Scenario 3** assumes more efficient operations, through better infrastructure utilisation (airports and aircraft) and also increased skills in the industry. As data on these impacts are difficult to gather, the impacts have been postulated. It is assumed that improving skills and making better use of technology and infrastructure leads to a 10% increase in traffic.
- **Scenario 4** is a combination of the three previous scenarios.

Methodology

The scenarios show impacts in 2036, against a baseline²¹. Impacts are measured in terms of the increase in the number of passengers travelling to each location, both from outside and within the Region. In some cases where passenger demand increases sufficiently, a direct service becomes a reality on routes currently only served indirectly. The resulting time savings encourage more passengers to travel on these routes.

The estimated impacts of the lower taxes and airports charges are based on the assumption that the reductions would be largely passed through to passengers as lower fares. Fare elasticities were applied to these reductions to derive the traffic impacts²². The GDP and employment impacts were calculated based on this revised traffic estimate.

In addition, economic impacts are estimated in terms of additional GDP and jobs created. These impacts are broken down as (a) those specific to the aviation sector and its supply

¹⁹ The 30% impact is estimated based on past research on the impacts of liberalisation, though is at the higher end of the potential impacts. See ICAO (2004), The International Institute of Transport and Logistics (2008), and InterVISTAS (2014).

²⁰ Where countries have open skies agreements with the U.S., Europe or Canada, the impact on extra-regional traffic was assumed to be zero.

²¹ To calculate the base traffic in 2036 (without policy changes), InterVISTAS used a country-level passenger traffic forecast provided by IATA. The impact of the policy changes in each of the scenarios were then estimated as additional growth above the base IATA forecast.

²² Elasticities varied for intra-regional and extra-regional travel. From IATA Economics Briefing (2008)

chains; and (b) the wider catalytic impacts discussed in Section One and Section Three—those related to tourism, trade, investment and productivity.

The aviation sector economic impacts—direct, indirect and induced—are based on existing studies containing information on airport, other aviation, and tourism employment levels in recent years²³. Relevant GDP and employment impacts are calculated using ratios of multiplier impacts to direct effects, which were gathered from airport economic impact studies.

The wider economic impacts are estimated separately, based on statistical analysis of the contribution of air transport to economic growth. The methodology isolates the air transport contribution by controlling for other growth contributing factors.

From Benefits to Aviation Markets and Users

Table 5.1 summarises the results for incremental passenger traffic and growth under the four scenarios. Scenario 1 (lower taxes airport charges), results in a traffic increase of 13% in BMC traffic by 2036, relative to the IATA base forecast. The increase for the wider group is 12%. The impact on individual BMCs ranges from 5% to 23%.

Scenario 2 (liberalised bilaterals) produces a 12% increase in traffic across BMCs, and also Caribbean-wide. BMC-specific increases range from 2% to 30%, depending on the extent of liberalisation already in place.

Scenario 3 (infrastructure and skills) gives in a 10% increase in traffic across the Region.

Combining all policy changes in Scenario 4 leads to a 36% increase in traffic. For the study group as a whole, there is an increase of 34%.

²³ For those countries where no such information was available, econometric analysis was carried out using information from the countries for which data was collected.

Table 5.1: Incremental Passenger Traffic (000s) (2036)

| | Baseline | Scenario 1 | Scenario 2 | Scenario 3 | Scenario 4 | Increase |
|--------------------|---------------|--------------|--------------|--------------|---------------|------------|
| ANG | 53 | 0 | 15 | 5 | 20 | 38% |
| ANT | 885 | 35 | 65 | 90 | 185 | 21% |
| BAH | 3,602 | 295 | 800 | 360 | 1,455 | 40% |
| BAR | 1,569 | 65 | 95 | 160 | 320 | 20% |
| BZE | 2,938 | 65 | 290 | 290 | 640 | 22% |
| BVI | 526 | 35 | 120 | 55 | 205 | 39% |
| CAY | 906 | 95 | 230 | 90 | 410 | 45% |
| DOM | 233 | 5 | 70 | 25 | 95 | 41% |
| GRE | 379 | 20 | 40 | 35 | 100 | 26% |
| GUY | 578 | 15 | 70 | 55 | 145 | 25% |
| HAI | 1,542 | 80 | 450 | 160 | 685 | 44% |
| JAM | 5,448 | 290 | 100 | 540 | 930 | 17% |
| MON | 13 | 0 | 5 | 1 | 5 | 40% |
| SKN | 379 | 40 | 20 | 35 | 100 | 26% |
| SLU | 1,038 | 90 | 310 | 100 | 505 | 49% |
| SVG | 563 | 25 | 130 | 55 | 210 | 37% |
| SUR | 2,110 | 295 | 180 | 210 | 685 | 32% |
| TT | 3,140 | 110 | 130 | 320 | 565 | 18% |
| TCI | 884 | 35 | 210 | 90 | 340 | 38% |
| Total BMCs | 26,784 | 1,605 | 3,330 | 2,676 | 7,600 | 28% |
| ARU | 2,700 | 25 | 75 | 270 | 370 | 15% |
| CUB | 12,674 | 195 | 3,450 | 1,270 | 4,920 | 43% |
| CUR | 1,159 | 60 | 80 | 120 | 255 | 22% |
| DR | 20,944 | 850 | 190 | 2,070 | 3,105 | 27% |
| GUA | 2,635 | 195 | 660 | 260 | 1,120 | 48% |
| MAR | 1,284 | 50 | 380 | 130 | 560 | 51% |
| Total other | 41,398 | 1,375 | 4,835 | 4,120 | 10,330 | 25% |
| Total all | 68,181 | 2,980 | 8,165 | 6,796 | 17,930 | 26% |

Source: InterVISTAS Analysis.

Note: Figures may not add due to rounding.

Connectivity and Time Savings

The improvements from the combined Scenario 4 would allow for greater economies of scale and greater freedom for carriers to expand their services, thereby stimulating the growth of passenger traffic and, in turn, the expansion of viable direct services into, and within, the Caribbean. This would result in time savings for passengers.

Section Three showed that there is a relative lack of connectivity in the intra-Caribbean market, and in some cases, even the extra-Caribbean market has room for growth. There are currently about 50 routes serving over 10,000 passengers annually (one-way) without direct

service^{24,25}. Only one of these routes is intra-regional. Improved connectivity would provide more itinerary options, direct services, and better connecting options for other routes, thereby boosting the economy and making multi-stop tourism easier. It would also improve business productivity, for example, by making same-day returns possible rather than having to overnight.

For example, passengers currently travelling between Barbados and Kingston, Jamaica (roughly 20,000 passengers p.a.)²⁶ do not have direct service options (see Figure 5.1). These passengers need to take one or two-stop itineraries, depending on the day of the week that they travel. On days when the one-stop service operates, the shortest available flight combinations range from five to eight hours. If connectivity was improved, these passengers would be able to have direct service between the two cities, with an improved travel time of three hours.

Figure 5.1: Flights between Bridgetown and Kingston



Source: InterVISTAS Estimates using Great Circle Mapper and Google Flights.

Applying the Scenario 4 passenger forecasts to the current route schedule indicates that as many as 29 new direct routes could be supported by 2036. Four of these services would be intra-regional. But these estimates are likely to be conservative, particularly for intra-regional routes. A broad body of experience demonstrates that the commencement of direct services can stimulate significant additional demand, even in the absence of other policy changes²⁷. Moreover, if smaller aircrafts were deployed on intra-regional routes then the traffic volumes that would be needed to support direct service would be lower.

²⁴ Based on origin/destination itinerary data from Sabre Data and Analytics Market Intelligence.

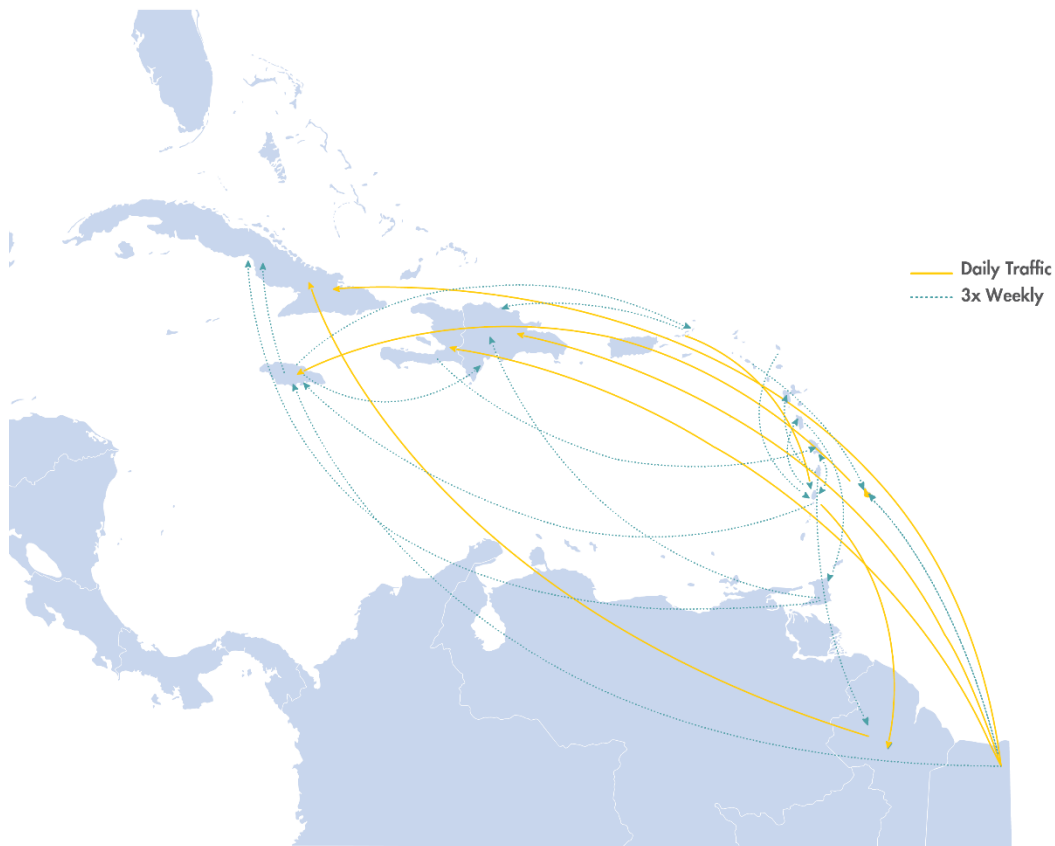
²⁵ 2016 passenger Origin/Destination data collected by InterVISTAS using Sabre.

²⁶ Passengers estimated in both directions.

²⁷ See for example Berry and Jia (2008).

Figure 5.2 provides an indicative illustration of new direct intra-regional services that could be supported if turboprop aircrafts were used. These potential routes are derived from a data-led assessment of the type of service developments that may arise with the policy changes. However, every market is unique, and other political, industry or economic factors may affect the outcome. Thus the analysis is designed to illustrate the potential air service developments, but it cannot be guaranteed that services will develop in this way.

**Figure 5.2: Potential New Direct Intra-Regional Routes
Combined Scenario 4**



Economic Benefits of Connectivity Improvement

The following sections describe the potential economic impacts as a result of air connectivity improvement under the combined Scenario 4. Additional scenario results, as well as the breakdown of impacts (by aviation sector, tourism sector, and the wider economy), will be provided in a research paper, scheduled for publication later in 2018.

Economic Impacts in the Aviation Sector

Table 5.2 shows the total economic impacts in terms of GDP and jobs for the combined scenario. These include impacts related to aviation (direct, indirect, and induced), as well as the wider economic benefits discussed previously. In the combined scenario, it is estimated that the policy changes could result in an additional 139,400 jobs across all sectors in the BMCs by 2036. Additional GDP in the BMCs would be USD1.9 billion. Based on 2017 prices, this would equate to an increase in total GDP of about 1.5%. The magnitude of the impacts broadly reflects the size of each country's economy.

Total Impacts

Table 5.2: Total Employment and GDP Impacts
Scenario 4: Combined Impacts 2036

| | Total Incremental Employment | Total Incremental GDP (USD Millions) |
|---------------------|---------------------------------|---|
| ANG | 245 | 10 |
| ANT | 1,815 | 45 |
| BAH | 22,260 | 550 |
| BAR | 4,230 | 95 |
| BZE | 6,470 | 80 |
| BVI | 1,485 | 75 |
| CAY | 3,305 | 150 |
| DOM | 2,255 | 35 |
| GRE | 1,005 | 15 |
| GUY | 1,910 | 25 |
| HAI | 48,920 | 120 |
| JAM | 18,300 | 205 |
| MON | 10 | 0 |
| SKN | 645 | 15 |
| SLU | 7,080 | 95 |
| SVG | 2,645 | 45 |
| SUR | 6,875 | 105 |
| TT | 5,560 | 155 |
| TCI | 4,385 | 85 |
| Total BMCs | 139,400 | 1,905 |
| ARU | 2,260 | 60 |
| CUB | 86,710 | 1,305 |
| CUR | 1,670 | 70 |
| DR | 47,130 | 730 |
| GUA | 7,815 | 220 |
| MAR | 3,955 | 155 |
| Total others | 149,540 | 2,540 |
| Total all | 288,940 | 4,445 |

Source: InterVISTAS Analysis.

Note: Figures may not add due to rounding.

Six: Conclusion

The paper explored the issue of aviation connectivity in the Caribbean which, for two specific reasons, is particularly important for the Region. Firstly, the geographical nature of the Region means that connectivity is absolutely critical for the movement of people and for trade. Secondly, tourism has emerged as the Region's primary economic activity, and connectivity—especially air connectivity—is an extremely significant variable in the tourism and travel industry.

The preceding discourse presents the Region as one in which extra-regional passenger traffic and connectivity have grown relatively steadily over the past 10 years, as new international airlines have added the Region to their schedule. This augurs well for the continued development of the tourism industry. By contrast, however, that is not the same for the intra-regional segment of the travel market. This segment, over the same time period, has been marked by stagnation or even decline—a worrying trend. There are many reasons put forward to explain these developments, primary amongst which is the cost of travel. Cost of travel is influenced by the taxes, fees and charges added on to the base fare of an airline ticket.

These adverse developments in intra-regional connectivity constrain the movement of people within the regional space, which consequently compromises the development potential of moving tourists and travellers within the Caribbean, with the attendant benefits to regional economies. Furthermore, limited intra-regional connectivity affects the pace at which Caribbean citizens can move within the space.

Recognising the significance of aviation connectivity, there are a number of actions that could be taken to improve the air transport service delivery and quality in the Caribbean. Given that the shortfall is mainly at the intra-regional level, these will benefit the entire industry as a whole, but will likely impact more heavily on the intra-regional connectivity. Actions for consideration include:

- *Full ratification of MASA*, which would allow for a range of positive developments; but mainly a full liberalisation of the Caribbean airspace. This should allow for increase competition, which in turn could improve quality at a lower cost.
- *A reduction in aviation taxes*. The price elasticity of demand to airfares (which include taxes) reflects the traveller's sensitivity to changes in price – and the taxes in the Caribbean add to this price. This distortion appears to be greater for intra-regional travel.
- *A reduction in airport charges*. Lowering charges may allow airlines to operate in markets which are considered thin and where operating costs are important for viability. This may also be a way for airports to attract services, especially for the extra-regional markets.

- *An improvement in infrastructure and regulations.* Air connectivity growth can be achieved with further investment in aviation infrastructure, or more efficient use of existing infrastructure. Removal of institutional regulatory barriers would also help the development of air traffic growth.

Such measures would help reverse the decline in intra-regional journeys, with positive implications for developing multi-destination tourism in the Caribbean.

Combining these policy remedies could increase long-term employment by 288,000 and GDP by US\$4.4 billion across the Caribbean. Based on a scenario including all of the policy remedies mentioned above, total incremental employment impacts of approximately 288,000 jobs is expected, adding a total of nearly US\$4.4 billion in GDP across the Caribbean by 2036. This is based on an expected 26% increase in passengers across the Caribbean. For CDB's BMCs, traffic would increase by 34%, with an increase in employment and GDP of 139,400 jobs and \$1.9 billion respectively.

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Appendix

IATA Global Connectivity Index

| | 2008 | 2013 | 2018 |
|------------------------------|--------|--------|--------|
| Anguilla | 118 | 25 | 29 |
| Antigua and Barbuda | 2,139 | 2,376 | 2,945 |
| Aruba | 7,882 | 9,665 | 11,923 |
| Bahamas | 19,385 | 19,252 | 24,782 |
| Barbados | 7,045 | 4,754 | 5,824 |
| Belize | 3,612 | 3,887 | 5,263 |
| British Virgin Islands | 652 | 214 | 193 |
| Cayman Islands | 5,052 | 5,385 | 7,344 |
| Cuba | 10,415 | 13,358 | 33,375 |
| Curacao | 3,076 | 5,281 | 5,394 |
| Dominica | 128 | 115 | 35 |
| Dominican Republic | 35,459 | 49,944 | 69,530 |
| Grenada | 408 | 964 | 1,562 |
| Guadeloupe | 4,235 | 5,177 | 6,711 |
| Guyana | 605 | 1,081 | 1,556 |
| Haiti | 4,847 | 6,325 | 10,507 |
| Jamaica | 23,255 | 26,209 | 33,000 |
| Martinique | 3,675 | 5,009 | 5,676 |
| Montserrat | 22 | 3 | 2 |
| Saint Kitts and Nevis | 958 | 999 | 1,269 |
| Saint Lucia | 2,710 | 3,448 | 4,542 |
| Saint Vincent and Grenadines | 137 | 80 | 178 |
| Suriname | 1,836 | 1,844 | 2,487 |
| Trinidad and Tobago | 7,516 | 6,415 | 8,302 |
| Turks and Caicos Islands | 3,124 | 4,189 | 6,003 |

Source: IATA

IATA Regional Connectivity Index

| | 2008 | 2013 | 2018 |
|------------------------------|-------|-------|-------|
| Anguilla | 266 | 98 | 4 |
| Antigua and Barbuda | 2523 | 1082 | 1270 |
| Aruba | 821 | 1354 | 928 |
| Bahamas | 5832 | 6837 | 5835 |
| Barbados | 7202 | 3277 | 3262 |
| Belize | 1915 | 2734 | 21217 |
| British Virgin Islands | 16 | 5 | 245 |
| Cayman Islands | 1785 | 1078 | 1265 |
| Cuba | 8996 | 4575 | 3245 |
| Curacao | 1406 | 1706 | 1274 |
| Dominica | 1577 | 1051 | 414 |
| Dominican Republic | 1327 | 1098 | 753 |
| Grenada | 2936 | 2646 | 2066 |
| Guadeloupe | 3866 | 5701 | 5813 |
| Guyana | 3653 | 6196 | 4161 |
| Haiti | 489 | 846 | 1270 |
| Jamaica | 5259 | 1451 | 1233 |
| Martinique | 3466 | 4321 | 4605 |
| Montserrat | 685 | 60 | 48 |
| Saint Kitts and Nevis | 1493 | 465 | 369 |
| Saint Lucia | 3420 | 3328 | 2820 |
| Saint Vincent and Grenadines | 2823 | 1991 | 2271 |
| Suriname | 1230 | 1321 | 1051 |
| Trinidad and Tobago | 15233 | 15395 | 16619 |
| Turks and Caicos Islands | 815 | 418 | 759 |

Source: IATA



Caribbean Development Bank,
PO Box 408, Wilkey, St. Michael,
Barbados BB11000
(246) 431-1600
www.caribank.org

