

Air Transport Competitiveness Index in Latin America and the Caribbean

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INTRODUCTION

We are convinced that travel is a powerful tool for development. Air travel brings families together, enables companies to reach new markets, contributes to personal growth, and accelerates trade. It provides direct, indirect, and induced employment to millions of people and, by connecting remote and urban areas, travel fosters social mobility, inclusion and accessibility to essential services and cultural exchange. In a region as rich and diverse as Latin America and the Caribbean, travel is not just an option, it is an essential service, and millions of people from all walks of life will benefit if travel continues to grow.

It is no wonder that Latin America and the Caribbean are among the fastest growing regions in the world for air travel. More than 70% of tourists arriving in the region arrive by air, and in the decade before the pandemic, increased tourism activity, infrastructure investments and new air routes contributed to passenger numbers growing at a rate of 5.0% per year.

The pandemic caused a drastic stop, but the aviation industry in Latin America and the Caribbean has recovered to 2019 levels and has even resumed a growth path despite adversity: an estimated 306 million passengers flew with Latin American airlines in 2022, according to ALTA estimates based on data from Amadeus Travel Intelligence – Market Insight. In fact, Latin America and the Caribbean have outperformed all other regions with the highest passenger recovery worldwide, an impressive achievement considering it received no financial assistance during the pandemic.

So, what are the conditions that can foster further growth in air travel? How can Latin American and Caribbean countries make the most of these opportunities? And how can the travel industry find a path to growth that is truly sustainable, cooperative, and fair, so that all Latin American and Caribbean citizens, and their local, national, and regional economies can benefit from it?

Since 2019, ALTA (Latin American and Caribbean Air Transport Association) and Amadeus have partnered to answer these

questions with the Latin American and Caribbean Air Transport Competitiveness Index.

To make the best decisions, industry stakeholders, policymakers and industry leaders need access to the best and latest industry data and analysis. Our Competitiveness Index was designed with this in mind. By providing a detailed view of the strengths, challenges and opportunities of the Latin American and Caribbean air transport industry, Amadeus and ALTA aim to provide the information regional leaders need to design strategies that orchestrate a successful and sustainable path for growth, increased collaboration, and improved competitiveness.

Ultimately, we believe that if more people can make use of air travel, the countries and citizens of the region will benefit from the income and jobs generated directly and indirectly by the tourism industry. To that end, this report outlines steps that can be taken to generate more attractive conditions to attract investment and facilitate tourism.

While this report delves into a lot of data on the influence of all sorts of factors, from infrastructure to fuel prices, airport quality, passenger taxes, ground transportation, etc., there are some overarching themes that we know have a major influence on the success of the tourism industry, not only in Latin America and the Caribbean, but around the world:

Collaboration: The potential of aviation and the travel and tourism industry should be recognized by local and regional governments. It is essential that it be considered as part of State Agendas to foster appropriate contexts for development. Collaboration will help to enhance these efforts more quickly and efficiently.

Technology as an enabler: The transformative power of technology will continue to have a dramatic impact on the success and growth of aviation in the region. Technology and innovation can enhance safety, improve sustainability, increase efficiency, and improve the overall passenger experience. With travel-centric retail, technology cannot be overlooked as an essential tool for the growth and prosperity of the travel industry in Latin America and beyond.

Amadeus and ALTA firmly believe that the travel industry is a positive force. By working together and sharing this data and our findings with all our industry partners, we hope to contribute to a future in which the travel industry brings development and prosperity to all, while fostering social inclusion, diversity and sustainability.

We look forward to hearing your views.

José Ricardo Betselho
Executive Director and CEO of ALTA

Victoria Gorzio
Vice President Airlines Latin America, Amadeus



Historic traffic growth and prospects

The air transport industry in Latin America and the Caribbean (LAC) is a fundamental pillar of the region's economic vitality and social progress, not only facilitating the movement of goods and people, but also serving as a catalyst for investment and international cooperation.

The contribution of air transport to Latin America goes beyond connectivity. It is a tool for economic growth and social development, and the sector's importance can be understood through several key dimensions:



Economic growth: Air transport enables companies to reach new markets, enhances the tourism industry and accelerates trade.



Employment and skills development: Provides direct and indirect employment, fostering skills and expertise in diverse fields such as engineering, logistics and customer service.



Social cohesion and accessibility: By connecting remote and urban areas, air transport fosters social inclusion, accessibility to essential services and cultural exchange.



Innovation and investment: The continuing need for technological advances drives innovation and attracts investment in research, development, and infrastructure.



Environmental leadership: The industry's focus on sustainability offers a model for balancing growth with environmental responsibility.



Source: IATA analysis



The growth of the air transport sector in Latin America and the Caribbean (LAC) over the last fifty years has reflected the region's changing circumstances. In the 1970s, passenger numbers increased at a compound annual growth rate (CAGR) of 11.3% due to political transitions to democracies, which boosted trade and investment. The 1980s, often referred to as the "Lost Decade," witnessed stagnation, with modest passenger growth of 1.2% annually due to economic problems, high inflation, and debt.

The 1990s revitalized the sector and passenger numbers rose from 65.2 million to 90.8 million. Economic reforms, the emergence of new airlines, the tourism boom and investments in aviation infrastructure were the main drivers. Technological advances in this decade played a transformative role. The introduction of computerized reservation systems streamlined ticketing processes, allowing airlines to reach a wider audience and simplify bookings. In addition, the emergence of digital communication tools and the Internet began to reshape the way airlines interacted with their passengers and managed their operations. There were challenges, such as the financial crisis of 2007-2009, but they were effectively overcome.

Between 2010 and 2019, the number of passengers grew from 129.4 million to 205.1 million, an annual growth of 5.6%. Increased tourism activity, infrastructure investments and new air routes drove this growth. However, 2020 was a difficult year due to COVID-19, which caused a decline to 121 million passengers. However, thanks to the resilience of airlines and government collaboration on security measures, the industry demonstrated resilience, paving the way for a rapid recovery.

Today, the aviation sector in Latin America has fully recovered to pre-pandemic levels, with an estimated 204 million passengers carried by LAC airlines by the end of 2023, according to AEA estimates. An analysis of the data reveals significant room for

growth; current per capita travel stands at 0.6, representing a significant growth opportunity in the region. For sustainable expansion, it is imperative that countries streamline policies and frameworks, fostering a more competitive landscape for industry.

Upon conclusion of this historical review, the importance of this Competitiveness Report is evident. Through a detailed assessment of the seven identified pillars, this study provides a holistic perspective of the strengths and vulnerabilities of the Latin American and Caribbean aviation sectors. It is vital to identify areas of excellence and potential improvement. Armed with this analysis, countries can formulate specific strategies, capitalize on their strong points, and strengthen areas of concern. This in-depth knowledge will contribute to a stronger and more resilient air transport landscape in the region.



Objective, scope, and methodology

Through this study, we aim to provide a detailed and comprehensive view of the strengths, challenges, and opportunities of the air transport sector in Latin America and the Caribbean. Our goal is to provide information for stakeholders, policy makers and industry leaders to design strategies for sustainable growth, increased collaboration, and improved competitiveness.

This report analyses the competitiveness of the air transport industry in 30 Latin American countries, focusing on 7 key pillars.



Data collection: Data is sourced from reliable industry reports, official databases and specific ALTA and Amadeus calculations. The Amadeus Travel Intelligence – Market Insight platform, in particular the Schedule Analytics and Traffic Analytics modules, were the main sources of traffic and capacity related data.



Weighting of the pillars: Each pillar and sub-pillar is weighted according to its importance for the competitiveness of the air transport sector.

In assessing the competitiveness of aviation in Latin America and the Caribbean, greater relevance has been given to the first three pillars: air infrastructure, operating costs, and fees and taxes. The emphasis on these pillars is justified by the ability of a robust air infrastructure to meet growing demand in a region with significant growth potential, where air transport is often the only viable option due to its challenging geography and long distances between destinations. Competitive operating costs are essential, as efficiencies achieved by airlines have a proven track record of being passed on to passengers in the form of lower fares. Finally, the structure of fees and taxes is critical, as they should not represent a barrier that makes the cost of air travel more expensive for passengers, especially in a highly price-sensitive market. Therefore, these three pillars together make up 75% of the final score of this study, underlining their importance in the formation of a competitive and accessible aviation environment in the region.

Scoring system: Countries receive scores between 0 and 1 for each pillar. A score of 1



indicates the best performance, while 0 is the lowest. The final country score is the weighted average of all pillars.



Normalization: Scores are adjusted to the range 0-1. For most metrics, higher values get scores close to 1. But for factors where less is better, such as fuel price, lower values get higher scores. Thus, the scores for the different pillars are consistent and directly comparable. When there are multiple data points for the same pillar (such as fuel price, which differs between airports in the same country), a country-specific value was calculated using a weighted average based on the number of passengers each airport handles relative to the total number of passengers.

$$X_{norm} = \frac{X - X_{min}}{X_{max} - X_{min}}$$

$$\text{Inverse } X_{norm} = 1 - \frac{X - X_{min}}{X_{max} - X_{min}}$$



Index Pillars

The following 7 pillars have been examined, which provide an overall view of the sector





Main Results

	Country/Place	Openness of market	Quality of infrastructure	Transportation costs	Transportation infrastructure	Airline services to a city	Urban mobility and infrastructure	Urban mobility infrastructure	Urban mobility infrastructure
1	Panama	0.76	0.80	0.77	0.68	0.74	0.61	0.34	1.34
2	Chile	0.66	0.80	0.80	0.60	0.68	0.69	0.17	0.89
3	Brazil	0.64	0.44	1.00	0.88	0.61	0.77	0.34	0.77
4	Trinidad and Tobago	0.68	0.82	0.82	0.36	0.66	0.62	0.04	0.82
5	Guatemala	0.68	0.68	0.85	-	0.66	0.66	0.08	0.49
6	Costa Rica	0.66	0.73	0.77	0.34	0.64	0.68	0.16	0.40
7	El Salvador	0.61	0.63	0.82	0.09	0.62	0.44	0.09	0.39
8	Venezuela	0.77	0.82	0.69	0.01	0.63	0.43	0.04	0.20
9	Antigua	0.71	0.76	0.76	0.07	0.64	0.37	0.21	0.21
10	Colombia	0.68	0.61	0.66	0.69	0.61	0.66	0.39	0.73
11	Bahamas	0.64	0.77	0.82	0.03	0.62	0.62	0.31	0.73
12	Mexico	0.61	0.61	0.66	0.19	0.66	0.66	0.66	0.66
13	Dominican Republic	0.40	0.73	0.66	0.29	0.66	0.67	0.42	0.39
14	Uruguay	0.64	0.66	0.67	0.06	0.62	0.67	0.10	0.31
15	Bolivia	0.44	0.77	0.64	0.04	0.61	0.66	0.03	0.36
16	Belize	0.64	0.61	0.73	0.03	0.64	0.39	0.06	0.21
17	Peru	0.66	0.44	0.77	0.07	0.67	0.62	0.16	0.08
18	Argentina	0.46	0.60	0.40	0.07	0.66	0.66	0.17	0.03
19	Jamaica	0.37	0.62	0.46	0.12	0.62	0.66	0.21	0.69
20	Cuba	0.23	0.37	0.67	0.03	0.47	0.76	0.76	0.60

After reviewing data from the air transport sector in Latin America and the Caribbean, countries in the region have different strengths and challenges. Some are leaders in certain areas, while others need more attention and support. The detailed rankings provide a better understanding of where each country stands and what can be done to improve.



Willingness to travel: The Bahamas has the highest score in this pillar with 0.60. Cuba, on the other hand, has the lowest score of 0.47.



International openness: Brazil leads with a score of 0.75, while Cuba has the greatest opportunities for improvement with 0.16.



Connectivity: Mexico is the best-connected country in the region with a score of 0.64, outperforming other countries. Venezuela, Trinidad and Tobago and Bolivia are the least connected countries in the region with a score of 0.04.



Overall ranking: Panama leads the Air Transport Competitiveness Index for Latin America and the Caribbean 2023, with a score of 7.34, ahead of second-ranked Chile, which scored 6.89. Brazil rounds out the top 3 most competitive markets with a score of 6.77. Cuba is the market with the most room for improvement, with a score of 3.60.



Operating costs: Venezuela leads the way with a score of 0.77, while Cuba has the most room for improvement with 0.23.



Infrastructure quality: Panama and Chile are the countries with the best air infrastructures in the region, both with a score of 0.80. Cuba, Peru, and Brazil have ample room for improvement in their air transport infrastructure.



Taxes and fees: Brazil leads this category, with a score of 1, and Argentina has the lowest score of 0.40.



Sustainability: Brazil leads in this category with a score of 0.66. Venezuela is the country with the most room for improvement, with a score of 0.01.

In conclusion, the Latin American and Caribbean air transport sector shows a diverse picture of strengths and areas requiring attention. Panama emerges as a leader in overall competitiveness, infrastructure quality and operational efficiency, while Brazil leads in sustainability and taxes/fees. However, it is essential to recognize that each country has its unique potential and challenges. Addressing the areas of improvement highlighted, especially in countries such as Argentina and Venezuela, can pave the way for a more cohesive and robust regional air transport network. As stakeholders in this vital sector, continued collaboration, knowledge sharing, and strategic investments are imperative to elevate the region's global position and ensure sustainable growth for the future.



Pillar 1. Operating Costs





The air transport industry is dependent on airport and air navigation services, which include aviation fuel supply, maintenance, landing fees, en route overflight fees, ground handling fees, etc.

There is a positive correlation between operating costs and the price of airline tickets, which undoubtedly has an impact on airline profitability. Throughout history, the industry has been complemented by new technologies, more modern fleets and more efficient operations that have managed to reduce operating costs and, in turn, the price of airline tickets, which has allowed it to attract more passengers. However, operating costs are constantly inflating, linked to external situations such as currency depreciation, inflation, or political crises.

The global aviation industry is a capital-intensive sector, requiring significant investments in both fixed and variable costs. Airlines face a very competitive environment, with demand highly sensitive to price variations, and often operate with narrow profit margins. Given these challenges, there is a common assumption that the costs associated with air travel are high; however, a closer look at the data presents a different perspective.

Considering these low margins and strong competition, the aviation industry in Latin America and the Caribbean has struggled to pass savings and improvements directly to passengers. Since 2011, LAC airlines have reduced their Cost per Available Seat Kilometer (CASK) by 42.6%. At the same time, the Yield, which represents revenue per passenger-kilometer, has decreased by 43.7% in real terms.

Evolution of CASK (cost per available seat-km) and Yield (revenue per passenger-km) of LAC airlines. (Inflation-adjusted values)





This progress is due to the ongoing efforts of the region's airlines, which have increased their efficiency, adopted best practices, and managed to reduce costs and improve operations. As a result, flights have become more affordable for passengers in the region.

It is for these reasons that in Pillar 1 we analyze and compare across countries the top 3 operating expenses that account for more than 80% of total airline operating costs in the region, including:

Fuel costs

Turnaround costs (including landing fees)

Overflight costs

1.1 Fuel Prices

Fuel is the largest component of airline operating costs, representing between 34% and 40% in 2023, with an average of 37.4% for airlines based in Latin America and the Caribbean. Even though the vast majority of Latin American and Caribbean countries are producers of oil and petroleum products, the region faces higher fuel prices compared to the United States, where this cost constitutes 34.4% of airline operating expenses. Even though Latin American and Caribbean airlines are more fuel efficient per 1,000 Revenue Passenger Kilometers (RPK) than their U.S. counterparts, they face higher costs, as illustrated in the graph below.

Pillar 1: Operating Costs

Operating costs



Fuel as % of operating costs



Fuel consumption for each 1,000 RPK



Source: ICAO Analysis



Turnaround costs

Aircraft turnaround costs are the expenses incurred between arrival and departure. Airlines try to minimize them to reduce costs and improve efficiency. Factors influencing costs include aircraft size, airport fare structure and airline procedures. This section analyzes the three main costs incurred by airlines when arriving and departing from an airport, which are landing fees, parking fees, and jet bridge fees. The calculations are based on the following assumptions:

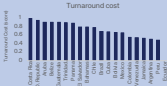
Aircraft type: A320XLR with MTOW of 38 tons

Type of flight: International

Hours of operation: Daytime (non-peak hours)

Turnaround time: 2 hours

Country	Cost for 2-hour Turnaround	Index
Costa Rica	\$55	1
D. Republic	\$223	0.86
India	\$274	0.81
Bolivia	\$282	0.81
Guatemala	\$296	0.8
Trinidad/Tobago	\$300	0.86
Panama	\$322	0.88
El Salvador	\$440	0.79
Bahamas	\$452	0.79
Chile	\$460	0.78
Brazil	\$479	0.69
Colombia	\$488	0.68
Bolivia	\$500	0.67
Bolivia	\$526	0.66
Colombia	\$776	0.66
Venezuela	\$788	0.66
Uruguay	\$822	0.63
Argentina	\$826	0.61
Peru	\$866	0.64
Ecuador	\$1,376	-





Pillar 2. Infrastructure Quality





2. Infrastructure Quality

The quality of aviation infrastructure is a determining factor for the competitiveness of air transport. An efficient and modern infrastructure not only ensures operational efficiency, but also improves the overall passenger experience. In addition, anticipating and accommodating future growth is very important, as air transport continues to expand. It is essential to have infrastructures that can seamlessly accommodate the growing demand for passengers and cargo. The condition and efficiency of an airport's infrastructure directly influences a country's ability to attract both business and leisure travelers.

To assess infrastructure quality, we have broken down this pillar into four specific factors. Each of these factors contributes uniquely to the overall assessment of infrastructure quality:

Airport congestion: Using data from the World Airport Coordinators Group (WWACG), we measure airport congestion levels. An airport's congestion level gives an idea of its capacity, efficiency in managing peak hours and ability to accommodate growth without causing significant congestion or delays. A high level of congestion can discourage airlines from adding new routes and lengthen the operation times between entering and leaving the airport. This factor has a 40% weight in the infrastructure pillar.

Non-Remote Parking Positions: We looked at the number of boarding bridges available per flight during peak hours. The availability of boarding bridges can reduce turnaround times and increase airline efficiency, while offering passengers a more comfortable boarding experience compared to remote stands. This factor has a 20% weight in the infrastructure pillar.

Punctuality: Data from OAG's OTP database provides insight into the timeliness of flight departures and arrivals. It is a valuable measure of the airport's ability to maintain on-time operations. This factor has a weight of 30% in the infrastructure pillar.

Airport quality: This aims to measure the level of service (LOS) of airports using a qualitative approach. The data comes from the Skytrax 2023 ranking and reflects passenger satisfaction at various touch points of their airport experience. This factor is weighted at 10% in the infrastructure pillar.

To ensure an accurate and representative assessment of airport infrastructure quality at the country level, the methodology for calculating each country's final score is based on a detailed and nuanced analysis. This approach recognizes the variability in importance and traffic volume between airports in each country, implementing a weighted average system that adequately reflects the impact of each airport on the national airport infrastructure.

The calculation of the final score for each factor is done through a weighted average, considering the percentage of passengers and the number of flights handled by the airports. This system ensures that those airports with a higher volume of traffic, which are more relevant to the country's airport infrastructure, have a proportionally greater influence on the final evaluation. For countries where most of the traffic is concentrated at a single airport, as is the case in Panama, only the main airport is considered for the evaluation.

For the selection of airports that form part of the evaluation, we have established clear and objective criteria focused on the top 10 airports in each country, based on the number of passengers and flights. This approach allows us to identify those airports that:

- Handle the highest volume of passenger and flight traffic, reflecting their strategic importance within the country.
- Are crucial for international and domestic connectivity and play a significant role in the national economy and logistics.

These aspects ensure that our assessment focuses on the airports that truly drive and reflect the capacity and quality of airport infrastructure in each country. By applying this method, our assessment provides a fair comparison between countries, adjusted for variability in the size and importance of their most critical airports. Through this weighted average approach, we ensure that our assessment of airport infrastructure quality accurately represents user experience and operational efficiency at the national level.



A sound aviation infrastructure goes beyond merely facilitating the movement of passengers and cargo. It demonstrates a country's commitment to strengthening its air transport sector, and adequate investment can significantly elevate the country's position in the global air transport landscape.

Below is a summary of private and public investment in airport infrastructure in Latin America and the Caribbean over the past 15 years, according to an analysis done by ALTA based on data from INFRASTAT and the World Bank's PPI (Private Participation in Infrastructure) database. On average, only 0.07% of the region's GDP was invested in airport infrastructure during the period 2008-2020.

Current traffic growth forecasts up to 2040 are between 35% and 55%, so there is an urgent need to continue investing in airport infrastructure in the region to meet growing demand. According to an analysis by CAF, approximately US\$40 billion of additional investment is needed in the region to meet future demand, given current growth projections.

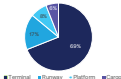


Future airport investment needs

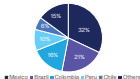
Private investments by type



By Category



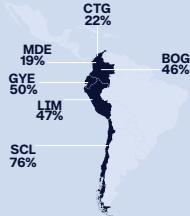
By Country





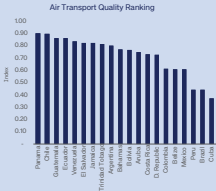
Recent airport privatizations in Latin America have improved terminals and capacity. However, high concession fees set by governments put a strain on airport operators, passing the costs on to passengers and airlines. Privatization should prioritize service efficiency and infrastructure needs, and not simply increase fees without improving services. Such practices could increase ticket prices and slow the growth of aviation in the region. In accordance with ICAO policies, charges should reflect the cost of services provided, ensuring that airlines and passengers are not harmed by unfair costs, such as rents and concession fees for which they receive no service in return.

Percentage of total airport revenues going to the government in selected airport concessions





Panama leads the infrastructure pillar with a score of 0.904, reflecting its strong aviation infrastructure. It is closely followed by Chile with a score of 0.898, demonstrating a comparable commitment and development in its airport sector. Ecuador, with a score of 0.862, also stands out for its airport infrastructure. Countries such as Jamaica and Argentina, with scores of 0.823 and 0.822 respectively, as well as El Salvador with 0.825, show positive progress towards strengthening their airport capacities. On the other hand, larger economies such as Mexico and Colombia, with scores of 0.609 and 0.611, and Brazil with 0.441, are ranked lower, suggesting that a larger market size does not necessarily guarantee a high-quality airport infrastructure. These results indicate a variety of approaches and levels of investment in aviation infrastructure in Latin America, highlighting opportunities for growth in various economies in the region.





2.1 Airport Congestion

The level of congestion at an airport provides an indicator of its capacity and operational efficiency. As the volume of air travel increases, it is essential to know the level of congestion. A high level of congestion can lead to overcrowding, delays and discourage airlines from introducing new routes. Assessing this factor provides information about an airport's ability to handle peak hours and accommodate future growth without significant disruption. Although certain congested airports show acceptable levels of punctuality, the focus of our assessment leans toward their ability to expand operations, vital given the 0.6 per capita travel index in Latin America and the Caribbean, which underlines significant growth potential when compared to per capita travel in markets such as the USA or Europe (>2). This prioritization reflects the importance of preparing for an increase in air demand, beyond current performance metrics.

The "airport congestion" factor has a significant impact, representing 40% within the infrastructure pillar, due to its critical influence on airport capacity and operational efficiency. Congestion levels directly affect the airport's ability to handle peak hours and accommodate growth, thus being a key factor in determining the quality and efficiency of the aviation infrastructure. Considering that 60% of flights in the region take off or land at congested airports, it is essential to promote investments in the expansion of existing airports or the development of new ones to alleviate this problem.

The Worldwide Air Slot Guidelines (WASG) establish comprehensive policies and principles for slot allocation at congested airports. These guidelines are managed by the World Airport Slot Board (WASB), a conglomerate of airport, airline, and slot coordinator experts charged with promoting best practices globally. The WASB ensures the impartial updating of these guidelines, allowing any interested party to propose modifications. In addition, airports are classified into three levels, depending on their degree of congestion, to facilitate more effective slot management.

Level 1 (adequate capacity)

Level 2 (potential congestion solved with schedule adjustments)

Level 3 (inadequate infrastructure or imposed restrictions requiring slot coordination)

Airports that do not appear on the WASB list receive the WASB value 1.

Many Latin American countries consistently show a Level 1 status for airport congestion, indicating balanced airport capacity. However, the most important markets (in terms of passenger demand) such as Mexico, Colombia, Peru, and Brazil show signs of increasing congestion. This highlights the need for airport infrastructure development and investment.

Country	Weighted Average WASB Level	Index
Argentina	1.00	100
Chile	1.00	100
Panama	1.00	100
D. Republic	1.00	100
Brazil	1.00	100
Bolivia	1.00	100
Costa Rica	1.00	100
Bahamas	1.00	100
Jamaica	1.00	100
Venezuela	1.00	100
Belize	1.00	100
El Salvador	1.00	100
Turkmenistan	1.00	100
Guatemala	1.00	100
Aruba	1.00	100
Mexico	1.87	0.63
Colombia	2.78	0.32
Peru	2.81	0.32
Brazil	3.61	0.08
Cuba	3.70	-

Airport Congestion Ranking



Source: WASB analysis based on the WASB list



2.2 Non-Remote Parking Positions

Non-remote parking positions play a critical role in determining the operational efficiency of an airport during boarding and deplaning procedures. By analyzing the number of non-remote parking positions per flight during peak hours, we gain insight into the potential for quick and smooth passenger transitions between the aircraft and the terminal. While boarding bridges are critical to operational efficiency in many contexts, they are not universally necessary or desirable at all airports. For airports with low traffic levels or a fleet mix that does not benefit from their use, implementing boarding bridges at all gates could unnecessarily raise costs, countering the competitiveness objective. However, the evaluation methodology and criteria focus on the top 6 airports in each country, characterized by high levels of traffic and flights, where the presence of boarding bridges is indicative of advanced aviation infrastructure and contributes significantly to operational efficiency.

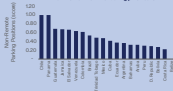
For major airports with high traffic levels, but which due to their original design do not have boarding bridges, as is the case of Cartagena airport or Bogotá's E1, the proximity of the parking positions to the terminal building is considered. In these cases, the number of parking positions in front of the terminal building is evaluated and given a value equivalent to that of the boarding bridges, recognizing their contribution to operational efficiency. What is crucial is to minimize the use of remote positions that require passengers to be bused to and from the aircraft, as this can introduce delays and detract from the passenger experience.

In this regard, the focus of our assessment goes

beyond the mere number of boarding bridges, seeking to underscore the importance of maintaining optimal operational efficiency, facilitating fast and smooth transitions for passengers without compromising the overall experience, especially at those airports that handle a significant volume of air traffic. A more detailed analysis of hourly operations and fleet mix at the reports' major airports is provided in Annex 2.

Country	Non-remote parking positions per flight (weighted average)	Index
Chile	0.87	1.00
Panama	0.88	1.00
Guatemala	0.84	0.98
Jamaica	0.83	0.98
El Salvador	0.83	0.97
Venezuela	0.86	0.99
Colombia	0.83	0.98
Brazil	0.80	0.94
Terminal Bridge	0.89	0.99
Mexico	0.78	0.92
Costa	0.70	0.80
Trinidad	0.65	0.76
Argentina	0.68	0.80
Bahamas	0.66	0.77
Aruba	0.66	0.77
Peru	0.61	0.71
El Salvador	0.68	0.79
Bolivia	0.66	0.78
Costa Rica	0.58	0.68

Non-remote parking positions at the front terminal during peak hours



Source: A2B developed based on public information



2.2 Punctuality

Punctuality is a reliable measure to assess the efficiency and reliability of an airport. By measuring the punctuality of flight departures and arrivals, this metric provides information on the coordination, efficiency, and robustness of airport operations. For this analysis we have used the on-time performance published by OAG, and the calculation is based on the average OTP (On Time Performance) during the year 2023. This indicator has a weight of 20% in the infrastructure pillar.

Country	On-time Average OTP ¹ (in 1000s points)	Index
Peru	88%	0.88
El Salvador	88%	0.88
Paraguay	88%	0.88
Bolivia	88%	0.88
Ecuador	88%	0.88
Uruguay	88%	0.88
Costa Rica	88%	0.88
Colombia	88%	0.88
Brazil	88%	0.88
Turkey (Istanbul)	88%	0.88
China	88%	0.88
Argentina	79%	0.79
Venezuela	79%	0.79
Mexico	79%	0.79
India	79%	0.79
Russia	79%	0.79
U.S. Republic	79%	0.79
Bahamas	79%	0.79
Guatemala	88%	0.79
Canada	88%	0.79
India	88%	0.79





3.4 Airport Quality

To holistically assess the efficiency of the airport infrastructure, it is crucial to evaluate the level of service (quality) of the various airport subsystems. The ideal methodology would consist of a quantitative analysis of waiting times during peak hours in all crucial subsystems: check-in, security, passport control and baggage claim. However, despite efforts at several airports to obtain this quantitative data, the response rate was insufficient. This poses a challenge in using a purely quantitative approach to assess responsiveness. To fill this gap and ensure that this vital element was not overlooked, an alternative approach was adopted.

Recognizing the importance of user experience in airport operations, qualitative data from the reputable Skytrax rating was integrated. Specific sections of the Skytrax results were selected to qualitatively recreate the quality and efficiency of each airport subsystem. This qualitative approach, although not the original intent, brings its own merit. Qualitative insights, often based on the opinions and experiences of travelers, offer valuable insight into operational efficiency, and can reflect reality to some extent, offering a genuine sense of what passengers' experience.

While recognizing that this qualitative method may not provide the granular accuracy of quantitative wait times, it presents a viable and informative alternative. This approach ensures that the assessment remains comprehensive and insightful, capturing the essence of the airport system's service levels from the passenger's point of view.





Methodology

Billing subsystem evaluation:

To evaluate the check-in subsystem, we use the scores from the following Skytrax categories:

Congestion around check-in
Quality of queuing systems

Assessment of the security subsystem:

For the security subsystem, we relied on scores from these Skytrax categories:

Waiting times
Service efficiency

Passport control/immigration
Service assessment

To gauge the effectiveness of passport control or immigration service, we considered these Skytrax metrics:

Waiting time - arrivals
Waiting time - departures

Evaluation of the baggage claim subsystem:

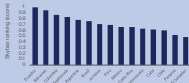
To evaluate the baggage claim subsystem, we incorporated the scores from these Skytrax categories:

Baggage hall facilities
Baggage turnaround times

This methodology based on qualitative data from Skytrax, ensures that our assessment of the baggage claim subsystem is based on the following: Skytrax qualitative data, ensures that our assessment covers a broad spectrum of passenger spectrum of the passenger experience, from check-in through to baggage check-in to baggage claim, effectively capturing their journey through the airport.

Country	Average of Skytrax Ranking	Index
Ecuador	4.20	1.00
Bahamas	4.00	0.95
Colombia	3.65	0.87
Guatemala	3.50	0.83
Argentina	3.27	0.78
Brazil	3.19	0.76
Jamaica	3.00	0.71
Peru	2.91	0.69
Mexico	2.78	0.66
Costa Rica	2.75	0.65
Venezuela	2.63	0.63
Cuba	2.56	0.61
Chile	2.50	0.60
Panama	2.19	0.52
El Salvador	2.00	0.48

Airport Quality Ranking



Source: IATA analysis based on Skytrax Ranking

*Note: This does not include countries with our classified airports



Pillar 3: Taxes and Fees for Passengers



3. Passenger taxes and fees

The structure of taxes and fees has a significant impact on the final ticket price for passengers, sometimes double the initial fare. These charges, usually collected by the airlines, go to different entities such as airports, specific government agencies, and general government funds. The diversity in international air transport regulations and charges, derived from the sovereignty of each country, adds to the complexity of airline operations. Clearly, lower taxes can increase accessibility to air services and stimulate travel demand.

To capture the complexity and variety of these charges more accurately and representatively, we have decided to divide this pillar into four distinct sections:

- **International TUA:** The Airport User Charge (TUA) for international flights is assessed by considering the passenger charges at the five airports with the highest international passenger traffic in each country. The international SUF score is calculated as a weighted average of these airports, reflecting the proportionality of their passenger traffic.

- **Other International Fees and Taxes:** This section examines the additional fees, including security, infrastructure development and ticketing taxes, among others, paid by passengers at the top five international airports in each country. To determine the value of these fees and taxes by country, a weighted average is used, based on the relevance of each airport, taking into account its volume of international passenger.

- **Arrival fees and taxes:** Focuses on the specific charges that non-resident passengers must pay upon arrival in a country, such as tourism taxes.

- **Sales and other taxes:** This section addresses the analysis of Value Added Tax (VAT) and other similar taxes that are levied directly on the base fare of airline tickets in those countries that impose them. These taxes, calculated as a percentage of the base fare, directly affect the final cost of the ticket to passengers. The assessment covers both SUF and any other national taxes levied on the selling price of airline tickets, providing insight into the fiscal impact on the cost of air travel and its effect on the competitiveness of air transport.

For each section, after calculating the taxes and fees paid on the selected routes, a normalisation from 0 to 1 is performed, where the country with the lowest fees and taxes receives the highest score. This normalisation allows a fair comparison of the different tax regimes and their impact on the cost of air travel, highlighting those countries that offer more competitive conditions for travellers and airlines.

This approach helps to identify areas where countries are more or less competitive, highlighting specific aspects that contribute to air accessibility and travel demand, and provides a sound basis for policies aimed at improving air transport competitiveness. The final tax and fee score for each country will be determined by the average of the scores obtained in each of the four categories analysed, ensuring a balanced and comprehensive assessment of the fiscal and tax impact on air transport.





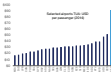
	Country	Intl. TUA	Other Intl. fees	Arrival taxes	Intl. Sales Taxes	Total
1	Brazil	1.00	1.00	1.00	1.00	1.00
2	Chile	0.71	1.00	1.00	1.00	0.80
3	Guatemala	0.61	0.90	1.00	0.82	0.85
4	El Salvador	0.77	0.71	1.00	0.82	0.82
5	Trinidad Tobago	0.61	0.82	1.00	0.82	0.82
6	Panama	0.40	0.78	1.00	0.90	0.77
7	Costa Rica	0.67	0.74	0.72	0.92	0.77
8	Peru	0.59	1.00	0.72	0.75	0.77
9	Aruba	0.72	0.46	0.82	1.00	0.75
10	Bolivia	0.62	-	1.00	1.00	0.72
11	Venezuela	-	0.86	1.00	0.89	0.89
12	Cuba	0.69	1.00	-	1.00	0.67
13	Ecuador	0.17	0.84	0.90	0.76	0.67
14	Bolivia	0.71	0.07	1.00	0.79	0.64
15	Bahamas	0.49	0.16	0.98	0.82	0.62
16	D. Republic	0.61	0.40	0.25	0.75	0.55
17	Colombia	0.22	0.47	0.72	0.74	0.55
18	Mexico	0.19	0.61	0.24	0.94	0.55
19	Jamaica	0.62	0.00	0.20	1.00	0.46
20	Argentina	0.02	0.67	1.00	-	0.40



Case Study:

Potential Benefits of Reducing Passenger Facility Charges (PPCs) Chile and Cartagena

In 2014, CTG had one of the highest airport charges in the Region.



Since the reduction of the airport tax at CTG, international traffic has tripled.



And international tourist arrivals to Cartagena had doubled before the pandemic.



Since the first reduction of airport taxes in Chile, traffic had grown by an average of 18% in the 10 months accumulated.





3.2 Other international taxes and fees

This section focuses on the analysis of additional charges imposed on passengers on international flights, which go beyond airport usage fees. These include, but are not limited to, security fees, migration fees, infrastructure development, ticketing taxes, as well as country-specific taxes such as the stamp tax in Colombia. These charges, whether applied directly to the base fare or included in the final ticket price, have an impact on the total cost of travel for passengers. Each of these taxes and fees reflects a fiscal policy of the country of origin, intended to finance airport security, infrastructure improvements or other initiatives. In this section, a weighted average of these additional costs at the top five international airports in each country is calculated, based on their relevance and volume of international passengers, to estimate how they contribute to the total cost of airline tickets and to assess their effect on the competitiveness of international air travel.

Other Fees/Taxes on International Tickets
(weighted average)



Country	Other fees and taxes	Index
Brazil	0+	1.00
Peru	0+	1.00
Chile	0+	1.00
Cuba	0+	1.00
Guatemala	\$2.60	0.88
Venezuela	\$8.00	0.88
Ecuador	\$8.80	0.84
Trinidad Tobago	\$10.00	0.83
Mexico	\$12.89	0.81
Panama	\$12.81	0.78
Costa Rica	\$15.10	0.74
El Salvador	\$17.00	0.71
Argentina	\$18.40	0.67
Colombia	\$21.00	0.67
Aruba	\$21.60	0.66
D. Republic	\$26.00	0.60
Bahamas	\$48.04	0.78
Bolivia	\$84.20	0.67
Jamaica	\$88.34	0.60
Belize	\$88.60	-



3.3 Arrival taxes and fees

This section focuses on the arrival taxes and fees that foreigners or foreign residents pay when entering a country, included in the airline ticket. These charges may include tourist taxes or other categories. For example, Ecuador applies the “Impuesto Potencia Turística”, a 6% tax on the net fare with a maximum of 10 USD. To calculate the value of this tax for Ecuador, a weighted average of the base fare of the top ten international routes was used, with fares based on a 30-day advance purchase and a 7-day stay. This approach allows estimating the additional cost for international travelers.



Country	Arrival Taxes	Index
Brazil	\$-	1.00
Argentina	\$-	1.00
Chile	\$-	1.00
Panama	\$-	1.00
Bolivia	\$-	1.00
Venezuela	\$-	1.00
Belize	\$-	1.00
El Salvador	\$-	1.00
Trinidad Tobago	\$-	1.00
Guatemala	\$-	1.00
Bahamas	\$1.00	0.98
Ecuador	\$5.70	0.95
Aruba	\$10.00	0.82
Colombia	\$15.00	0.73
Peru	\$15.00	0.73
Costa Rica	\$15.00	0.73
D. Republic	\$41.30	0.35
Mexico	\$42.00	0.34
Jamaica	\$44.00	0.30
Cuba	\$55.00	-



3.4 Taxes levied on ticket sales

This section analyses Value Added Tax (VAT) and other taxes levied as a percentage of the base fare on airline ticket sales. Special attention is paid to those countries that impose a significant tax burden on tickets, directly affecting cost competitiveness for travelers.

Argentina stands out for having the highest tax burden in the region on ticket sales, totaling 73% of the final ticket price. This burden includes the tax (ANEP) of 30%, the inclusion and solidarity tax (PAIS) of 30%, the tourism tax (Dirección Nacional de Turismo) of 7%, and the income withholding tax of 6%. It is important to note that the ANEP and PAIS taxes apply exclusively to tickets purchased in Argentina and paid in pesos.

In contrast, countries such as Brazil and Chile do not apply VAT to tickets for international flights, which reflects a more favorable policy towards the promotion of international air transportation and a follow-up of ICACI recommendations, which in its document 8630 recommends that international air transportation and related services should not be subject to VAT, highlighting the importance of maintaining the competitiveness and accessibility of air transportation at a global level.

The variability in the taxation of airline tickets demonstrates the different fiscal policies of each country and their impact on the airline industry. While some states choose to significantly tax ticket sales, others recognize the importance of keeping costs low to promote tourism and international connectivity.

Taxes from ticket sales (% over base fare)



Country	Taxes over base fare	Index
Brazil	0%	100
Chile	0%	100
Cuba	0%	100
Jamaica	0%	100
Belize	0%	100
Aruba	0%	100
Mexico	4%	0.94
Costa Rica	5%	0.95
Panama	7%	0.93
Venezuela	9%	0.91
Bahamas	12%	0.88
Guatemala	12%	0.88
Trinidad Tobago	12%	0.88
El Salvador	12%	0.88
Bolivia	17%	0.79
Ecuador	17%	0.78
Peru	18%	0.75
D. Republic	18%	0.75
Colombia	19%	0.74
Argentina	73%	-



The structure of fees and taxes in air transport is a fundamental component that has a direct impact on the competitiveness of aviation in Latin America and the Caribbean. The sensitivity of the air market to prices is such that even small increases in fees can trigger a significant decrease in travel demand. This price-demand relationship not only affects travelers' decisions, but also has a direct impact on the economic and tourism development of countries, where an increase in costs can curb the flow of visitors and investment in the region.

Taxes, fees, and charges, as they constitute a considerable part of the total cost of the ticket, should not be evaluated in isolation. Their cumulative impact is a decisive factor in airline strategy when selecting routes and markets to operate and can lead to a redistribution of air traffic flows to regions with lower tax burdens. Consequently, the decline in travel demand not only represents a problem for airlines, but also translates into lower than expected tax revenues for governments, which see travel and consumption diverted to other jurisdictions.

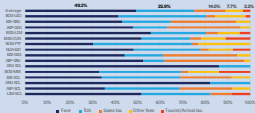
The relevance of taxes and charges in the airline industry is clear in the analysis of the top 10 intra-regional international routes in Latin America and the Caribbean. The data shows that, on many of these routes, taxes and fees account for more than half of the final cost paid by passengers, with the base fare being less than half

of the total price. The graph below shows the % of each item (transport fare, TUA, fees, taxes and contributions) over the final fare on the top 10 intra-regional international routes in Latin America and the Caribbean. The analysis is based on the basic fare (without extras and baggage) for each route with a 30-day advance purchase and a 7-day stay for the months of March and April 2024. On average, the basic transportation fare represents 49.3% of the final fare and fees, taxes and contributions represent 51.7% of the final fare.

The variability in the taxation of airline tickets demonstrates the different fiscal policies of each country and their impact on the airline industry. While some states choose to significantly tax ticket sales, others recognize the importance of keeping costs down to promote tourism and international connectivity.

This fiscal and tax landscape underscores the critical need for a comprehensive consideration of fees and taxes in aviation policy-making. It is imperative that governments and aviation regulators carefully weigh the balance between revenue generation and the promotion of a healthy and accessible aviation sector.

**% of base fare, fees, contributions and taxes on the final price
(10 intra-regional international routes in Latin America and the Caribbean)**



This fiscal and tax landscape underscores the critical need for comprehensive consideration of rates and taxes in the formulation of policies. It is imperative that governments and regulators carefully weigh the balance between generating income and promoting a healthy and affordable airline sector.



Pillar 4. Sustainability

The recent adoption by the ICAO Assembly of the zero net emissions target recognized the key role of cleaner aviation fuels, such as SAF, in reducing aviation CO₂ emissions. According to a Committee on Aviation Environmental Protection (CAEP) study, the substitution of traditional fuels with SAF could drastically reduce the CO₂ footprint, laying the groundwork for significant reductions by 2050.





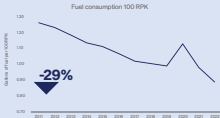
Across this pillar, we survey the status of SAF policies and the SAF refineries planned for construction as a measure and assessment of each country's commitment to sustainable aviation. While there are aspirations around the world, the pace and scale of adoption of SAF differs from country to country. The objective of this pillar is to provide an overview of the SAF landscape by identifying the key players in SAF production, the policies in place to promote its use, and upcoming infrastructure projects that signal aviation's commitment to greener aviation. By analyzing the strategies and commitments of different countries, we can compare progress and highlight best practices.

In addition, we assess the average age of aircraft fleets by country, noting that newer aircraft tend to be more fuel efficient and produce fewer emissions.

Finally, we include a factor that evaluates and identifies CORSIA-eligible offset projects in the region. This is another important element that complements the other key pillars, aiming to reduce CO₂ emissions, which cannot be implemented directly through improved technologies and increased efficiency of operations, as through the use and production of sustainable aviation fuels.

In summary, the pillar provides a comprehensive examination of aviation's path to sustainability.

Through operational improvements, fleet renewal, technological innovation and strong commitment, the aviation industry in Latin America has managed to mitigate its carbon footprint over the last decade. As seen in the graph below, from 2011 to 2022, fuel consumption per 100 RPK has decreased by 29%, with an average annual efficiency rate of over 2%.



1999-2000, 2000-2001, 2001-2002, 2002-2003, 2003-2004, 2004-2005, 2005-2006, 2006-2007, 2007-2008, 2008-2009, 2009-2010, 2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, 2022-2023, 2023-2024, 2024-2025, 2025-2026, 2026-2027, 2027-2028, 2028-2029, 2029-2030, 2030-2031, 2031-2032, 2032-2033, 2033-2034, 2034-2035, 2035-2036, 2036-2037, 2037-2038, 2038-2039, 2039-2040, 2040-2041, 2041-2042, 2042-2043, 2043-2044, 2044-2045, 2045-2046, 2046-2047, 2047-2048, 2048-2049, 2049-2050, 2050-2051, 2051-2052, 2052-2053, 2053-2054, 2054-2055, 2055-2056, 2056-2057, 2057-2058, 2058-2059, 2059-2060, 2060-2061, 2061-2062, 2062-2063, 2063-2064, 2064-2065, 2065-2066, 2066-2067, 2067-2068, 2068-2069, 2069-2070, 2070-2071, 2071-2072, 2072-2073, 2073-2074, 2074-2075, 2075-2076, 2076-2077, 2077-2078, 2078-2079, 2079-2080, 2080-2081, 2081-2082, 2082-2083, 2083-2084, 2084-2085, 2085-2086, 2086-2087, 2087-2088, 2088-2089, 2089-2090, 2090-2091, 2091-2092, 2092-2093, 2093-2094, 2094-2095, 2095-2096, 2096-2097, 2097-2098, 2098-2099, 2099-2100, 2100-2101, 2101-2102, 2102-2103, 2103-2104, 2104-2105, 2105-2106, 2106-2107, 2107-2108, 2108-2109, 2109-2110, 2110-2111, 2111-2112, 2112-2113, 2113-2114, 2114-2115, 2115-2116, 2116-2117, 2117-2118, 2118-2119, 2119-2120, 2120-2121, 2121-2122, 2122-2123, 2123-2124, 2124-2125, 2125-2126, 2126-2127, 2127-2128, 2128-2129, 2129-2130, 2130-2131, 2131-2132, 2132-2133, 2133-2134, 2134-2135, 2135-2136, 2136-2137, 2137-2138, 2138-2139, 2139-2140, 2140-2141, 2141-2142, 2142-2143, 2143-2144, 2144-2145, 2145-2146, 2146-2147, 2147-2148, 2148-2149, 2149-2150, 2150-2151, 2151-2152, 2152-2153, 2153-2154, 2154-2155, 2155-2156, 2156-2157, 2157-2158, 2158-2159, 2159-2160, 2160-2161, 2161-2162, 2162-2163, 2163-2164, 2164-2165, 2165-2166, 2166-2167, 2167-2168, 2168-2169, 2169-2170, 2170-2171, 2171-2172, 2172-2173, 2173-2174, 2174-2175, 2175-2176, 2176-2177, 2177-2178, 2178-2179, 2179-2180, 2180-2181, 2181-2182, 2182-2183, 2183-2184, 2184-2185, 2185-2186, 2186-2187, 2187-2188, 2188-2189, 2189-2190, 2190-2191, 2191-2192, 2192-2193, 2193-2194, 2194-2195, 2195-2196, 2196-2197, 2197-2198, 2198-2199, 2199-2200, 2200-2201, 2201-2202, 2202-2203, 2203-2204, 2204-2205, 2205-2206, 2206-2207, 2207-2208, 2208-2209, 2209-2210, 2210-2211, 2211-2212, 2212-2213, 2213-2214, 2214-2215, 2215-2216, 2216-2217, 2217-2218, 2218-2219, 2219-2220, 2220-2221, 2221-2222, 2222-2223, 2223-2224, 2224-2225, 2225-2226, 2226-2227, 2227-2228, 2228-2229, 2229-2230, 2230-2231, 2231-2232, 2232-2233, 2233-2234, 2234-2235, 2235-2236, 2236-2237, 2237-2238, 2238-2239, 2239-2240, 2240-2241, 2241-2242, 2242-2243, 2243-2244, 2244-2245, 2245-2246, 2246-2247, 2247-2248, 2248-2249, 2249-2250, 2250-2251, 2251-2252, 2252-2253, 2253-2254, 2254-2255, 2255-2256, 2256-2257, 2257-2258, 2258-2259, 2259-2260, 2260-2261, 2261-2262, 2262-2263, 2263-2264, 2264-2265, 2265-2266, 2266-2267, 2267-2268, 2268-2269, 2269-2270, 2270-2271, 2271-2272, 2272-2273, 2273-2274, 2274-2275, 2275-2276, 2276-2277, 2277-2278, 2278-2279, 2279-2280, 2280-2281, 2281-2282, 2282-2283, 2283-2284, 2284-2285, 2285-2286, 2286-2287, 2287-2288, 2288-2289, 2289-2290, 2290-2291, 2291-2292, 2292-2293, 2293-2294, 2294-2295, 2295-2296, 2296-2297, 2297-2298, 2298-2299, 2299-2300, 2300-2301, 2301-2302, 2302-2303, 2303-2304, 2304-2305, 2305-2306, 2306-2307, 2307-2308, 2308-2309, 2309-2310, 2310-2311, 2311-2312, 2312-2313, 2313-2314, 2314-2315, 2315-2316, 2316-2317, 2317-2318, 2318-2319, 2319-2320, 2320-2321, 2321-2322, 2322-2323, 2323-2324, 2324-2325, 2325-2326, 2326-2327, 2327-2328, 2328-2329, 2329-2330, 2330-2331, 2331-2332, 2332-2333, 2333-2334, 2334-2335, 2335-2336, 2336-2337, 2337-2338, 2338-2339, 2339-2340, 2340-2341, 2341-2342, 2342-2343, 2343-2344, 2344-2345, 2345-2346, 2346-2347, 2347-2348, 2348-2349, 2349-2350, 2350-2351, 2351-2352, 2352-2353, 2353-2354, 2354-2355, 2355-2356, 2356-2357, 2357-2358, 2358-2359, 2359-2360, 2360-2361, 2361-2362, 2362-2363, 2363-2364, 2364-2365, 2365-2366, 2366-2367, 2367-2368, 2368-2369, 2369-2370, 2370-2371, 23





4.1 SAF policies

The goal of zero net emissions by 2050 requires a combination of several strategies to reduce and eliminate emissions at source, and according to several sources and different scenarios, SAF could contribute around 60%-70% of the total emissions reduction. However, reaching this target requires enormous support from governments and stakeholders, especially when, according to IATA, SAF production in 2022 represented only 0.1% to 0.16% of total jet fuel demand. The challenges are manifold: limited political support, varied SAF accounting methods, insufficient distribution infrastructure, confusion about its benefits, raw material shortages, limited investments, and competition from other sectors.

Clear and consistent policies are essential for effective adoption of SAF. Such policies should be harmonized across countries, prioritize research, and comply with international standards. Pricing plays a key role. If SAF becomes more affordable, consumption is likely to increase. However, strict mandates that do not make SAF more accessible or affordable could deter new entrants to the market and stifle innovation in SAF production.

Finally, the overall financial approach needs to be reevaluated. Currently, a larger share of financing is allocated to conventional fuels than to renewable sources such as SAF. This paradigm needs to shift. All stakeholders, from governments to airlines, must work together to promote the adoption of SAF and contribute to a more sustainable aviation future.

In this section we analyze and rank Latin American countries according to government policies supporting the production of SAF. Scores are awarded based on the following criteria:

- If a country has a SAF legal framework ready and implemented, it receives 1 point.
- If a country has a SAF legal framework pending government approval, it receives 0.5 points.
- If a country has completed SAF feasibility studies, it receives 0.5 points.
- If a country has created working groups to study the feasibility of SAF, it receives 0.25 points.

SAF Policies



Country	Law passed waiting	Score
Brazil	0.00	1.00
El Salvador	0.00	0.00
Costa Rica	0.00	0.00
Trinidad Tobago	0.00	0.00
Mexico	0.00	0.00
Colombia	0.00	0.00
Chile	0.00	0.00
Argentina	-	-
Peru	-	-
Panama	-	-
Chile	-	-
Ecuador	-	-
Bolivia	-	-
Bahamas	-	-
Jamaica	-	-
Venezuela	-	-
Belize	-	-
El Salvador	-	-
Guatemala	-	-
Andes	-	-



4.2 SAF Refineries

The sustainable aviation fuel (SAF) boom is transforming the aviation landscape. Leading countries in the production of SAF are positioning themselves to lead the global market. Cost-competitive domestic production of SAF is increasingly seen as a key element of a country's aviation competitiveness.

According to various sources, including ICAO, Argus, S&P Global and Boeing, several countries have announced SAF refinery projects, underscoring their strategic commitment to the sustainable future of aviation. Those countries capable of producing SAF efficiently can attract more aviation operations, positioning their aviation hubs as potential SAF exporters. In this section, countries that have announced the construction of SAF refineries receive 1 point.

In addition, according to Air Transport Action Group's (ATAG) "Fueling Net Zero" study, between 830 and 860 SAF refineries will be needed in Latin America and the Caribbean by 2050 to reach the Net Zero target. Each of these refineries will need to produce an average of 22 million-gallons of SAF per year. So far, only 5 refineries have been announced for the period up to 2050 (2 in Brazil, 1 in Paraguay, 1 in Panama and 1 in Colombia). It is therefore important to concentrate all efforts on achieving this goal. The projected cost for the construction and start-up of these refineries is between USD142 billion and USD200 billion, which underlines the need for government support in this transition. By 2050, Latin America and the Caribbean will have the potential to produce around 12% of the industry's SAF needs, given the feedstock available in the region.

This supply will be more than sufficient for regional fuel demands; however, the implementation of adequate public policies is crucial. Without such supportive policies, regional airlines may be forced to import SAF from other areas.

Announced SAF refineries



Country	Announced SAF refineries	Points
Brazil	1000	1000
Panama	1000	1000
Mexico	0	0
Colombia	1000	1000
Argentina	0	0
Peru	0	0
Chile	0	0
El Salvador	0	0
Cuba	0	0
Ecuador	0	0
Bolivia	0	0
Costa Rica	0	0
Bahamas	0	0
Jamaica	0	0
Nicaragua	0	0
Uruguay	0	0
El Salvador	0	0
Trinidad and Tobago	0	0
Guatemala	0	0
Dominican Republic	0	0

4.2 Average fleet age

Modern aircraft consume less fuel than older models, which translates into lower emissions and lower operating costs. The latest generation of aircraft consumes 15-20% less fuel than the oldest fleet, which in turn emits less CO₂. Advances in fleet modernization are likely to continue along this path, with more fuel-efficient engines, lighter materials, lower operating costs, and even advanced systems such as the introduction of all-electric aircraft.



Average fleet age comparison (2022)



Total number of aircraft and average age of fleet



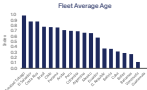
ALTA airlines have placed more than 1,268 new-generation aircraft into service since 2005, with an approximate market value of more than \$80 billion.

Scheduled deliveries in LAC



Trinidad and Tobago stands out as the country with the most modern fleet, with an average age of 5.1 years.

Source: IATA designed based on ICAO Fleet Age data



4.4 Eligible offset projects for CORSIA

As mentioned, aviation is committed to making advances in technology, operations, and infrastructure to further reduce its carbon emissions, and offsetting is intended to be an additional element in efforts to achieve this commitment. Through CORSIA, the sector can be assisted in achieving its short- and medium-term climate goals by complementing the initiatives mentioned above.

As defined by ICAO, "CORSIA is the first global market-based measure for any sector and represents a cooperative approach that moves away from a 'patchwork' of national or regional regulatory initiatives. It offers a harmonized way to reduce emissions from international aviation, minimizing market distortion while respecting the special circumstances and respective capabilities of ICAO Member States."

There are 2 eligible CORSIA projects in the region, both located in Brazil. The first is a clustered project consisting of the implementation and operation of renewable energy power plants in Brazil. The first is a wind power complex called Complexo Ventos do Paul consisting of 7 wind power plants. On the other hand, VTRM Energia Renovavel is a project consisting of the implementation and operation of wind power plants (WPPs) in Brazil. All WPPs will supply clean electricity to the Brazilian National Interconnected System (SIN). Both projects will reduce greenhouse gas (GHG) emissions by avoiding the generation of electricity from fossil fuel sources.

To assign a score, the criterion used was whether a country has eligible CORSIA offset projects, so if so, a score of 1 is assigned.

Country	Average Age	Index
Trinidad and Tobago	5.1	1
El Salvador	8.3	0.88
Costa Rica	8.4	0.88
Brazil	10.0	0.76
Chile	11.3	0.76
Panama	11.8	0.77
Aruba	12.8	0.70
Peru	13.2	0.71
Colombia	13.6	0.70
Argentina	14.3	0.67
Mexico	14.3	0.67
Ecuador	18.8	0.68
D. Republic	20.4	0.38
Bolivia	22.7	0.37
Cuba	24.0	0.33
Belize	24.7	0.29
Bahamas	26.4	0.27
Venezuela	28.8	0.13
Guatemala	32.8	0.00

Country	Eligible offset projects for CORSIA	Index
Brazil	1.0	1.0
Mexico	-	-
Colombia	-	-
Argentina	-	-
Peru	-	-
Chile	-	-
Panama	-	-
D. Republic	-	-
Cuba	-	-
Ecuador	-	-
Bolivia	-	-
Costa Rica	-	-
Bahamas	-	-
Jamaica	-	-
Venezuela	-	-
Belize	-	-
El Salvador	-	-
Trinidad and Tobago	-	-
Guatemala	-	-
Aruba	-	-



Pillar 5. Willingness to travel



The disparity between Latin America's 0.8 trips per capita and the 2+ trips of mature markets such as the U.S. and Europe highlights a significant gap and shows that there is significant potential in the region's aviation sector. To harness this potential and drive competitiveness, it is important to understand the most important factors that can drive the propensity to travel.

GDP per capita (PPP): Adjusted for purchasing power parity, this parameter reflects the economic well-being of the population. Higher GDP per capita usually indicates that citizens have more income available for discretionary spending, including travel. In the Latin American context, tracking this metric is crucial to observe the growth of the emerging middle class, which tends to travel more as their disposable income increases.

Age Dependency Ratio: This demographic metric gives an idea of the size of the working-age population compared to the non-working age group. A lower ratio suggests a larger working-age population, which is often associated with greater economic activity, urban mobility and, consequently, air travel. Latin America's large youth population could lead to increased demand for air travel as this group becomes economically active.

Urbanization rate: As people move to cities in search of better opportunities, they often find themselves closer to transportation hubs, including airports. A rising urbanization rate indicates an increase in travel demand and underscores the importance of urban infrastructure and air connectivity.

Taken together, these factors provide a global perspective on Latin America's aviation prospects.

Aruba has the highest GDP per capita on the list, suggesting that its residents are more financially able to travel. In contrast, Bolivia, although with a lower GDP, has the lowest Age Dependency Ratio, suggesting a younger population. Urbanization, which makes travel more accessible due to proximity to major airports, is higher in Argentina. The Bahamas, Panama and Chile consistently rank highest on all factors, indicating strong travel demand. For airlines and the travel industry, these indicators highlight potential areas of market growth in Latin America.

Willingness to travel





GDP per capita, when adjusted for purchasing power parity (PPP), serves as a reliable indicator of the economic health of a country's citizens. Higher GDP per capita implies that individuals have more discretionary income to spend, which often includes spending on travel. When people have more purchasing power, they are more likely to travel, whether for leisure or business.

Country	GDP per capita, PPP (constant 2017 USD)	Index
Aruba	\$38,888	1.00
Bahamas	\$34,387	0.88
Panama	\$33,366	0.86
Chile	\$25,888	0.67
Trinidad Tobago	\$23,326	0.61
Argentina	\$22,447	0.58
Costa Rica	\$21,987	0.57
Mexico	\$18,547	0.50
D. Republic	\$18,338	0.50
Colombia	\$16,682	0.43
Brazil	\$16,080	0.39
Peru	\$12,744	0.33
Cuba	\$11,810	0.30
Ecuador	\$10,859	0.28
Jamaica	\$10,812	0.28
Belize	\$9,688	0.25
El Salvador	\$9,287	0.24
Guatemala	\$8,762	0.23
Bolivia	\$8,301	0.21
Venezuela	\$4,108	0.10





The Age Dependency Ratio measures the ratio of dependents (under 15 or over 64) to the working age population (typically between 15 and 64). A lower ratio indicates that a higher proportion of the population is of working age, potentially with more disposable income and a greater likelihood of travel. Conversely, a higher ratio indicates that a larger proportion of the population is dependent, which can put economic pressure on the productive segment, possibly reducing discretionary spending on items such as travel. For a country, understanding this ratio is key, as it can influence travel trends. A balanced age distribution with a sizeable working population can be a positive sign for increased travel activity.



Country	Age dependency ratio	Index
Bolivia	1.95	1.00
Guatemala	1.88	0.97
Brazil	1.92	0.96
Jamaica	0.88	0.72
D. Republic	0.86	0.70
Ecuador	0.83	0.67
Bahamas	0.83	0.66
Mexico	0.81	0.63
El Salvador	0.80	0.62
Colombia	0.80	0.61
Peru	0.79	0.60
Venezuela	0.80	0.59
Panama	0.77	0.58
Brazil	0.76	0.57
Costa Rica	0.78	0.54
Trinidad & Tobago	0.76	0.53
Argentina	0.74	0.49
Chile	0.73	0.47
India	0.67	0.33
Cuba	0.66	0.32



Urbanization Rate refers to the percentage of the total population living in urban areas. As cities grow and develop, they tend to offer more employment opportunities, better infrastructure and better access to amenities and services. This urban concentration often translates into higher disposable income and greater exposure to diverse cultures and global trends, which fosters a greater desire to travel. For countries, an increasing rate of urbanization can mean greater potential for foreign travel, which impacts their global competitiveness.



Country	Urbanization rate	Index
Argentina	99.93	100
Brazil	99.95	99.95
Venezuela	99.95	99.95
Chile	97.82	99.95
Bahamas	93.37	99.90
D. Republic	93.21	99.90
Colombia	91.34	99.90
Costa Rica	91.43	99.90
Mexico	91.59	99.90
Peru	78.50	99.95
Cuba	70.00	99.93
El Salvador	74.52	99.90
Bolivia	70.48	99.76
Panama	68.78	99.76
Ecuador	64.36	99.70
Jamaica	66.65	99.61
Trinidad Tobago	63.27	99.56
Guatemala	62.25	99.57
Belize	66.20	99.50
Andorra	69.48	99.48



Pillar 6. International openness and liberalization







Openness of visas



Country	# of origin markets not requiring visas	Index
Bolivia	178	1.00
Ecuador	172	0.97
Bahamas	121	0.68
Jamaica	121	0.68
Panama	120	0.67
D. Republic	107	0.60
Belize	104	0.58
Trinidad Tobago	103	0.58
Brazil	102	0.57
Colombia	102	0.57
Peru	100	0.56
Costa Rica	98	0.54
Chile	92	0.52
Argentina	90	0.51
El Salvador	87	0.49
Guatemala	87	0.49
Mexico	68	0.38
Venezuela	67	0.38
Aruba	58	0.33
Cuba	21	0.12



Country	# of destination not requiring a visa	Index
Chile	177	1.00
Argentina	174	0.99
Brazil	173	0.98
Mexico	160	0.97
Bahamas	155	0.96
Costa Rica	153	0.95
Trinidad & Tobago	151	0.94
Panama	149	0.93
Peru	142	0.92
Guatemala	137	0.91
El Salvador	136	0.90
Colombia	135	0.89
Venezuela	126	0.88
Araba	117	0.87
Belize	104	0.86
Ecuador	95	0.85
Jamaica	90	0.84
Bolivia	82	0.83
D. Republic	74	0.82
Cuba	64	0.80



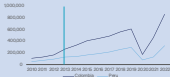
Source: WFP T&T Index

Country	Number of bilateral air services agreements by liberalization level	Index
D. Republic	48.8	1.00
Brazil	35.3	0.87
Chile	28.3	0.64
Jamaica	24	0.49
Argentina	23.8	0.48
Mexico	21.3	0.44
Costa Rica	17.8	0.36
Colombia	17	0.35
Peru	16.8	0.37
Bahamas	14	0.29
Peru	11.3	0.23
Bolivia	10.8	0.22
Ecuador	8.8	0.19
Venezuela	8.3	0.18
Trinidad and Tobago	7.8	0.16
Guatemala	6	0.12
India	6	0.12
El Salvador	3.8	0.08

Case study: Potential benefits of visa liberalization and market opening

Recent studies and experiences show that the removal of visa requirements and the opening of air markets can generate more tourists, better trade, and higher economic growth for countries.

Historical tourist arrivals from Colombia and Peru



As of November 9, 2020, the Mexican government eliminated the visa requirement for Peruvians and Colombians traveling to Mexico. This generated benefits for both tourism and air passenger volume between Mexico and both countries. In 2020, 601,000 more Colombians and Peruvians visited Mexico compared to 2019, bringing an additional US\$499 million to the Mexican economy, based on average spending per tourist of US\$842 per visit.

Market stimulation caused by visa exemption (OECD Pass)

Route	PAX 2019	PAX 2022	CAGR
BOG-MEX	247,655	608,218	9.3%
BOG-CUN	32,791	432,946	36.2%
MDE-MEX	18,762	185,242	24.6%
MDE-CUN	1,081	214,620	58.5%
LIM-CUN	86,259	272,252	11.5%

Route	2019	2022	
	Operating airlines	Weekly flights	Operating airlines
BOG-MEX	2	35	4
BOG-CUN	2	4	4
MDE-MEX	0	0	2
MDE-CUN	0	0	2
CUN-LIM	2	9	2

Historical annual commercial available seats per kilometer (ASKs) between MX and the U.S.



The U.S.-Mexico open skies agreement has greatly boosted international traffic



As of August 2016, the United States and Mexico signed the MEX-US Open Skies agreement, US and opened their air markets to their airlines. And since then, U.S. and Mexican airlines can fly any route they want between the two countries, with no frequency limit (except from MEX which still limits the numbers of operations). The agreement has allowed both countries to further strengthen their dynamic commercial and economic relationship and offer better options to travelers. Since the agreement came into effect, more than 30 new routes have been launched and passenger traffic has experienced very positive growth.



Pillar 7: International Connectivity





7. International connectivity

Air connectivity reflects how well connected a country is with cities around the world. Increasing and accessing greater air connectivity is essential for a country to develop economic linkages. Air connectivity drives the development of value chains, global trade, and international mobility, enabling companies to compete to attract tourism and foreign investment. Therefore, the more air connections a country has, the greater its ability to deliver economic benefits to communities.





7.1 Connectivity Index

Given the importance of connectivity and its relationship to economic development, for this section we have calculated international and intra-regional connectivity to measure and quantify how well connected a country is to the global air transport network. The index, based on methodologies used by other renowned organisations such as IATA, is calculated by measuring the number of destinations served and seats available from each country's main airports. In other words, the connectivity indicator considers the number of seats available for each of the destinations served during a specific year, in this case 2023. The number of total seats available for each destination is weighted according to the size of the destination airport, such weighting is given in terms of the total seat capacity for the year and the number of destinations served from that airport. The average of these two indicators is the metric by which each airport is weighted or assigned a weight. The weighting of each destination gives an indication of the economic importance of the destination airport and the number of indirect connections it can provide.

For example, Dubai Airport (DXB), being the airport with the largest international capacity, has a weighting of 1, while London Heathrow (LHR), which provides 84.0% of the number of seats and 88% of the destinations offered by DXB, has a weighting of 0.88. Therefore, if an airport has 100 flights available to DXB, it is assigned a weighted total of 100. But if it also has 100 flights available to LHR, it will be assigned a weighted value of 88. The sum of all weighted totals for each destination served will determine the final absolute connectivity indicator. The index has been calculated as follows:

Connectivity Index

$$= \sum_{i=1}^n \beta(\text{frequency}_i)$$

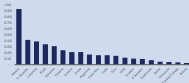
* connectivity coefficient of the destination airport

Therefore, a given country with a higher number of destinations and total seats will have a higher connectivity index score. For more details on the global connectivity index score, please refer to Annex 3.

The absolute connectivity index score does not necessarily guarantee the best measure of quality in connectivity, as countries are in different situations, contexts and locations that directly impact their air connectivity. Countries with larger economies and larger populations have more destinations and seats available, leading to greater connectivity. For this reason, two adjustments were made to the absolute connectivity score, obtaining a final score by means of a weighted average, assigning the greatest weight to the absolute international connectivity measure.

- Adjustment considering per capita travel.
- Adjustment for travel per capita and GDP per capita.

International Connectivity Ranking





The following section evaluates absolute international connectivity by country and airport, as well as connectivity adjusted for the two parameters explained above. The analysis presented compares data and scores to 2019, as air traffic and connections decreased in 2020 and 2021 due to the pandemic. This provides a better understanding of the progress and recovery of air connectivity in the region and globally. A similar analysis is also presented for intra-regional connectivity.

The Pandemic's Impact on LAC Connectivity

The impact of the pandemic and the restrictive measures imposed by governments on international travel to contain the spread of the virus led to a prolonged and near-total shutdown of international aviation, resulting in significant disruption of connectivity worldwide. The number of connected airport pairs was significantly reduced.

With the slow lifting of restrictions on international passengers, connectivity in the region has been fully restored. Regularly, during 2019 there were 2,743 connected airport pairs, while in 2022 there were 2,743, or 100% above pre-pandemic levels.

Absolute International Connectivity

Country	Connectivity Index 2022	Connectivity Index 2019	Global Ranking 2022	Global Ranking 2019	Growth 2022 vs 2019
Mexico	35,480	35,350	26	26	+%
Colombia	15,880	15,240	62	67	+6%
Republic of Chile	15,267	14,438	63	69	+6%
Brazil	15,100	17,184	64	60	-12%
Peru	9,535	9,431	84	88	+%
Argentina	9,512	9,437	76	76	+%
Costa Rica	9,338	9,163	88	90	2%
Paraguay	9,024	7,038	90	92	+28%
Jamaica	8,244	8,209	97	99	0%
Bahamas	8,181	8,063	98	99	+1%
Cuba	8,275	8,081	89	78	+25%
Ecuador	8,199	8,088	99	98	+1%
Uruguay	8,081	8,080	99	99	0%
El Salvador	3,414	3,372	107	103	+4%
Guatemala	3,412	3,364	103	104	+%
India	3,007	3,008	99	98	+%
Venezuela	1,888	1,855	100	106	3%
Trinidad and Tobago	1,340	1,090	101	102	+23%
Bolivia	1,007	1,007	102	102	0%

Absolute international connectivity by country (2022 vs. 2019)





In terms of absolute connectivity for the countries studied in this competitiveness index, Mexico scored the best in international connectivity in 2023, and remains only 1% below 2019. It was followed by Colombia, the country that showed the highest growth in connectivity relative to pre-pandemic levels (+13%) and the Dominican Republic, which also performed well with 12% growth. It is important to note that in 2019, Brazil reached second place after Mexico, however, in 2023 it ranked fourth, being 20% below pre-pandemic levels. These results are not surprising given that these three countries were the first to recover their international traffic volumes in April 2023.

Adjustment relative to per capita travel

In terms of relative connectivity adjusted to per capita travel per country, the Bahamas presents the highest levels of connectivity in contrast to Mexico, which while remaining within the top positions, drops to third place, despite having the highest absolute connectivity of the countries included in the study. The first two positions correspond to two small Caribbean islands that rely heavily on inbound tourism and which, in 2023, had the highest number of trips per capita in the region, Aruba with 26.4 and Bahamas with 12.8. Aruba experienced a decline in connectivity with respect to 2019 of 7%, while Bahamas only reaches 3% of pre-pandemic levels. Dominican Republic, meanwhile, stands out as the country with the highest growth in international connectivity (+48% vs 2019).

International connectivity adjusted by number of trips per cap



Number of air trips per capita (2023 vs. 2019).



Source: author analysis based on Statista Travel Competitiveness - Market Insights and Market Facts



Intraregional connectivity

An indicator derived from international connectivity is intraregional connectivity, which measures air connectivity within a region. The intraregional connectivity index measures and quantifies how well connected a country is to the air transport network of Latin America and the Caribbean. The index is calculated similarly to the global connectivity index, measuring the number of destinations in the region and seats available from a country's main airports. The 2023 scores for the countries studied are shown below. For more details on the scores for each of the countries in Latin America and the Caribbean, see [Annex 2.1](#).

Country	Intraregional Connectivity Index	Intraregional Connectivity Index 2019	Ranking	Ranking 2019	Growth vs. 2019
Colombia	18,882	16,234	1	1	+16%
Mexico	12,883	14,864	2	4	-15%
Brazil	12,660	17,708	3	2	-28%
Panama	12,760	12,387	4	5	+3%
Argentina	10,221	14,633	5	3	-30%
Peru	9,431	12,660	6	6	-25%
Chile	8,889	12,248	7	7	-27%
D. Republic	7,940	8,683	8	8	-8%
Ecuador	7,126	7,365	9	9	-3%
Costa Rica	6,886	6,379	10	10	+8%
Venezuela	4,131	3,797	11	12	+9%
Guatemala	3,429	3,607	12	14	-4%
El Salvador	3,438	4,290	14	13	-18%
Cuba	2,470	5,029	15	11	-50%
Bolivia	2,327	3,890	16	16	-41%
Aruba	1,895	1,664	21	24	+28%
Trinidad Tobago	855	1,288	28	27	+15%
Uruguay	704	769	30	28	+8%
Belize	630	643	34	43	-18%
Bahamas	195	320	48	44	-53%





Colombia ranked first in the interregional ranking for 2023 and is only 14% away from reaching its 2019 levels. Second place went to Mexico, which made very positive progress as it ranked #4 in 2019. However, this represented a 7% drop compared to 2019. Brazil ranked #41 after being in second place in 2019. Venezuela stood out as one of the countries with the highest growth (+11% vs 2019) and moving up two places compared to 2019. Conversely, one of the countries with the lowest growth in connectivity was Cuba, which had a decrease of almost 50% compared to 2019.

Intraregional connectivity for the top 20 LAC airports

In the interregional connectivity index by airport, Panama (PTY) led the ranking as it did in 2019, albeit with a 5% decrease compared to the same year. It was followed by Bogotá (BOG), which ranked 4th in 2019 and had a 6% decrease. In the city of Buenos Aires specifically, Aeroparque Airport (AEP) experienced an impressive 388% growth versus 2019. On the other hand, other airports highlighted for their significant growth were Santo Domingo in the Dominican Republic (SDQ) with 28% and Medellín (MDE) with 21%.





Case study: The increase of connectivity in Colombia and its benefits in the international passenger market.

International connectivity in Colombia has shown outstanding performance in the last 5 years, with a growth of 21% compared to 2017, moving from 40th place in the world ranking to 28th and from 4th place in the region in 2017, to 2nd in 2022.

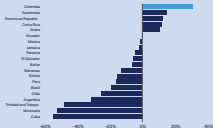
It is also worth noting that despite the impact of the COVID-19 pandemic, international connectivity in Colombia has been resilient and has managed to recover formidably, being one of only 2 countries in the region along with the Dominican Republic that surpassed its 2019 levels, with a 7% increase.

Air connectivity Absolute Score (Thousands) Selected Countries in LAC





Absolute Connectivity Growth by Country (2022 vs. 2017)



Source: AC TA analysis based on Amadeus Travel Intelligence – Market Insights

Absolute Air Connectivity by country (2022 vs. 2017)

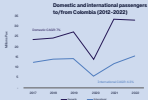




This growth in absolute connectivity has contributed to Colombia's air transport market growing significantly over the last 6 years. From having a total of 26.6 million passengers (12.2 international) in 2017 to 47.6 million (16.2 international) in 2022, i.e. 12 more passengers traveling to and from Colombia, with a CAGR of 6.1% (for more information on the performance of some key metrics and statistics of Colombia's air transport, refer to Annex 1: Country Profiles, Colombia).

On the other hand, Colombian cities have had an outstanding performance with a significant increase in their connectivity levels. Bogotá went from being the fifth most connected city in LAC to the third in 2022, an increase of 20%, growing more than Cancun or Mexico City, two leading cities in connectivity in the region. Medellín was one of the cities that presented the greatest increase in international connectivity with a significant growth of 8.8%, followed by Pereira with 6.7%, Cali with 3.7% and Cartagena with 3.4% more.

Of the 10 international routes with the highest growth in number of passengers and which at least doubled their annual traffic, have as origin or destination, some of the cities with the highest growth in connectivity, especially Bogotá and Medellín.





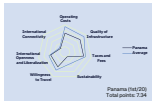
The increase in connectivity has brought important benefits, in addition to the growth of international traffic. The main indicators of the aviation market in Colombia have shown growth, for example, the number of airlines operating international flights has grown by 31%, or, on the other hand, the number of international trips per capita went from 0.25 to 0.28, representing an increase of 12%.

Route	2017 passengers	2022 passengers	Growth
CTG – PTY	122,712	274,993	107%
BOG – PUS	87,499	212,117	144%
CTG – MIA	82,826	173,801	110%
BOG – YGY	75,782	222,873	207%
JFK – MDE	62,428	135,459	113%
MDE – MEX	59,526	178,243	199%
LIM – MDE	54,099	117,008	116%
BOG – SJO	45,555	157,269	248%
CUN – MDE	40,652	190,493	242%
BOG – CUR	27,081	75,825	104%

Main international indicators by market	2017	2022	Growth
International passengers (millions)	12.3	15.2	24%
International seats (millions)	17	21.3	25%
International frequencies	107,518	122,877	14%
International airlines operating	29	38	31%
International city pairs	96	116	21%
Average distance on international routes (kms)	2,518	2,692	7%
International travel per capita	0.25	0.28	12%
International tourists (millions)	3.9	4.8	18%



Annex 1: Country Profiles



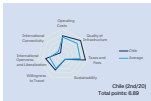
Main airlines (2022)

	Passengers (millions)	Airline (millions)	Seats (millions)	Flights
Copa Airlines	15.49	41,600	18.14	110,360
Wingo	0.47	406	0.81	3,260
UNITED	0.36	1,160	0.40	3,301
Avianca	0.28	2,560	0.36	1,060
AZ	0.23	2,300	0.25	708
AIRFRANCE	0.16	1,574	0.18	548
American Airlines	0.16	340	0.18	1,368
Avianca	0.16	160	0.21	1,098
ATLANTIC	0.16	1,260	0.16	504
IBR RIA	0.04	1,460	0.16	616

Main indicators (2022)

Passenger Traffic	18.3 million
Total Seating Capacity	21.4 million
International Routes	101
Domestic Routes	9
No. of airlines operating	27
No. of airports with commercial traffic	7
Total fleet	104
International tourists (2022)	1.5 million
Travel & tourism % of GDP	9.2%
Travel per capita	1.4





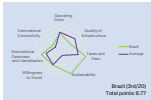
Main airlines (2022)

	Passengers (millions)	ASMs (millions)	Seats (millions)	Flights
LATAM	12.88	22,282	16.05	29,072
SMILE	5.62	8,090	6.65	24,274
WING	3.49	5,830	4.19	20,580
Expresosur	0.55	2,894	0.65	3,678
Austral	0.35	1,767	0.40	2,234
Avianca	0.34	439	0.39	2,474
JetSMART	0.22	3,822	0.26	1,089
Aerolineas Sur	0.25	2,856	0.30	1,274
AIR FRANCE	0.22	2,791	0.24	720
DELTA	0.19	1,770	0.22	720

Main indicators (2022)

Passenger Traffic	25.7 million
Total Seating Capacity	20.3 million
International Routes	61
Domestic Routes	42
No. of airlines operating	25
No. of airports with commercial traffic	29
Total fleet	145
International tourists (2022)	2 million
Travel & tourism % of GDP	9.7%
Travel per capita	1.36





Main airlines (2022)

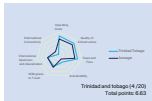
Airline	Passengers (millions)	ASMs (millions)	Seats (millions)	Flights
 LATAM	27.8	83,133	48.8	287,864
 GOL	30.3	49,317	38.9	211,209
 Azul	28.2	43,681	37.9	204,977
 Portugalia	1.9	16,267	2.3	8,332
 Copa Airlines	1.1	6,201	1.3	7,638
 TAM	1.1	2,320	1.2	7,678
 American Airlines	0.8	7,669	1.1	3,658
 Delta	0.8	606	1.3	19,069
 UNITED	0.8	7,119	0.9	3,479
 AIRFRANCE	0.7	7,271	0.9	3,630

Main indicators (2022)

Passenger Traffic	111.6 million
Total Seating Capacity	143.8 million
International Routes	194
Domestic Routes	487
No. of airlines operating	41
No. of airports with commercial traffic	167
Total fleet	516
International tourists (2022)	3.6 million
Travel & tourism % of GDP	3.6%
Travel per capita	0.44



Trinidad and Tobago



Main airlines (2022)

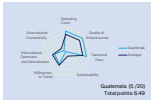
Carrier	Passengers (millions)	ASMs (millions)	Seats (millions)	Flights
JetBlue	1.02	2,289	400.7	21,468
C.A. de Colombia	0.14	407	0.16	606
Aldi	0.14	569	0.17	609
American Airlines	0.02	600	0.16	500
Copa Airlines	0.10	510	0.12	327
American Airlines	0.10	189	0.10	688
American Airlines	0.07	264	0.09	300
United	0.01	53	0.01	50
UNITED	0.00	2	0.00	14
AIRFRANCE	0.00	1	0.00	4

Main indicators (2022)

Passenger Traffic	2.4 million
Total Seating Capacity	2.6 million
International Routes	20
Domestic Routes	1
No. of airlines operating	11
No. of airports with commercial traffic	2
Total fleet	17
International tourists (2022)	0.20 million
Travel & tourism % of GDP	2.4%
Travel per capita	14



Guatemala

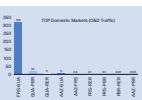


Main airlines (2022)

Airline	Passengers (millions)	ASPRs (millions)	Seats (millions)	Flights
Aerovías	0.05	20,034	1.21	4,800
Copa Airlines	0.03	701	0.58	3,791
TagAirline	0.03	189	0.54	10,960
American Airlines	0.03	185	0.54	3,156
UNITED	0.03	1,184	0.53	3,106
volare	0.03	879	0.53	3,148
spirit	0.03	305	0.31	1,849
DELTA	0.03	527	0.31	1,848
delta	0.03	180	0.32	1,702
delta	0.03	186	0.32	1,702

Main indicators (2022)

Passenger Traffic	4.7 million
Total Seating Capacity	5.7 million
International Routes	29
Domestic Routes	4
No. of airlines operating	19
No. of airports with commercial traffic	8
Total fleet	19
International tourists (2022)	1.8 million
Travel & tourism % of GDP	5.7%
Travel per capita	0.24



Costa Rica



Main airlines (2022)

Airline	Passengers (millions)	ASMs (millions)	Seats (millions)	Flights
Avianca	1.17	18,237	1.47	8,298
American Airlines	0.94	2,410	1.08	6,298
Copa Airlines	0.85	588	1.03	6,560
United	0.83	2,889	0.97	5,740
volaris	0.69	858	0.68	4,337
jetBlue	0.42	1,376	0.51	3,042
DELTA	0.38	1,267	0.43	3,201
Southwest	0.35	897	0.47	2,933
Alaska	0.26	758	0.27	1,726
	0.28	1,157	0.27	1,582

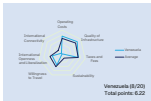
Main indicators (2022)

Passenger Traffic	7.6 million
Total Seating Capacity	8.7 million
International Routes	61
Domestic Routes	18
No. of airlines operating	33
No. of airports with commercial traffic	14
Total fleet	7
International tourists (2022)	2.3 million
Travel & tourism % of GDP	8.6%
Travel per capita	1.48





Venezuela



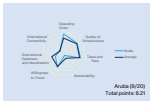
Main airlines (2022)

Airline	Passengers (millions)	ACM (millions)	Seats (positions)	Flights
LAAS Airlines	0.73	8000	1.78	3040
Copa Airlines	0.58	766	0.81	2086
Avianca	0.48	601	0.72	10,764
Avior	0.38	307	0.66	4,503
Avianca	0.33	317	0.66	3,770
Avianca	0.30	283	0.43	3,186
Avianca	0.29	262	0.47	2,638
Avianca	0.18	1,766	0.22	740
Avianca	0.14	170	0.21	1,306
Avianca	0.13	1005	0.16	620

Main indicators (2022)

Passenger Traffic	2.8 million
Total Seating Capacity	5.7 million
International Routes	40
Domestic Routes	43
No. of airlines operating	20
No. of airports with commercial traffic	26
Total fleet	60
International tourists (2022)	0.6 million
Travel & tourism % of GDP	10.7%
Travel per capita	0.14





Main airlines (2022)

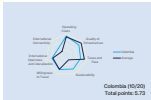
Airline	Passengers (millions)	ACMs (millions)	Seats (millions)	Flights
KLM	0.58	2,74	10.46	3,628
Copa Airlines	0.56	1,625	6.63	3,543
Cabo Verde Airlines	0.32	1,149	0.36	3,051
Aruba Airlines	0.27	941	0.28	1,730
Avianca	0.19	884	0.22	716
American Airlines	0.14	177	0.18	1,044
Delta Air Lines	0.12	300	0.13	896
Turkish Airlines	0.12	143	0.13	846
British Airways	0.09	112	0.11	618
Ryanair	0.09	13	0.11	5,952

Main indicators (2022)

Passenger Traffic	2 million
Total Seating Capacity	3.6 million
International Routes	32
Domestic Routes	-
No. of airlines operating	26
No. of airports with commercial traffic	1
Total fleet	3
International tourists (2022)	1.1 million
Travel's tourism % of GDP	73.8%
Travel per capita	37



Colombia



Main airlines (2020)

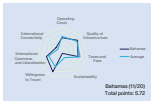
Airline	Passengers (millions)	ATKIS (millions)	Seats (millions)	Flights
Aerolineas	26.20	40,800	30,000	178,000
Avianca	10.56	10,000	13,500	70,000
Wingo	2.48	2,710	2.50	16,000
Copa Airlines	2.35	1,667	2.66	17,000
CRJ	1.29	488	2.00	20,000
JetBlue	1.17	3,000	1.30	8,700
Latam	0.80	346	1.04	22,000
Apri	0.80	2,500	1.00	6,000
Avianca	0.45	4,400	0.50	1,700
Avianca	0.38	1,400	0.40	2,700

Main indicators (2020)

Passenger Traffic	\$1.1 million
Total Seating Capacity	\$4.6 million
International Routes	122
Domestic Routes	119
No. of airlines operating	40
No. of airports with commercial traffic	51
Total fleet	269
International tourists (2020)	4.6 million
Travel & tourism % of GDP	4.8%
Travel per capita	0.85



Bahamas



Main airlines (2022)

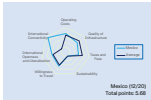
Carrier	Passengers (million)	ASMs (million)	Seats (million)	Flights
American Airlines	1.22	1,202	1.51	12,862
Delta	0.87	402	1.22	16,325
JetBlue	0.59	407	0.74	4,766
Delta	0.55	408	0.64	4,383
Southwest	0.33	89	0.44	5,776
United	0.30	475	0.38	2,380
American Eagle	0.27	1,262	0.24	1,262
Allegiant	0.15	27	0.16	8,648
Allegiant	0.13	84	0.23	3,890
AIR CANADA	0.12	268	0.12	815

Main indicators (2022)

Passenger Traffic	5.1 million
Total Seating Capacity	6.7 million
International Routes	76
Domestic Routes	26
No. of airlines operating	23
No. of airports with commercial traffic	24
Total fleet	20
International tourists (2022)	6.8 million
Travel & tourism % of GDP	28.4%
Travel per capita	116



Mexico



Main airlines (2022)

Airline	Passengers (millions)	ASKs (millions)	Seats (millions)	Flights
volaris	600,34	60,806	38,47	190,338
Aeromexico	26,05	63,634	30,32	304,349
VYV	33,84	34,581	28,71	140,304
American Airlines	8,03	18,292	9,75	63,268
Delta	6,08	14,305	7,21	50,989
DELTA	4,93	11,384	4,63	38,476
Southwest	2,38	4,777	2,72	18,062
Alaska	2,08	5,682	2,37	13,688
Wendy	1,42	6,402	1,60	9,646
jetBlue	1,41	3,328	1,72	10,060

Main indicators (2022)

Passenger Traffic	118.4 million
Total Seating Capacity	147.8 million
International Routes	381
Domestic Routes	290
No. of airlines operating	66
No. of airports with commercial traffic	67
Total fleet	327
International tourists (2022)	28.3 million
Travel & tourism % of GDP	14.0%
Travel per capita	0.67



Dominican Republic



Main airlines (2023)

Airline	Passengers (millions)	ASMs (millions)	Seats (millions)	Flights
 JetBlue	3.47	8,817	4.20	24,080
 American Airlines	1.90	3,836	2.76	12,368
 DELTA	1.37	3,767	1.62	8,438
 UNITED	1.23	3,582	1.39	7,803
 Copa Airlines	0.87	1,808	1.23	7,987
 spirit	0.89	2,889	1.03	4,043
 allegiant	0.77	1,624	0.89	5,276
 frontier	0.76	1,866	1.03	5,391
 southwest	0.62	1,507	0.81	3,896
 sunwing	0.58	1,681	0.54	2,858

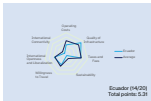
Main indicators (2023)

Passenger Traffic	16.1 million
Total Seating Capacity	21.7 million
International Routes	177
Domestic Routes	2
No. of airlines operating	64
No. of airports with commercial traffic	7
Total fleet	41
International tourists (2023)	8.5 million
Travel & tourism % of GDP	16.3%
Travel per capita	1.58





Ecuador



Main airlines (2023)

Airline	Passengers (millions)	ASMs (millions)	Seats (millions)	Flights
Avianca	2.63	3,35.7	3.25	15,614
LA TIA	2.30	2,360	2.85	20,227
Copa Airlines	0.96	1,236	1.07	6,794
American Airlines	0.43	1,498	0.50	2,954
JetBlue	0.33	1,800	0.40	2,348
American Eagle	0.26	3,762	0.33	662
Allegiant	0.24	2,001	0.31	664
Allegiant Air Europe	0.16	1,762	0.19	646
DELTA	0.12	671	0.15	730

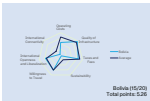
Main indicators (2023)

Passenger Traffic	8.9 million
Total Seating Capacity	12.9 million
International Routes	35
Domestic Routes	13
No. of airlines operating	20
No. of airports with commercial traffic	10
Total fleet	25
International tourists (2022)	1.1 million
Travel & tourism % of GDP	4.4%
Travel per capita	0.44





Bolivia



Main airlines (2022)

Carrier	Passengers (millions)	ASRs (millions)	Seats (millions)	Flights
TACA	26.42	49.70	6.30	42,879
Avianca	0.47	283	0.61	6,006
TACA	0.29	160	0.41	4,407
Avianca	0.21	666	0.26	1,632
LATAM	0.19	389	0.27	1,573
Copa Airlines	0.17	604	0.18	1,446
AZ Airlines	0.12	1,206	0.14	404
GOL	0.09	226	0.12	666
Wingo	0.06	132	0.07	707
Wingo	0.03	29	0.03	644

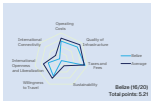
Main indicators (2022)

Passenger Traffic	1.2 million
Total Seating Capacity	8.6 million
International Routes	20
Domestic Routes	27
No. of airlines operating	12
No. of airports with commercial traffic	12
Total fleet	69
International tourists (2022)	2 million
Travel & tourism % of GDP	6%
Travel per capita	0.52





Belize



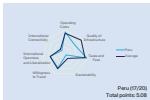
Main airlines (2022)

Airline	Passenger (million)	ICRAs (million)	Seats (million)	Flights
JetBlue	0.88	83	1.23	43,002
Allegiant	0.40	62	0.77	64,300
American Airlines	0.27	486	0.31	1,804
United	0.21	468	0.26	1,494
Delta	0.11	222	0.12	734
Southwest	0.09	176	0.10	684
Alaska	0.06	216	0.06	338
Frontier	0.03	14	0.03	348
Allegiant Air	0.03	104	0.03	174
Copa Airlines	0.01	18	0.01	102

Main indicators (2022)

Passenger Traffic	2.3 million
Total Seating Capacity	2.9 million
International Routes	31
Domestic Routes	19
No. of airlines operating	13
No. of airports with commercial traffic	11
Total fleet	36
International tourists (2022)	0.37 million
Travel & tourism % of GDP	29.4%
Travel per capita	5.43





Main airlines (2022)

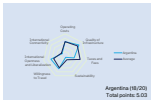
Airline	Passengers (millions)	ASPs (millions)	Seats (millions)	Flights
LATAM	12.81	26,106	16.00	102,874
SKY	3.71	4,788	4.11	21,809
StarFlyer	0.99	660	1.19	10,004
Avianca	0.87	1,363	1.30	6,801
Avianca	0.83	673	0.87	4,696
Copa Airlines	0.64	1,696	0.73	4,676
Avianca	0.60	968	0.63	3,068
American Airlines	0.59	1,710	0.41	3,068
HYERIA	0.26	3,068	0.32	1,047
Qatar Airways	0.20	3,023	0.34	750

Main indicators (2022)

Passenger Traffic	22.3 million
Total Seating Capacity	28.4 million
International Routes	60
Domestic Routes	31
No. of airlines operating	34
No. of airports with commercial traffic	23
Total fleet	62
International tourists (2022)	2 million
Travel & tourism % of GDP	6.8%
Travel per capita	0.66



Argentina

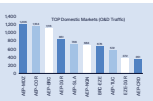


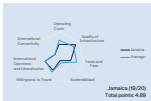
Main airlines (2022)

Carrier	Passengers (millions)	ASMs (millions)	Seats (millions)	Flights
 Flydubai	14.28	27,075	16.56	114,757
 Jetairfly	3.44	4,803	4.25	23,472
 Ryanair	2.83	4,178	3.43	18,361
 Wizz Air	1.80	4,054	2.30	13,549
 Copa Airlines	0.73	4,364	0.85	5,173
 GOL	0.67	1,730	0.86	4,654
 American Airlines	0.66	5,656	0.73	2,763
 IBERIA	0.58	5,346	0.84	2,087
 SHY	0.51	769	0.66	3,416
 Avianca	0.37	1,939	0.43	1,676

Main indicators (2022)

Passenger Traffic	28.8 million
Total Seating Capacity	34.3 million
International Routes	34
Domestic Routes	111
No. of airlines operating	32
No. of airports with commercial traffic	40
Total fleet	120
International tourists (2022)	7.2 million
Travel & tourism % of GDP	8.9%
Travel per capita	0.69





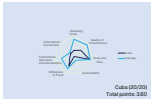
Main airlines (2022)

Airline	Passengers (millions)	AGKs (millions)	Seats (millions)	Flights
American Airlines	1.48	2,885	1.76	8,828
jetBlue	1.32	2,883	1.83	8,498
DELTA	0.88	1,582	0.79	4,152
Southern	0.55	1,078	0.60	3,540
UNITED	0.38	1,084	0.44	2,442
spirit	0.32	542	0.44	2,280
AIR CANADA	0.26	786	0.28	1,282
Intercontinental	0.22	898	0.21	1,852
Caribbean	0.22	450/A	450/A	450/A
PROMETHEUS	0.21	620	0.34	1,784

Main indicators (2022)

Passenger Traffic	7 million
Total Seating Capacity	8.2 million
International Routes	31
Domestic Routes	-
No. of airlines operating	26
No. of airports with commercial traffic	3
Total fleet	-
International tourists (2022)	2.7 million
Travel & tourism % of GDP	30.1%
Travel per capita	2.48





Main airlines (2020)

Carrier	Passengers (millions)	ASMs (millions)	Seats (millions)	Flights
American Airlines	1.10	3,242	11.3	6,634
jetBlue	0.84	494	1.6	8,768
DELTA	0.84	1,036	0.8	3,671
Southwest	0.36	71	0.5	3,848
UNITED	0.33	226	0.5	3,024
spirit	0.28	405	0.5	2,662
AIR CANADA	0.24	23-66	0.3	621
air canada	0.20	596	0.3	1,546
TRU	0.20	1,660	0.2	730
FRONTIER	0.18	523	0.2	1,330

Main indicators (2020)

Passenger Traffic	4.1 million
Total Seating Capacity	5.6 million
International Routes	16
Domestic Routes	14
No. of airlines operating	46
No. of airports with commercial traffic	10
Total fleet	22
International tourists (2020)	1.6 million
Travel & tourism % of GDP	3.7%
Travel per capita	0.66





Annex 2: Availability of Non-Remote Parking Positions and Fleet Mix (Selected Airports)



Annex 2: Gateway availability and fleet mix (selected airports)





Annex 2: Gateway availability and fleet mix (selected airports)

WAT Operations per hour



WAT Operations Fleet



WAT Operations per hour



WAT Operations Fleet



WAT Operations per hour



WAT Operations Fleet



WAT Operations per hour



WAT Operations Fleet







Annex 2: Gateway availability and fleet mix (selected airports)







Figure 2: Gateway availability and fleet mix (protected airports)





Anexo 3: Conectividad internacional



Absolute connectivity scores by country (vs. 2019)

Country	Connectivity Index	Connectivity Index 2019	Global Ranking	Global Ranking 2019	Growth vs. 2019
United Kingdom	231,032	266,190	1	1	-13%
United States of America	219,234	239,077	2	2	-8%
Spain	194,440	202,432	4	4	-4%
Germany	194,829	247,281	2	2	-21%
Italy	188,342	195,329	5	5	-10%
France	150,833	169,169	6	7	-11%
Turkey	82,692	76,755	7	11	12%
India	70,766	80,829	9	10	-12%
India	84,374	82,105	9	9	3%
Portugal	62,214	60,844	13	16	7%
Switzerland	64,682	77,034	11	12	-13%
Emirates	68,526	60,021	10	15	12%
Greece	56,218	49,625	16	23	12%
Saudi Arabia	61,115	42,412	15	21	44%
Poland	50,670	54,443	17	18	-10%
Ireland	42,121	49,292	19	24	-5%
Denmark	42,796	50,106	20	20	-13%
Austria	45,127	55,854	21	19	-19%
Canada	48,160	54,777	18	21	-27%
Mexico	35,960	36,214	24	25	-5%
Sweden	35,815	42,871	25	27	-35%
Norway	34,716	42,185	26	23	-14%
Belgium	32,979	41,589	29	32	-7%
Egypt	28,755	27,695	33	39	26%
Morocco	29,585	27,121	34	42	9%
Romania	25,832	27,756	36	40	-7%

Absolute connectivity scores by country (vs. 2019)

Country	Connectivity Index	Connectivity Index 2019	Global Ranking	Global Ranking 2019	Growth vs. 2019
Qatar	29,990	27,299	33	42	10%
Israel	24,381	26,353	40	44	-7%
Russia	26,377	67,473	36	14	-58%
Finland	21,333	29,616	43	37	-28%
Pakistan	22,127	17,668	42	49	26%
Thailand	46,933	74,084	20	13	-38%
Singapore	34,863	47,949	27	26	-27%
Croatia	17,487	19,990	47	47	-8%
Japan	62,766	104,214	14	8	-41%
Hungary	16,356	23,298	48	45	-16%
Czech Republic	16,073	27,624	46	41	-31%
Kuwait	19,316	19,011	44	46	5%
Colombia	14,693	13,046	50	57	13%
Malaysia	32,664	48,103	31	25	-32%
Dominican Republic	14,047	12,448	54	61	13%
Iran	14,416	12,397	52	62	16%
Cyprus	14,947	12,714	49	54	8%
Jordan	12,700	12,663	56	58	7%
Australia	22,681	31,828	41	36	-28%
Indonesia	32,463	47,907	32	28	-32%
Brazil	12,870	17,236	55	50	-31%
Philippines	25,646	28,623	39	34	-34%
Bahrain	14,687	13,663	53	56	8%
Vietnam	23,760	47,149	30	30	-28%
South Korea	35,766	54,869	26	17	-39%
Iraq	11,629	12,108	61	64	-4%

Absolute connectivity scores by country (vs. 2019)

Country	Connectivity Index	Connectivity Index 2019	Global Ranking	Global Ranking 2019	Growth vs. 2019
Tunisia	12,915	11,553	59	65	12%
Bulgaria	11,659	13,293	60	53	-16%
Lebanon	11,199	12,705	62	60	-12%
Serbia and Montenegro	11,019	11,134	67	67	12%
Luxembourg	10,329	12,269	64	62	-16%
Oman	14,493	16,333	51	48	-20%
Bangladesh	11,062	8,998	63	72	25%
Algeria	14,658	14,430	48	51	3%
Panama	9,925	9,461	68	68	-6%
Latvia	9,276	12,171	66	55	-30%
Iceland	9,530	8,829	65	75	11%
Taiwan	36,483	47,583	36	29	-44%
Malta	8,817	9,218	70	69	-7%
Puerto Rico	1,010	7,992	141	82	-88%
South Africa	8,979	11,188	67	66	-30%
Kazakhstan	8,841	8,837	69	74	3%
Lithuania	8,800	8,154	78	78	-12%
Hong Kong	26,148	55,261	37	20	-52%
Albania	7,353	4,621	72	87	58%
Ethiopia	7,764	7,753	71	80	8%
Sudan	3,553	3,592	98	104	1%
China	65,840	128,451	12	6	-62%
Maldives	8,091	4,950	82	96	22%
Azerbaijan	4,877	4,571	79	86	3%
Argentina	6,812	8,437	75	76	-16%
Sri Lanka	7,150	9,119	73	70	-30%

Absolute connectivity scores by country (vs. 2019)

Country	Connectivity Index	Connectivity Index 2019	Global Ranking	Global Ranking 2019	Growth vs. 2019
North Macedonia	3,337	<	100	113	38%
Mauritania	3,893	3,893	106	107	-3%
Aruba	3,957	3,969	111	116	-12%
Senegal	3,334	3,073	109	131	12%
New Zealand	5,677	7,608	85	79	-87%
Uganda	2,968	2,935	110	119	3%
US Virgin Islands	387	2,317	175	117	-82%
Curacao	1,393	1,594	131	130	-12%
Belarus	1900	6,931	114	84	-73%
Honduras	1765	1889	118	127	5%
Barbados	1833	1,843	116	124	1%
Slovakia	1844	2,605	124	11	-37%
Rwanda	1932	1,836	113	125	5%
Sint Maarten	1,453	1,679	130	129	-12%
Green Cape	1,810	1,931	117	123	-6%
Guernsey	1705	2,415	119	114	-39%
Guadeloupe	449	1,923	172	147	-62%
Reunion	1,463	1,954	129	142	17%
Côte d'Ivoire	1,468	1,408	127	135	4%
Myanmar	3,395	6,371	99	77	-61%
Isle of Man	1875	2,099	122	120	-30%
Tajikistan	1,521	1,485	126	134	3%
Seychelles	1265	1558	133	130	-6%
Martinique	355	1,949	179	152	-67%
Venezuela	1,685	1,803	120	126	-7%
Turks & Caicos Islands	1,115	1,950	137	143	-11%

Absolute connectivity scores by country (vs. 2019)

Country	Connectivity Index	Connectivity Index 2019	Global Ranking	Global Ranking 2019	Growth vs. 2019
Angola	1,464	1,548	128	131	-2%
Somalia	1,045	896	133	138	84%
Cameroon	1,182	1,337	135	145	-6%
Saint Barthélemy	1,005	1,389	144	136	-37%
Trinidad and Tobago	1,280	1,690	150	153	-36%
Afghanistan	1,260	2,675	154	110	-53%
Antigua and Barbuda	938	1,334	168	169	-30%
Bolivia	1,007	1,387	163	160	-21%
St. Lucia	869	1,130	161	160	-33%
Gibraltar	935	1,042	165	153	-10%
Uruguay	1,101	1,347	136	144	-10%
Belize	793	874	153	161	-6%
Cayman Islands	1,007	1,300	160	138	-33%
Mal	864	888	153	160	-2%
Guyana	871	606	150	170	44%
British Virgin Islands	888	1,145	161	168	-40%
Syria	733	676	155	165	6%
Namibia	1,066	1,356	139	137	-16%
Guam	1,897	3,944	115	100	-52%
Bermuda	903	1,208	167	166	-25%
Mozambique	888	874	168	156	-6%
Mongolia	1,680	1,644	131	139	2%
Brunei	1,586	3,216	125	106	-51%
Benin	717	688	158	166	7%
Burkina Faso	583	653	166	168	-11%
Mad	606	1,281	166	141	-52%

Absolute connectivity scores by country (vs. 2019)

Country	Connectivity Index	Connectivity Index 2019	Global Ranking	Global Ranking 2019	Growth vs. 2019
Guinea	562	525	179	178	7%
Nicaragua	1,032	915	140	157	12%
Togo	717	545	157	175	32%
Paraguay	689	667	160	155	-21%
Djibouti	618	603	165	158	-32%
Faroe Islands	643	770	163	163	-16%
Ghana	606	629	159	164	1%
Mauritania	576	599	169	171	-4%
Gabon	634	609	164	169	-4%
Botswana	712	1,030	158	154	-30%
Fiji	676	1,103	149	151	-32%
Yemen	746	31	154	217	2621%
Laos	1,954	4,421	112	98	-56%
Dominica, Sint Eustatius and Saba	662	661	162	167	0%
Suriname	457	569	171	173	-30%
Congo	417	465	174	179	-16%
Niger	315	591	183	172	-47%
Gambia	388	357	176	183	8%
Madagascar	605	774	167	162	-32%
Macao	3,183	8,947	103	71	-65%
French Guyana	305	328	185	182	34%
Grenada	442	489	173	180	-8%
French Guyana	354	357	191	184	-39%
Sierra Leone	290	354	187	185	-19%
Chad	363	362	177	182	0%
Malawi	345	528	190	177	-36%

Absolute connectivity scores by country (vs. 2019)

Country	Connectivity Index	Connectivity Index 2019	Global Ranking	Global Ranking 2019	Growth vs. 2019
French Polynesia	203	208	181	186	-4%
Mayotte	265	263	166	160	1%
Saint Kitts and Nevis	213	228	164	174	-44%
Burundi	226	212	163	164	7%
Anguilla	205	222	164	163	1%
Papua New Guinea	258	245	178	178	-34%
Dominica	181	187	166	168	-3%
Greenland	258	169	169	167	26%
Turkmenistan	1,066	1,490	158	133	-26%
Equatorial Guinea	259	321	168	167	-22%
Guinea-Bissau	318	315	162	166	1%
Swaziland	258	302	160	165	27%
Saint Vincent and the Grenadines	228	258	162	171	-11%
Saint Martin	108	161	201	204	-26%
Siutun	224	429	165	181	-48%
Liberia	89	124	208	207	-34%
Comoros	89	160	205	201	-45%
Central African Republic	97	166	206	202	-42%
Lesotho	148	182	187	186	-22%
Saint Thomas and Prince	60	67	207	211	35%
Svalbard and Jan Mayen	74	126	210	208	-42%
Cook Island	100	146	204	205	-21%
Vanuatu	124	166	200	199	-32%
Timor-Leste	102	176	202	202	-42%
Saint Pierre and Miquelon	39	41	213	214	-4%



Absolute connectivity scores by country (vs. 2019)

Country	Connectivity Index	Connectivity Index 2019	Global Ranking	Global Ranking 2019	Growth vs. 2019
Samoa	104	181	202	200	+42%
Palau Islands	85	229	209	199	+71%
Montserrat	56	59	216	212	+57%
Norfolk Islands	43	40	212	215	9%
Tonga	73	102	218	219	+29%
Solomon Islands	35	56	214	213	+37%
Nauru	19	16	217	220	+17%
Micronesia	12	22	218	216	+62%
Marshall Islands	34	19	215	218	+37%
Niue	8	15	220	221	+67%
American Samoa	7	9	221	222	+31%
Cook (Keeeling) Islands	0	3	225	225	+81%
Kiribati	12	16	219	219	+29%
Christmas Island	5	3	223	224	+86%
Wallis and Futuna	5	6	222	223	+8%
Tuvalu	0	1	224	227	+72%
St. Helena	0	1	226	226	+72%



Annex 3.1.: Interregional Connectivity



Absolute connectivity scores by country (vs. 2019)

Country	Connectivity Index	Connectivity Index 2019	Global Ranking	Global Ranking 2019	Growth vs. 2019
Colombia	15,163	15,434	1	42	-1%
Mexico	13,532	14,564	2	44	-7%
Brazil	12,850	12,387	3	14	-4%
Panama	12,762	12,234	4	37	-24%
Argentina	12,021	14,003	5	46	-20%
Peru	8,411	12,969	6	13	-37%
Chile	8,339	12,345	7	38	-37%
Dominican Republic	7,943	6,663	8	47	19%
Ecuador	7,105	7,365	9	8	-2%
Costa Rica	6,296	6,279	10	45	-1%
Venezuela	4,321	3,707	11	41	11%
Guatemala	3,449	3,627	12	48	-5%
Uruguay	2,661	3,512	13	57	-19%
El Salvador	2,661	3,173	14	25	-15%
Cuba	2,673	5,039	15	61	-48%
Saint Bartholomew	3,499	4,312	16	62	-41%
Curaçao	3,459	3,600	17	54	-33%
Bolivia	3,307	3,866	18	58	-37%
Puerto Rico	2,038	2,548	19	36	-33%
Paraguay	1,990	1,587	20	36	23%
Aruba	1,855	1,454	21	50	24%
Bonaire, Sint Eustatius and Saba	1,853	1,984	22	34	-16%
Honduras	1,589	2,305	23	56	-24%
British Virgin Islands	1,560	1,355	24	30	11%
Sint Maarten	1,363	1,463	25	17	-37%
Nicaragua	1,347	1,601	26	64	-23%

Country	Connectivity Index	Connectivity Index 2019	Global Ranking	Global Ranking 2019	Growth vs. 2019
US Virgin Islands	845	1,502	27	29	27%
Trinidad and Tobago	805	3,327	28	30	-65%
Guadeloupe	737	946	29	30	-33%
Jamaica	734	769	30	35	-4%
Martinique	610	1,398	31	37	-56%
Guyana	601	940	32	32	-28%
Barbados	583	885	33	32	-35%
Seiche	430	440	34	40	-1%
Antigua and Barbuda	406	887	35	31	-52%
Turks and Caicos Islands	358	507	36	40	-36%
Saint Martin	308	523	37	38	-38%
Anguilla	305	379	38	45	16%
Saint Kitts and Nevis	303	303	39	44	7%
Dominica	296	498	40	41	-41%
Saint Vincent and the Grenadines	294	577	42	36	-51%
Grenada	234	541	43	37	-57%
Suriname	232	379	44	48	-6%
Haiti	210	766	45	34	-73%
Bahamas	190	452	46	42	-57%
Cayman Islands	159	16	47	48	25%
Montserrat	76	126	48	47	-52%
French Guyana	59	25	49	49	-31%

