Developing Regional Connectivity Between Countries of the Guyana Shield and South America

IDB Inter-American Development Bank

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Objectives of the Report

- To investigate the current level of connectivity of the countries of the Guyana Shield with the rest of South America

- To investigate the main causes of the constraints to regional air connectivity between countries of the Guyana Shield and with the other UNASUR states
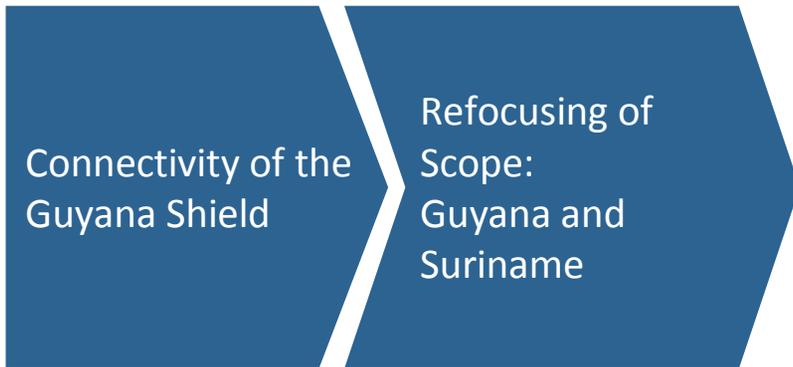
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Assessment rationale

Study Scope

Connectivity of the Guyana Shield

Refocusing of Scope: Guyana and Suriname

Assessment sections

The state of the Airport Infrastructure

The cost of the Airport Infra-structure

Institutional Framework

Air Service Agreements

Market Outlook

Recommendations and Next Steps

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International connectivity of Brazil and Venezuela
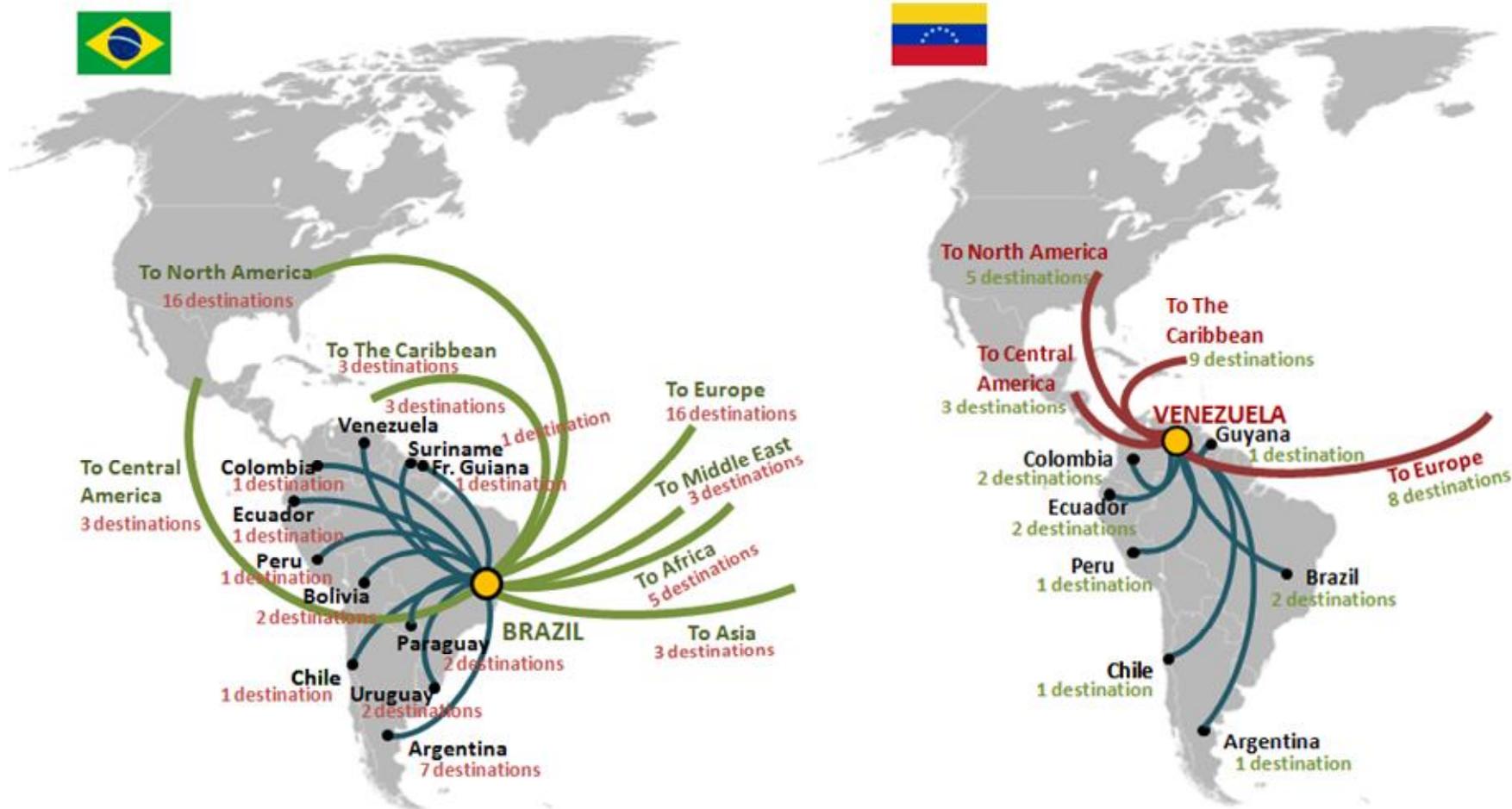
International connectivity of Guyana and Suriname

To North America
4 destinations

To The Caribbean 4 destinations

1 destination
Venezuela
GUYANA

To Central America
1 destination

Suriname
1 destination

3 destinations
To The Caribbean

To Europe
1 destination

1 destination
Guyana

SURINAME

French Guiana
1 destination

Brazil
1 destination

No direct services to countries in South America (except Brazil for PBM)

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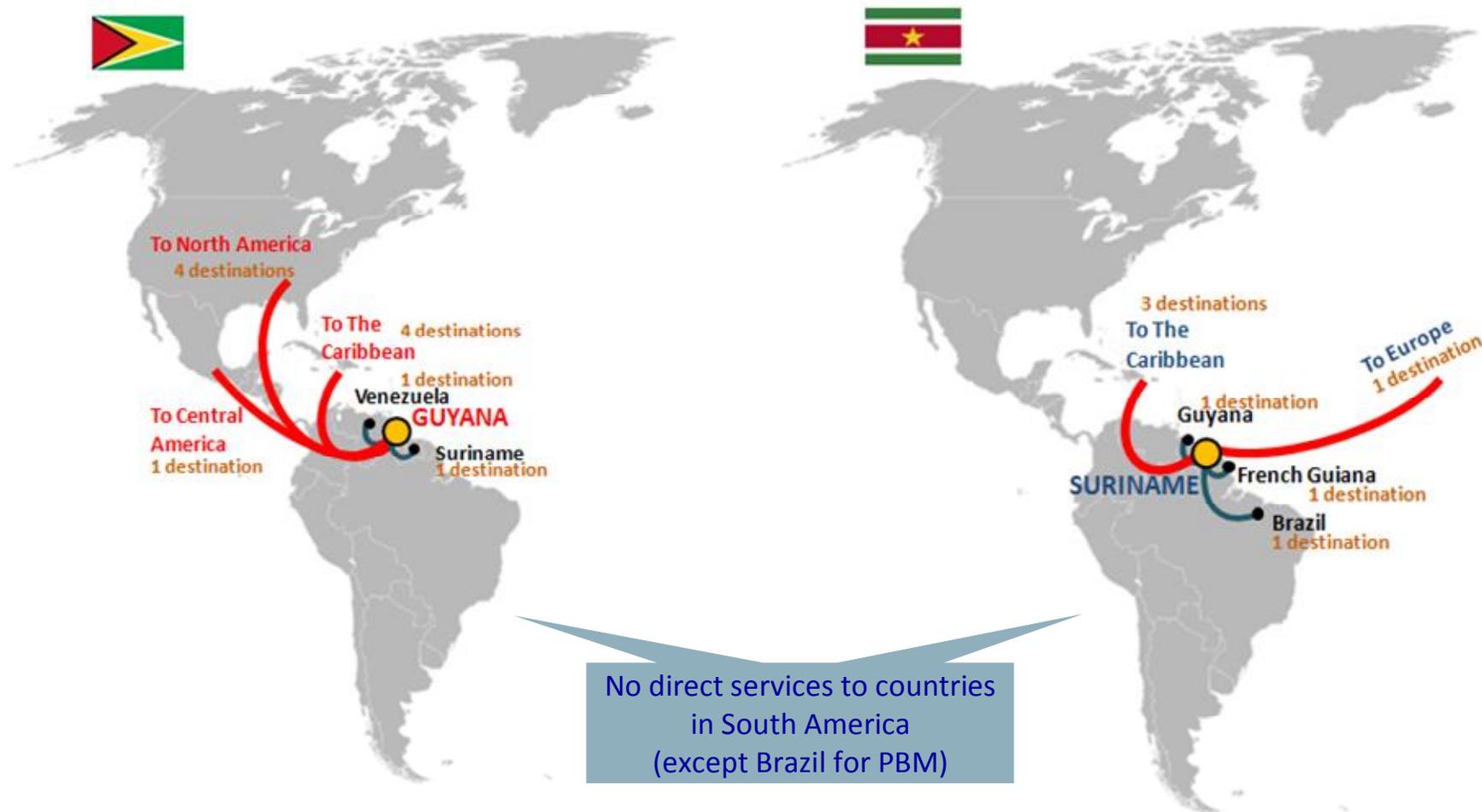
Current connectivity of the countries of the Guyana Shield

Annual International seats, international airports and number of international markets

Size of bubble: number of international annual departing seats - in millions

21.9

Brazil

Venezuela

2.7

Connectivity levels similar to the most developed economies

Guyana- 0.5

Surinam- 0.3

20

16

12

8

4

10   20   30   40   50   60   70

Number of international markets served

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Assessment rationale

Study Scope

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Connectivity of the Guyana Shield    →    Refocusing of Scope: Guyana and Suriname
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Assessment sections

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The state of the Airport Infrastructure  →  The cost of the Airport Infrastructure  →  Institutional Framework  →  Air Service Agreements  →  Market Outlook  →  Recommendations and Next Steps
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Analysis of Airport Infrastructure in Guyana and Suriname

- Objective: determine if existing airport infrastructure poses constraints to the development of regional connectivity

- Analysis focuses on potential capacity and technical constraints, both on airside and landside facilities

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Airport Infrastructure - Guyana

Georgetown Cheddi Jagan Intl. Airport (GEO)

- Airside

  - 2 paved runways

  - Capable of Code E aircraft (747s, 777s) for long haul services

Peak hour issues

- Terminal building - issues

  - Crowded terminal during peak periods (twice per day)

  - Delays in processing departures due to operational bottlenecks

Airport Infrastructure - Guyana

Ogle International Airport (OGL)

- Airside

  - Runway 07/25: concrete, no ILS (no reduced visibility capabilities)

  - Suitable for small turboprop operations of up to (approximately) 50 seats

Airport Infrastructure - Suriname

Paramaribo Johan Adolf Pengel Intl. Airport (PBM)

- Airside
  - One runway
  - ICAO Code E aircraft (747s, 777s)
  - ILS, VOR, DME: reduced visibility capabilities

- Terminal building - expansion plan
  - In 2012, Government initiated expansion plan at PBM: initial projected investment of USD 70m
  - Between 2012-2013, investments carried out for USD 28.5 million

Airport Infrastructure - Suriname

Zorg En Hoop Airport (ORG)
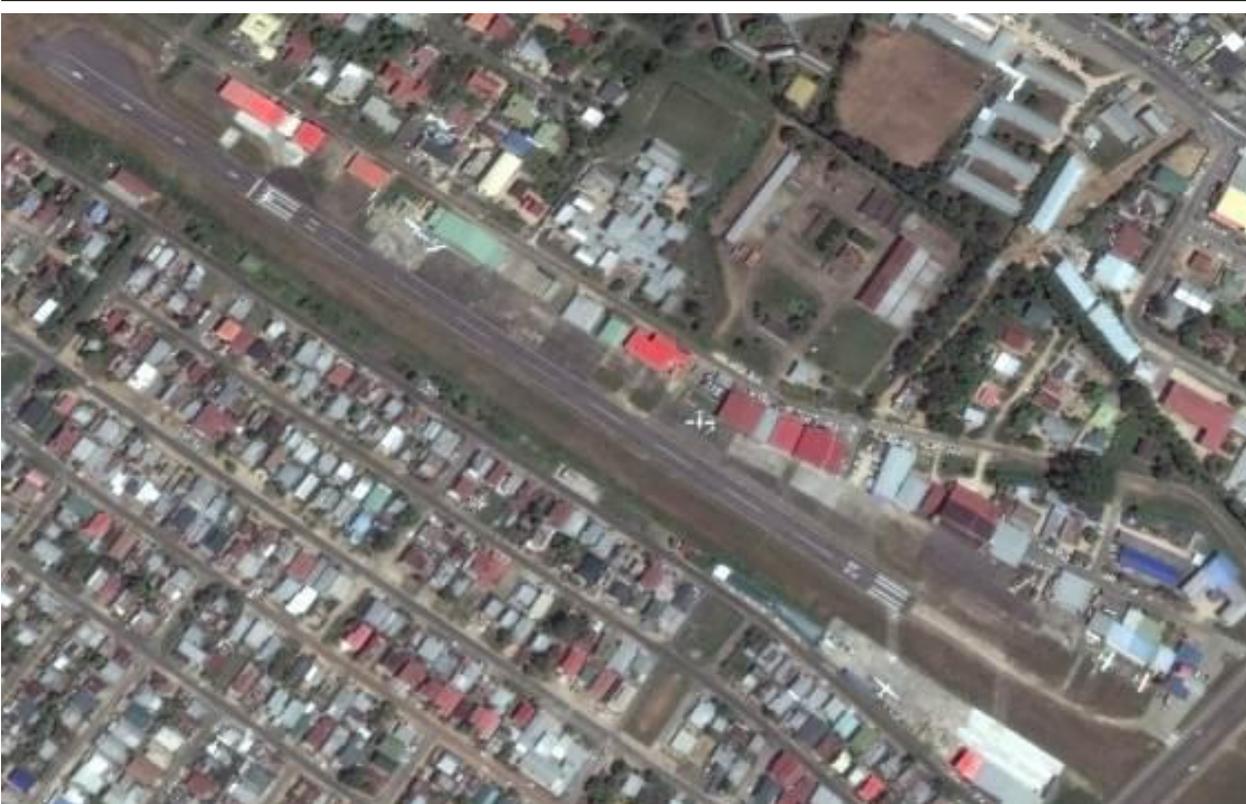
- Airside

  - Runway 11/29 paved with asphalt

  - Capable of short haul services of turboprop ops of up to 19 seaters

- Current state of infrastructure of GEO and PBM is no constraint to the development of the regional air connectivity

- Runway determines capacity, and both airports have enough capacity to support growth

- If needed investments (for passenger terminals) are not carried out, Level of Service could be reduced in the future, but will not limit growth

Assessment rationale

Study Scope

Current Connectivity of the Guyana Shield

Refocusing of scope: Guyana and Suriname

Assessment sections

Airport Infrastructure

The cost of Airport Infra-structure

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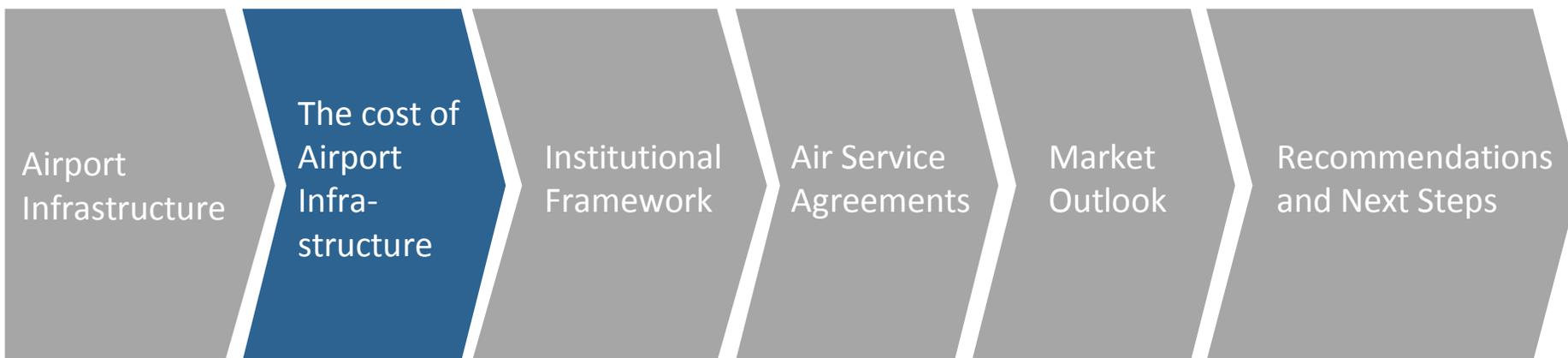
Analysis of the cost of Airport Infrastructure

- Objective: to identify if the related cost to operate at PBM and GEO is comparatively high, and if it could hamper traffic development

- A Benchmarking analysis was performed to assess the pricing positioning of GEO and PBM with another 12 airports in main cities of South America

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The cost of Airport Infrastructure

Passenger charges at 14 South American airports

In USD per embarked passenger
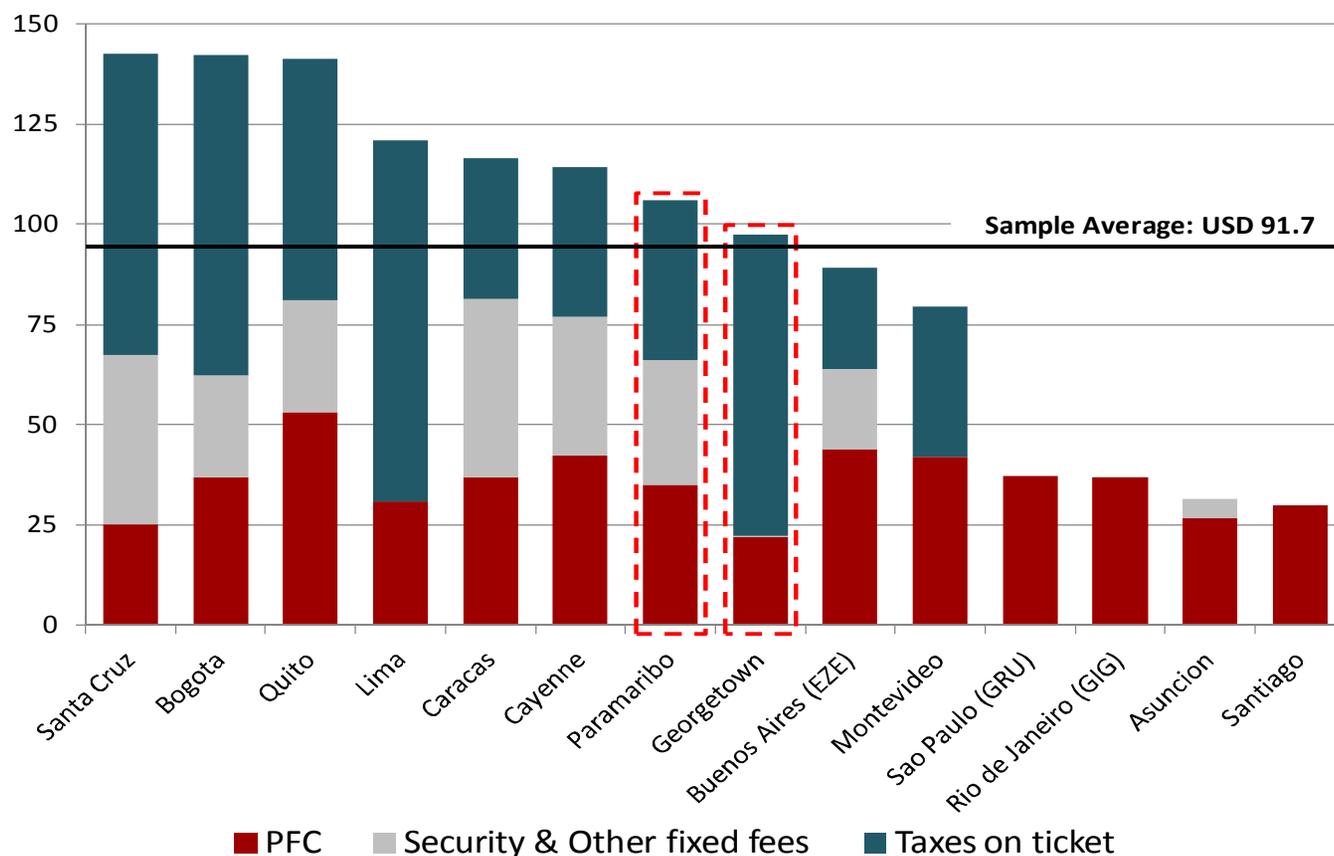
Sample Average: USD 91.7

Legend: PFC (dark red), Security & Other fixed fees (grey), Taxes on ticket (teal)

Airports (left to right): Santa Cruz, Bogota, Quito, Lima, Caracas, Cayenne, Paramaribo, Georgetown, Buenos Aires (EZE), Montevideo, Sao Paulo (GRU), Rio de Janeiro (GIG), Asuncion, Santiago

The cost of Airport Infrastructure

Charges on airlines at 14 South American airports
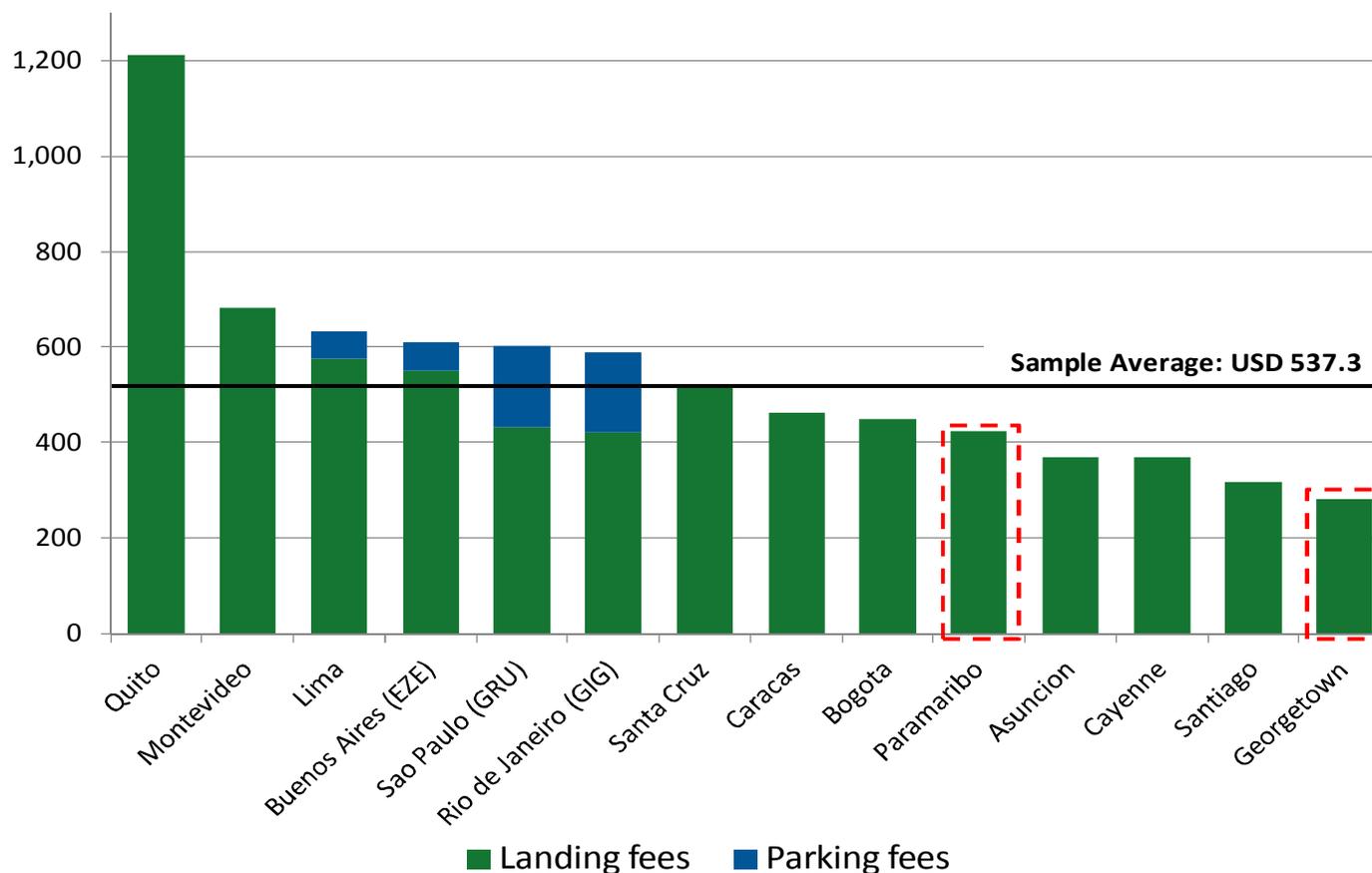
In USD, assuming a 2 hour turnaround

Sample Average: USD 537.3

Landing fees   Parking fees

The cost of Airport Infrastructure

Charges on passengers and charges on airlines at 14 South American airports
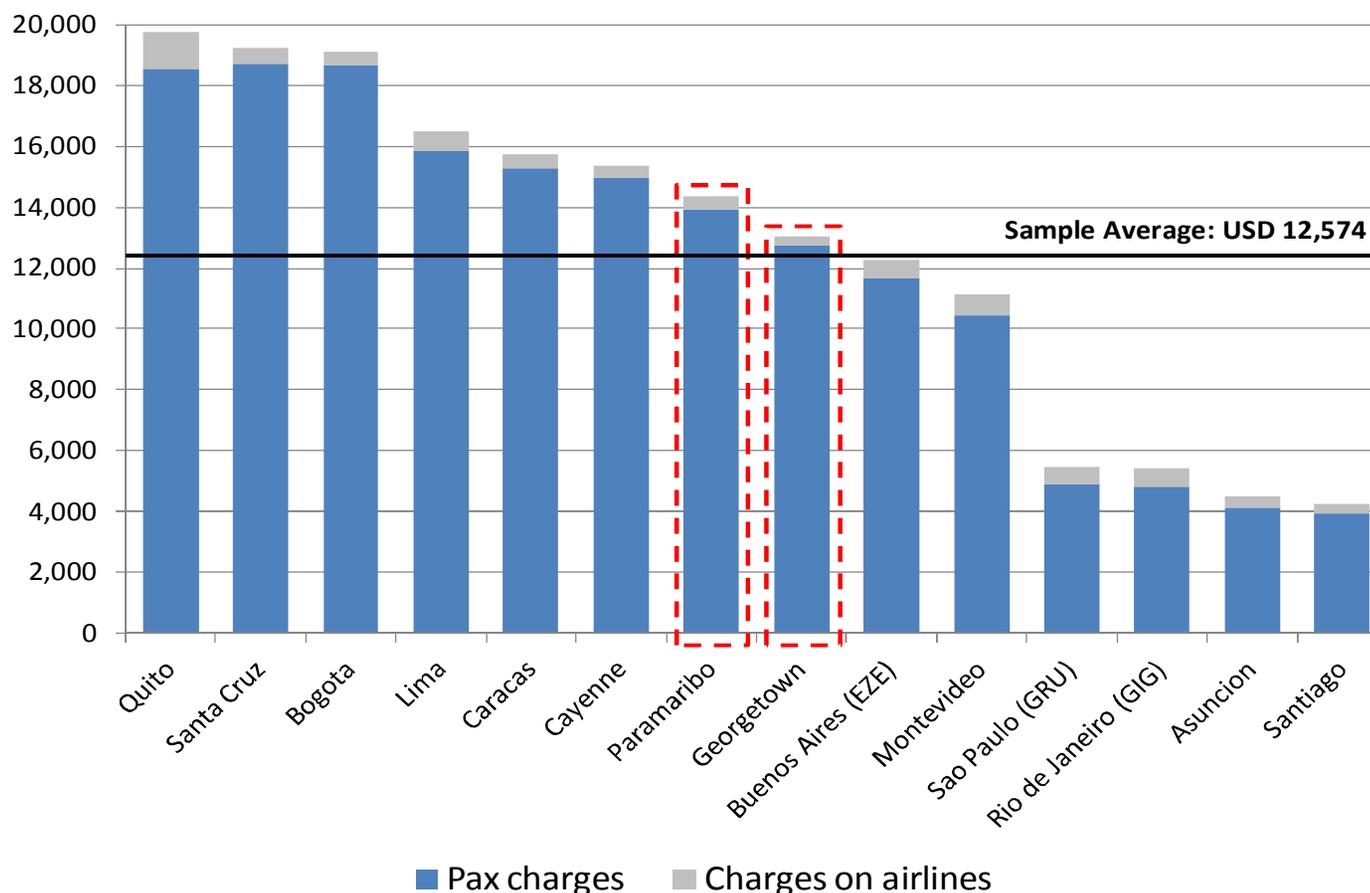
In USD, assuming a 2 hour turnaround

Sample Average: USD 12,574

Legend: ■ Pax charges ■ Charges on airlines

Airports (left to right): Quito, Santa Cruz, Bogota, Lima, Caracas, Cayenne, Paramaribo, Georgetown, Buenos Aires (EZE), Montevideo, Sao Paulo (GRU), Rio de Janeiro (GIG), Asuncion, Santiago

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Cost of Airport Infrastructure - main conclusions

- The cost of airport infrastructure at GEO and PBM is within the average of that of South America's largest airports

- The pricing positioning of GEO and PBM with regards to the main airports of South America does not pose any constraints to the development of traffic

Assessment rationale

Study Scope

Connectivity of the Guyana Shield

Refocusing of Scope: Guyana and Surinam

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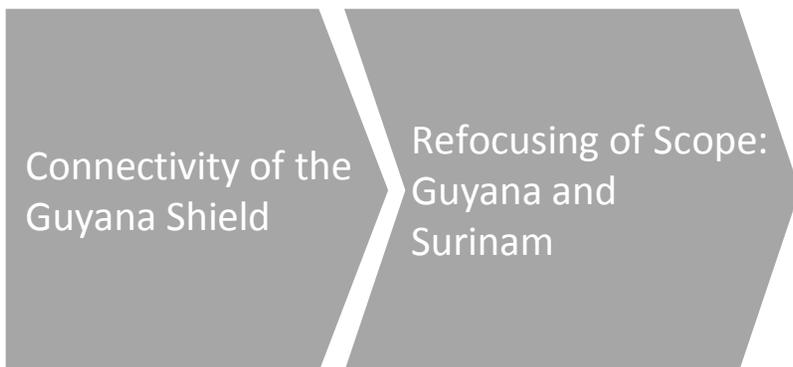
Analysis of the Institutional framework

- Analysis of the institutional framework: essential for development of a healthy sector

- Assessment of bodies responsible for the different functions of the institutional framework

- Special focus on situations that could jeopardize the development of commercial air transport in the near future

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Institutional framework - Guyana

Policy making	Technical Regulation	Operations			Accidents Investigation
		ATC	Airports	Airlines	
Guyana Civil Aviation Authority (GCAA)	GCAA	GCAA	Cheddi Jagan International Airport Corporation	Trans Guyana Airways / Air Guyana / Others	GCAA
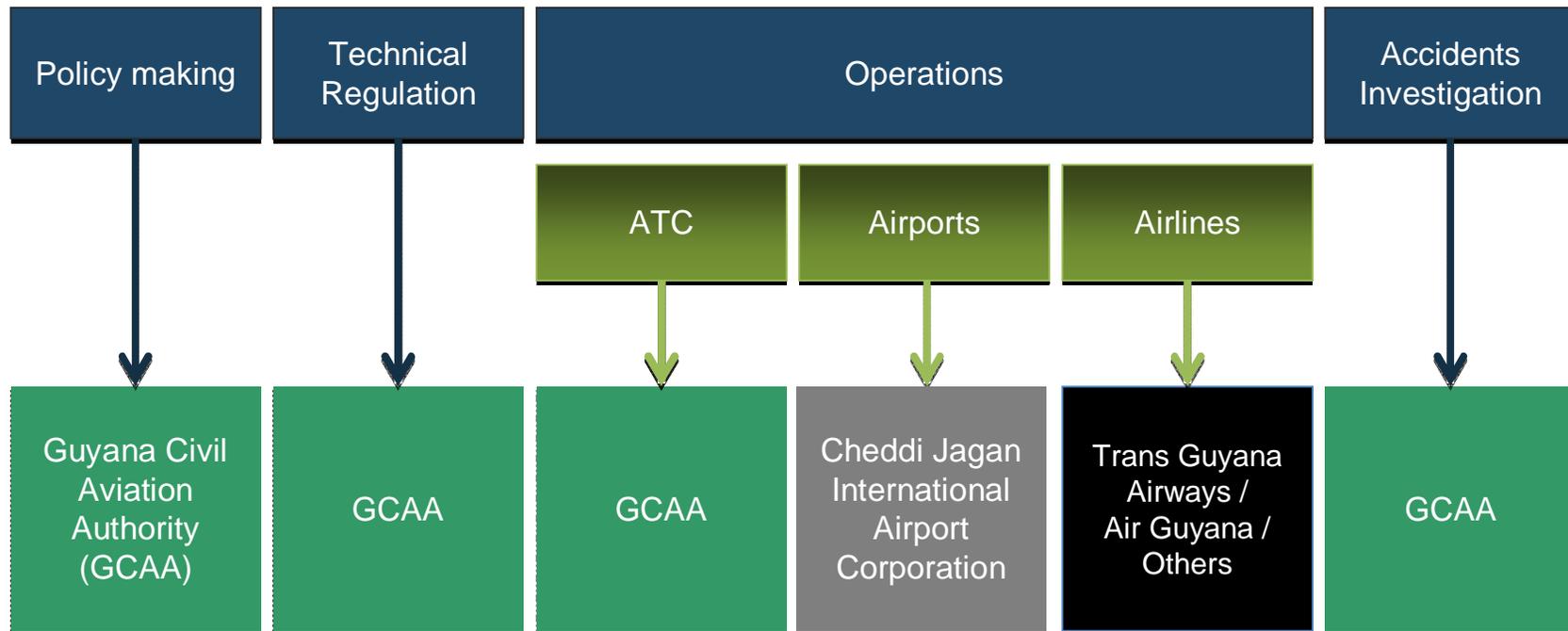
- Conflicts of interest

- GCAA in Category 2 of IASA program: no Guyanese airline can access US markets

Institutional framework - proposed reforms - Guyana

- Policy making functions should be transferred to a different entity than GCAA, potentially the Minister of Public Works

- Air traffic control operations should be transferred to another entity (independent from GCAA)

- Independent committee or board should be created to investigate accidents and incidents

  - Report directly to the President or the Guyanese Parliament

Institutional framework - Suriname

Policy making	Technical Regulation	Operations			Accidents Investigation
		ATC	Airports	Airlines	
Ministry of Transport, Communic. and Tourism (MTCT)	Civil Aviation Safety Authority Suriname (CASAS)	Department of Civil Aviation (DCA)	Airport Management Ltd.	Suriname Airways / Fly All Ways / Others	CASAS
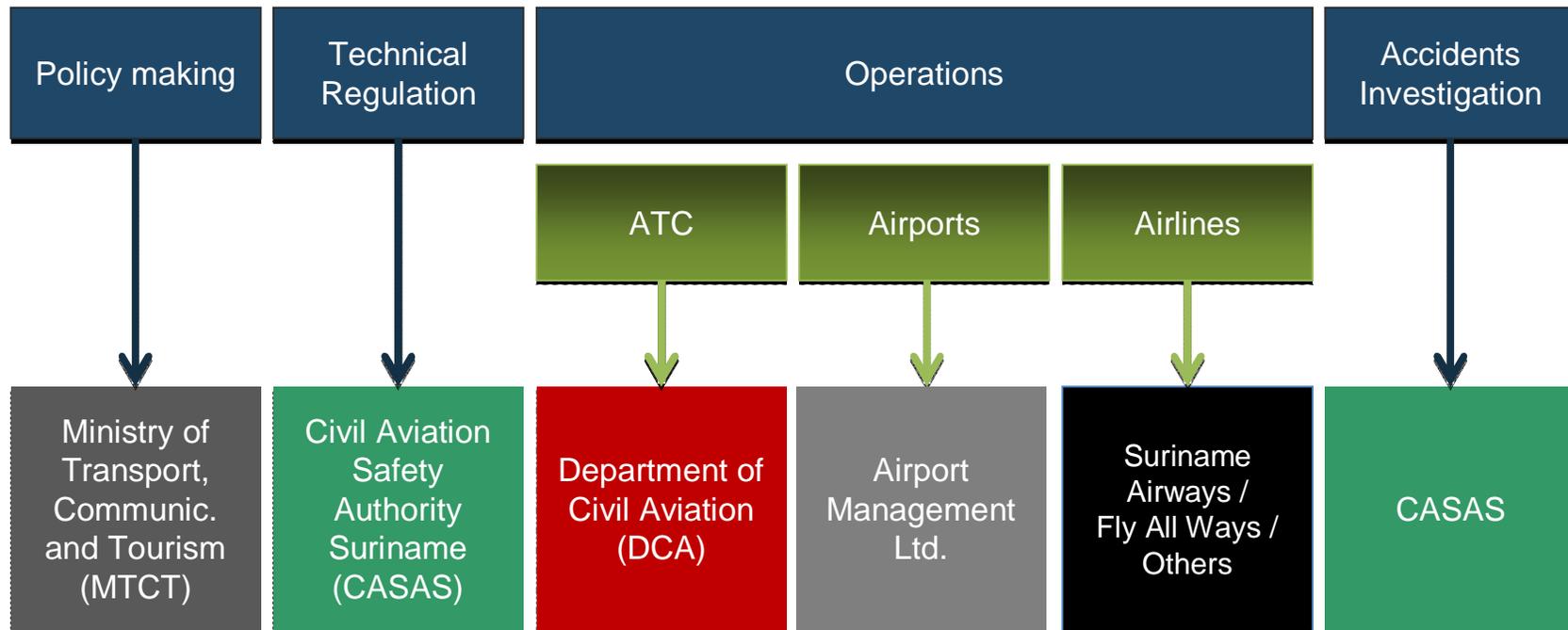
- Conflict of interest

- Proposed reform: creation of independent board for accidents and incidents investigation

- Report directly to the President or the Surinamese Parliament

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- Existing conflicts of interest in Guyana and Surinam are no constraints to development of connectivity

- However, they could potentially affect the proper functioning of local airlines in the future

- Clear separation of functions would foster unrestricted market access and a competitive environment

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Assessment rationale

Study Scope

Current Connectivity of the Guyana Shield	Refocusing of scope: Guyana and Surinam

Assessment sections

Airport Infrastructure	The cost of Airport Infra-structure	Institutional Framework	Air Service Agreements	Market Outlook	Recommendations and Next Steps

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Analysis of Air Service Agreements

- Objective: to determine if the conditions stated in the ASAs are currently acting as constraints to the development of the regional connectivity

- ASAs were analyzed in terms of available capacities, airline designation and the grant of fifth, sixth and seventh freedom rights

- ## CARICOM MASA

  - Unrestricted 3rd and 4th freedom rights to airlines from countries in the Caribbean

  - Multiple designation, unlimited capacities/frequencies

- ## Multilateral Air Services Agreement of the Association of Caribbean States (ACS)

  - Valuable because allows both countries to establish services with Colombia, Venezuela and French Guiana (without the need of an ASA)

Air Service Agreements - Bilateral

Guyana map labels: Canada, United States, Bahamas, Cuba, Jamaica, Haiti, Curaçao, GEO, Dominican Republic, Barbados, Brazil, Chile

Suriname map labels: Bahamas, Jamaica, Haiti, Colombia, PBM, Dominican Republic, Barbados, Brazil

- No ASAs with an important number of countries in South America: Peru, Bolivia, Argentina, Paraguay, Uruguay nor Ecuador

Legend:
- — Restrictive
- — Partially restrictive
- — Liberal
- - - CARICOM MASA

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Air Service Agreements - Guyana

- Only 4 of Guyana's 20 ASAs are currently being exploited:

  - United states (with regular services to Miami, New York and Orlando)

  - Canada (with services to Toronto)

  - Curacao

  - Cuba (only a few seasonal services to La Habana)

Capacity, designation and code sharing restrictions in Guyana's ASAs
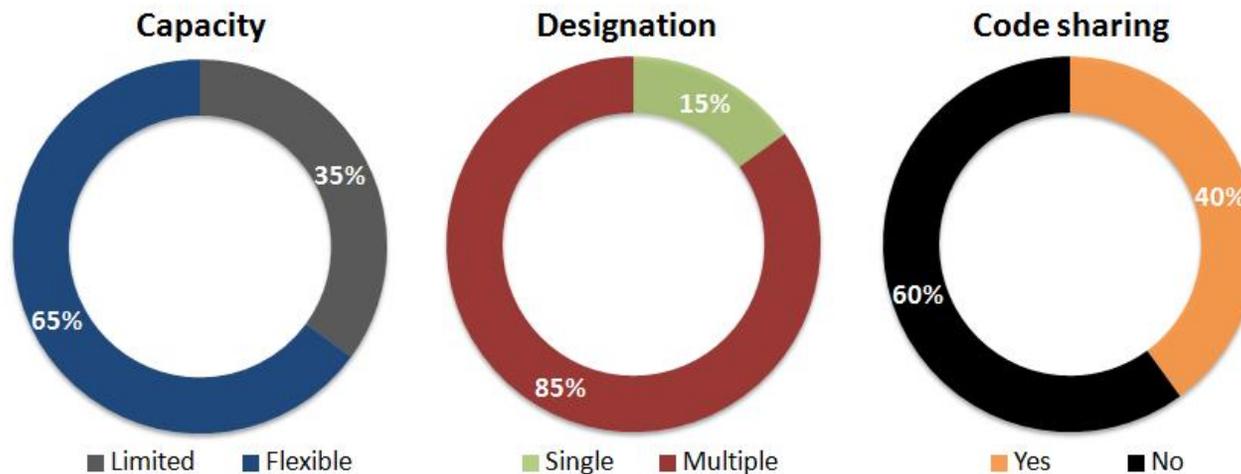
Capacity

65% Flexible
35% Limited

■ Limited ■ Flexible

Designation

15% Single
85% Multiple

■ Single ■ Multiple

Code sharing

40% Yes
60% No

■ Yes ■ No

Air Service Agreements - Suriname

- Brazil - ASA not constraining connectivity
  - Up to 21 weekly frequencies granted - with fifth freedom rights
- Colombia - restrictive ASA
  - Surinamese airlines can only reach Cali or Barranquilla; Colombian airlines can reach Paramaribo

ASA Suriname - Brazil: frequencies
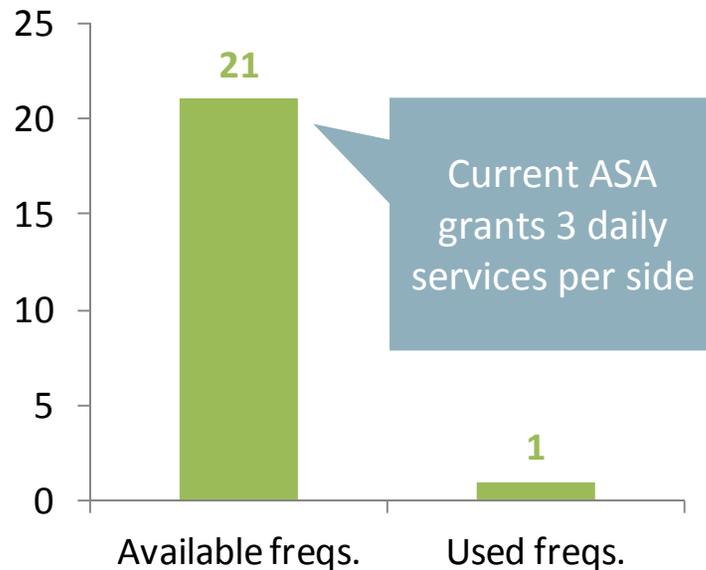
ASA Suriname - Colombia: frequencies

Current ASA grants 3 daily services per side

Only 2 weekly frequencies: ASA should be renegotiated to develop any connectivity with BOG
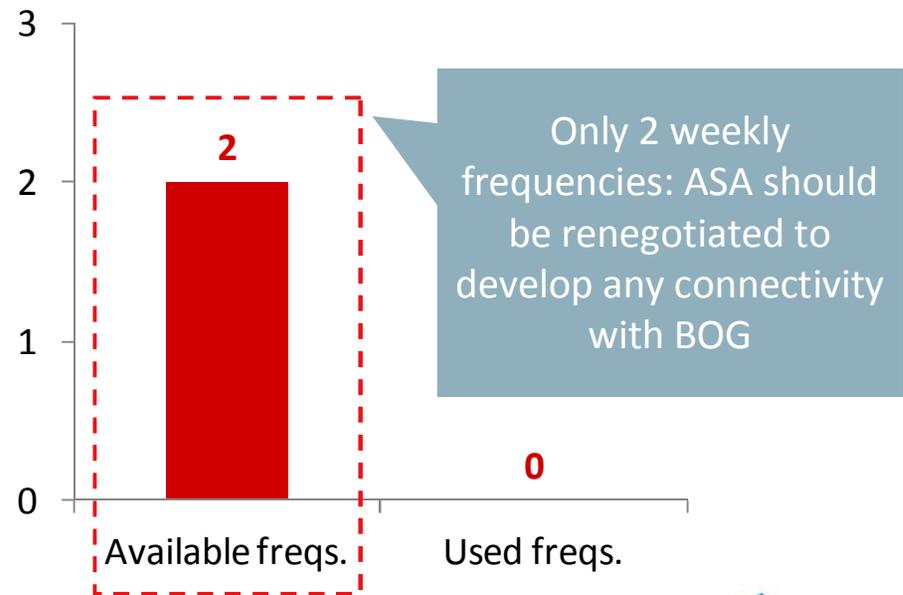
- The conditions of Guyana's and Surinam's ASAs are not acting as constraints to the development of connectivity

- Multilateral and most bilateral agreements are liberal enough to allow development of connectivity and market forces

- Lack of ASAs with South American countries

    - If market demand arises in the future , ASAs should be celebrated with these countries

Assessment rationale

Study Scope

| Current Connectivity of the Guyana Shield | Refocusing of scope: Guyana and Surinam |

Assessment sections

| Airport Infrastructure | The cost of Airport Infra-structure | Institutional Framework | Air Service Agreements | Market Outlook | Recommendations and Next Steps |

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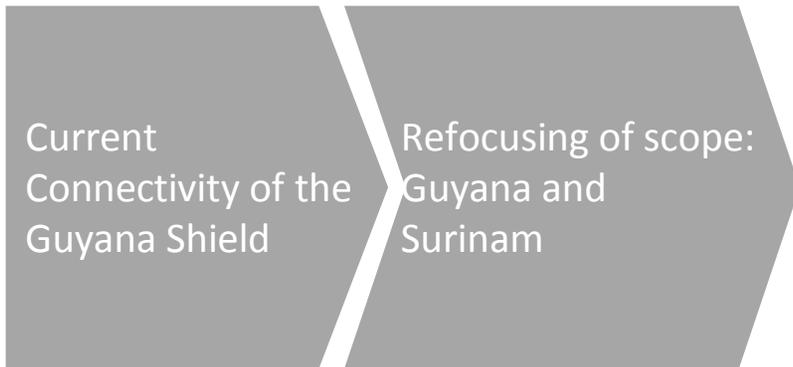
Market Outlook Analysis

- Objective: to obtain a clear picture of the current connectivity levels of Guyana and Suriname, and to propose measures to increase them in the short term

- Main focus on existing connectivity, airline competition, available frequencies and recent development of air transport market

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Market Outlook - Introduction

International tourist arrivals: South America

CAGR 2010-2013 (%)

Country	%
Venezuela	23.3%
Colombia	17.7%
Peru	11.2%
Ecuador	9.2%
Chile	8.5%
Guyana	7.9%
Surinam	6.7%
Uruguay	4.5%
Brazil	4.0%
Argentina	1.5%

Tourist arrivals (in thousands), 2013

Country	Value
Brazil	5,813
Argentina	5,571
Chile	3,576
Peru	3,164
Uruguay	2,683
Colombia	2,288
Ecuador	1,364
Venezuela	986
Surinam	249
Guyana	177
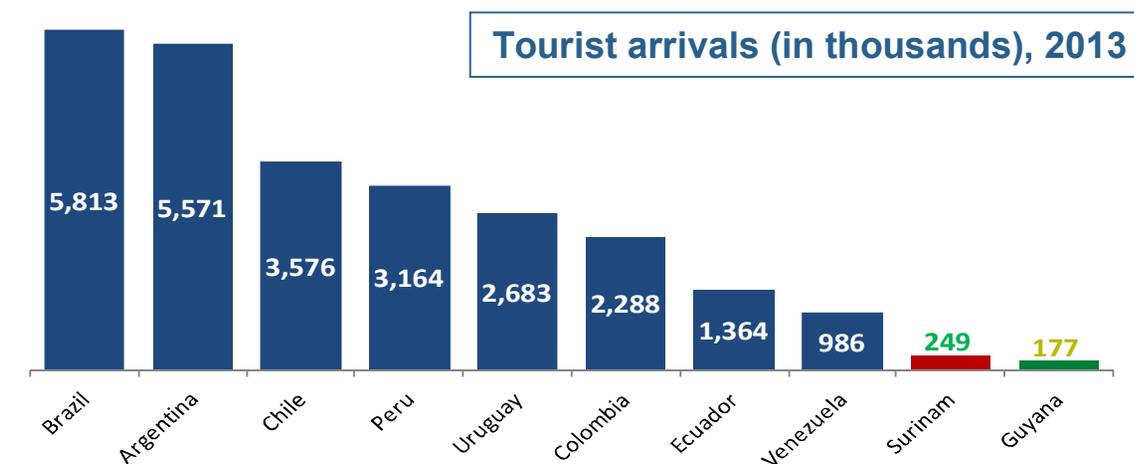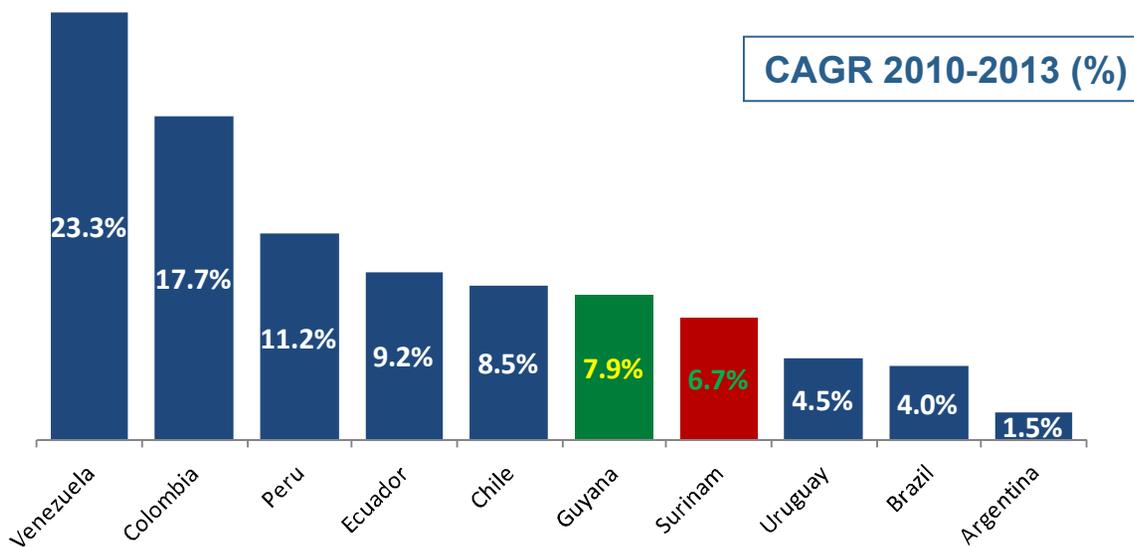
- International tourist arrivals to Guyana and Suriname have grown at larger rates than Brazil and Argentina between 2010 and 2013

- However, Guyana and Suriname are the countries with least tourist arrivals of South America - without considering French Guiana

Source: World Bank
Note*: Guyana's latest informed value is of 2012

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GDP per capita in constant USD: South America

CAGR 2010-2014 (%)

Guyana	Bolivia	Paraguay	Uruguay	Peru	Ecuador	Colombia	Chile	Surinam	Argentina	Brazil	Venezuela
4.5%	4.0%	3.9%	3.9%	3.8%	3.7%	3.7%	3.4%	2.8%	2.2%	1.3%	0.2%

GDP per capita in constant USD, 2014

Chile	Uruguay	Argentina	Venezuela	Brazil	Surinam	Colombia	Peru	Ecuador	Paraguay	Guyana	Bolivia
9,848	8,019	7,956	6,057	5,970	4,569	4,549	4,151	3,782	2,090	1,452	1,409
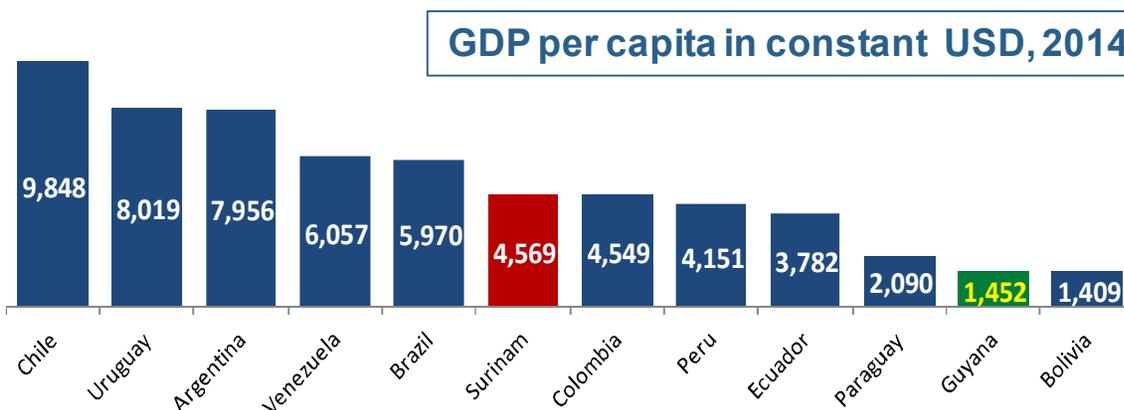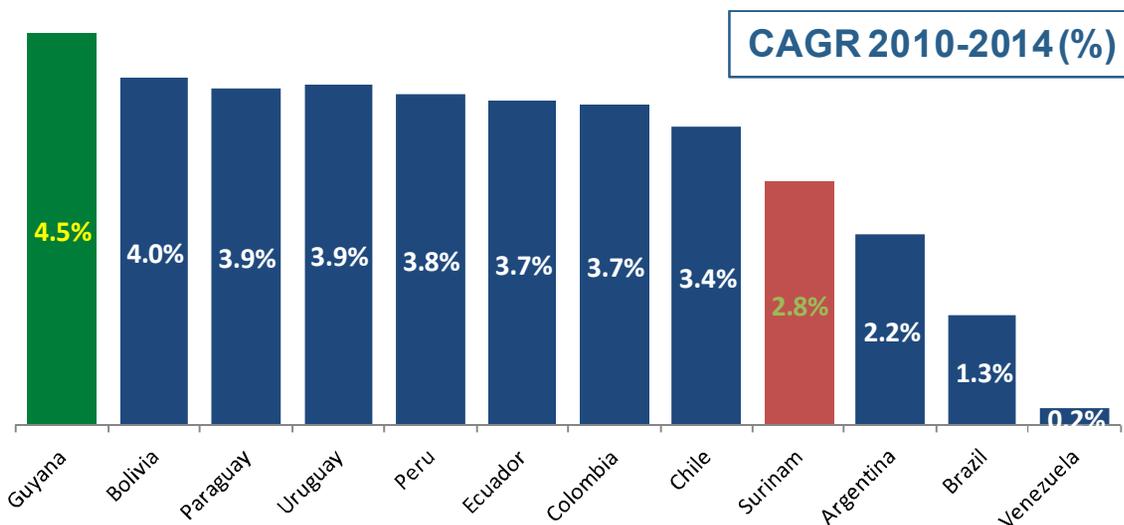
- Guyana: fastest growing country in South America, in terms of GDP per capita

- Suriname: lower growth rate than most developing countries of the region (with exception of Venezuela)

Departing seats out of GEO by destination market

To New York
22%

To Miami
3%

Kingston
8%

Port of Spain
54%

Panama City
3%

Paramaribo
3%

GEO

Other destinations (7%):

˝ **Toronto - 2%**
˝ **Aruba - 2%**
˝ **Curaçao - 2%**
˝ **Puerto Ordaz - 1%**
˝ **Orlando - 0.5%**

- Port of Spain: more than half of international seats out of GEO

- 2 Airports concentrate 84% of GEO's seats: POS, JFK and KIN

- Guyanese Shield: PBM 3%, and Puerto Ordaz only 1%

Source: OAG, 2015.

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Market Outlook - Guyana

Evolution of departing seats out of GEO

CAGR 2010-15: 8.2%

CAGR 2013-15: 8.0%

CAGR 2010-12: 15.6%

2010	2011	2012	2013	2014	2015
309	326	413	393	444	458
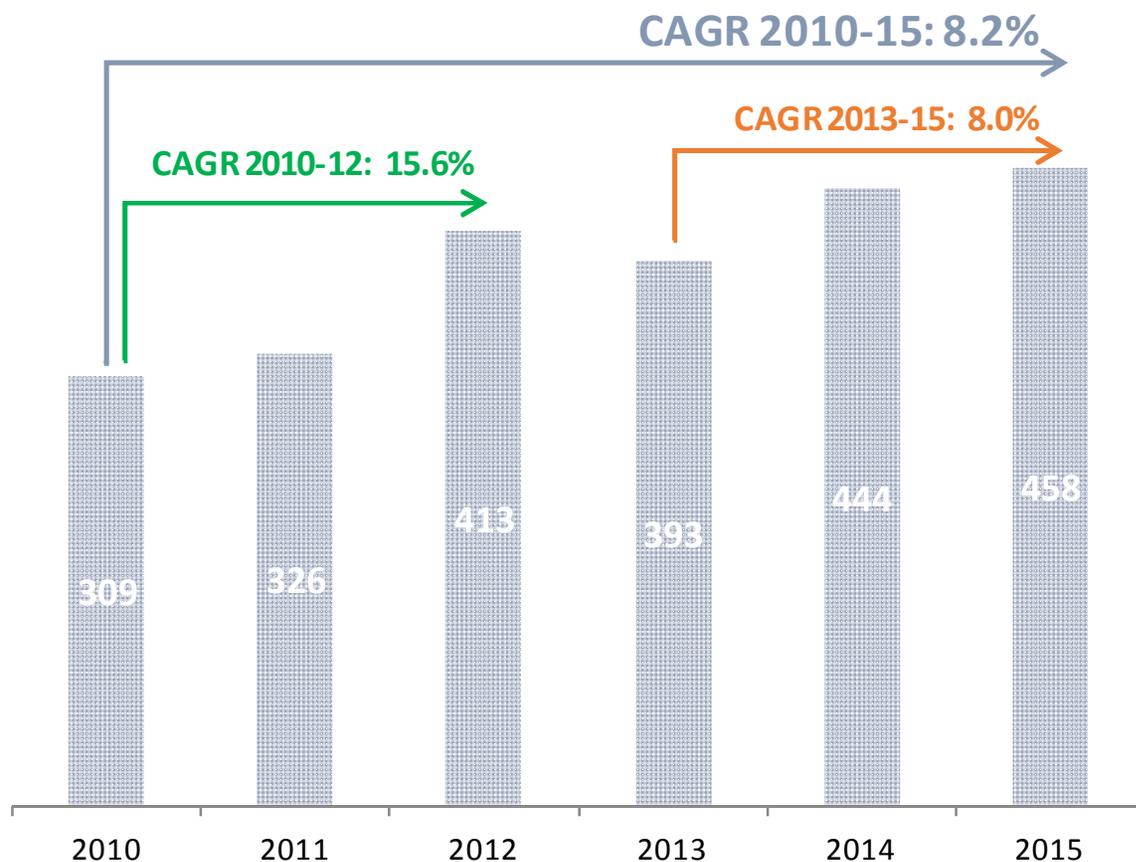
- GEO: two major growth periods (2010 to 2012 and 2013 to 2015)

- Significant overall growth since 2010: 8.2% CAGR

- Caribbean Airlines: has given burst to GEO's growth (36% increase in seats between 2010 and 2015)

Source: OAG.

Market Outlook - Guyana

Departing seats out of GEO by destination region

CAGR 2010-15: 22.0%

CAGR 2010-15: 6.0%

GEO

GEO by destination region 2010

15%

85%
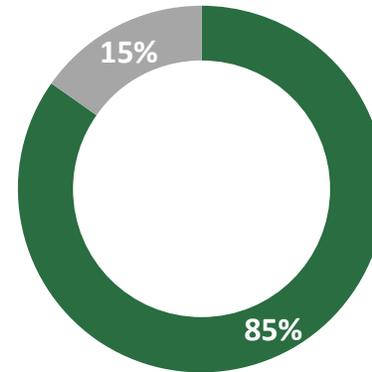
■ Caribbean and Central America ■ North America

GEO by destination region 2015

4%

28%

68%
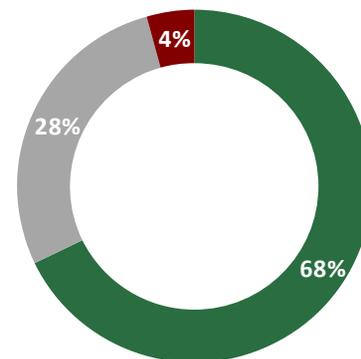
■ Caribbean and Central America
■ North America
■ Upper South America

- Caribbean and Central America: main destination region out of GEO (POS main market)

- North America - JFK, MIA, YYZ and MCO-: increasing share (from 15% in 2010 to 28% in 2015)

Source: OAG.

Airline competition: seats out of GEO by carrier - 2015

Legend:
- Caribbean Airlines *the warmth of the islands*
- Fly Jamaica
- Dynamic Airways
- Surinam Airways
- Copa Airlines
- Others

Percentages shown: 66%, 12%, 8%, 6%, 4%, 4%

Main 8 routes out of GEO by operating carrier - 2015

Route	Carrier share	Annual departing seats (K)
Port of Spain	100%	249
New York	55% / 8% / 37%	101
Kingston	100%	35
Paramaribo	100	15
Panama City	100%	14
Miami	100%	13
Toronto	87%	12

Legend:
- Caribbean Airlines *the warmth of the islands*
- Fly Jamaica
- Dynamic Airways
- Surinam Airways
- Copa Airlines

- Caribbean Airlines: over 65% of seats out of GEO
  - Has dominant position in GEO-POS route (100%)
  - Has 55% share in POS-JFK route

- 4 carriers (Caribbean Airlines, Fly Jamaica, Surinam Airways and Dinamic Airways) concentrate 92% of capacity share

- Surinam Airways has 100% of seats in GEO-MIA route (continuation flight from PBM)

Market Outlook - Guyana

Frequencies per week

Short haul

Long haul

35

30

25

20 — Short haul, more than twice a day

15

10 — Short haul, less than twice a day

5

Miami

Orla — Long haul, less than twice a day

0

| 0 | 1000 | 2000 | 3000 | 4000 | 5000 |

More than twice a day

Less than twice a day

Distance (Km.)

Operated by:

■ One foreign airline   ■ Two foreign airlines   □ 3 foreign foreign airlines
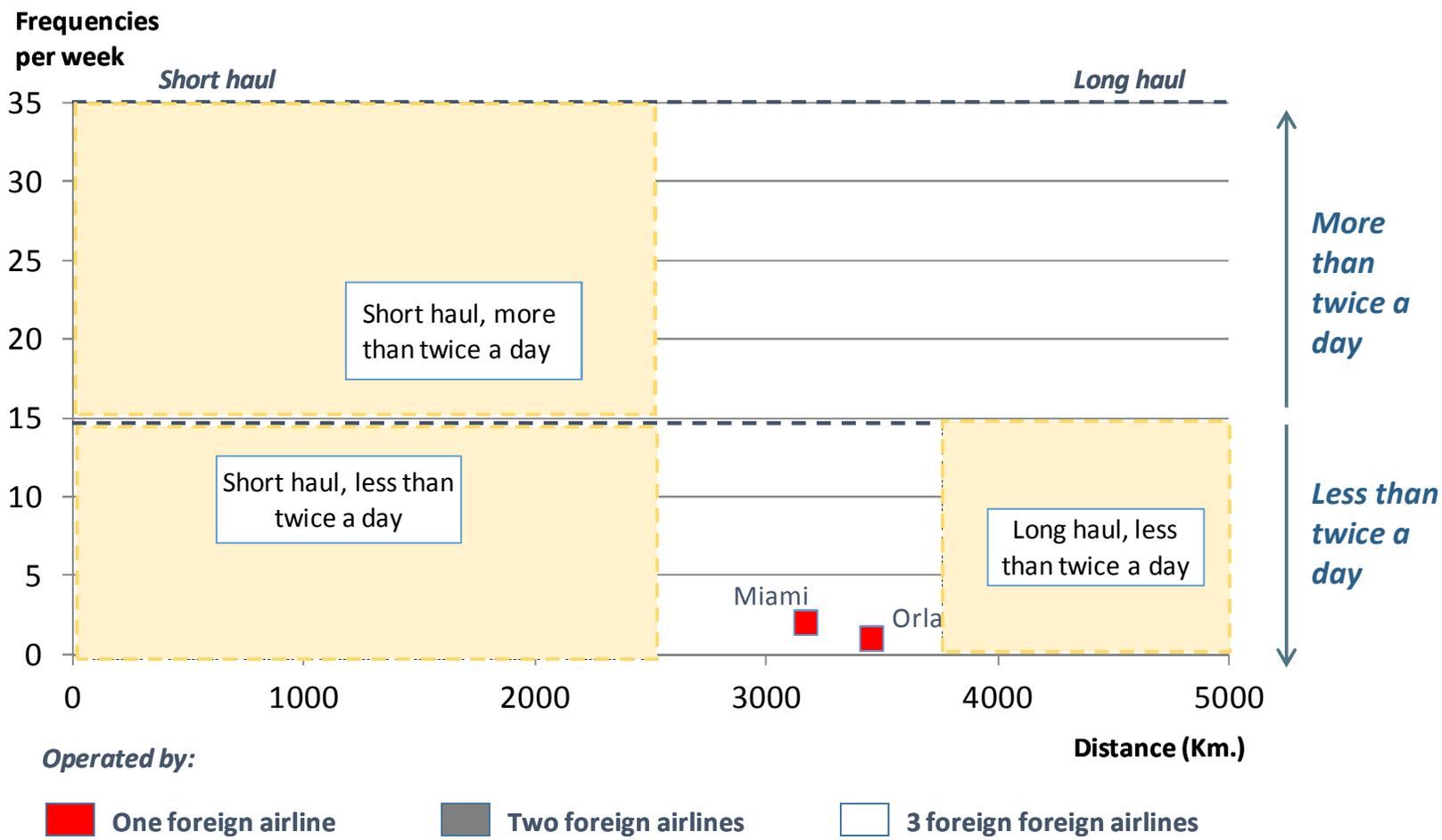
■ 6 short haul destinations with less than 5x per week and only one carrier

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Market Outlook - Guyana

GEO - distribution of markets by weekly frequencies

6 markets

3 markets

2 markets

1 per week | 2 or 3 per week | 4 or more per week

GEO - distribution of markets by number of carriers
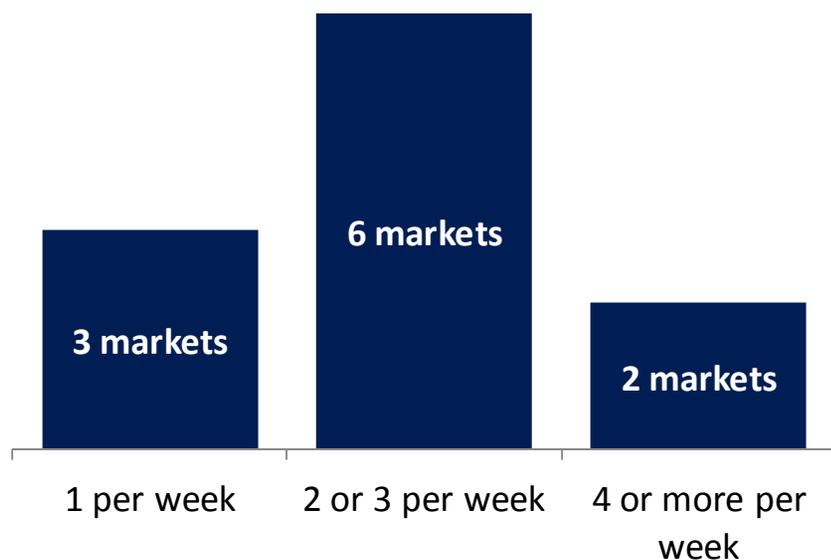
9 markets

1 market

1 market

1 airline | 2 airlines | 3 airlines
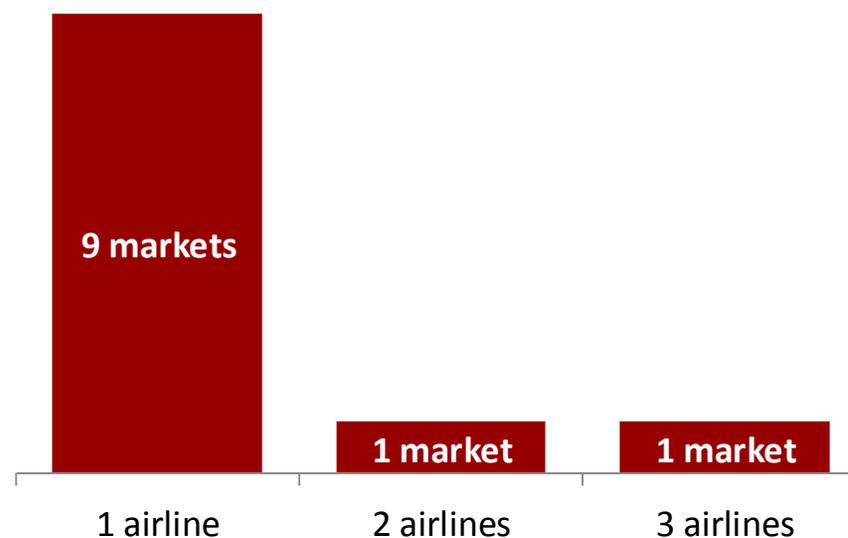
- >80% of routes with 3 flights per week or less, >80% of routes operated by one carrier

- Real competition only present in 2 of 11 routes out of GEO

Market Outlook - Suriname

Departing seats out of PBM by destination market
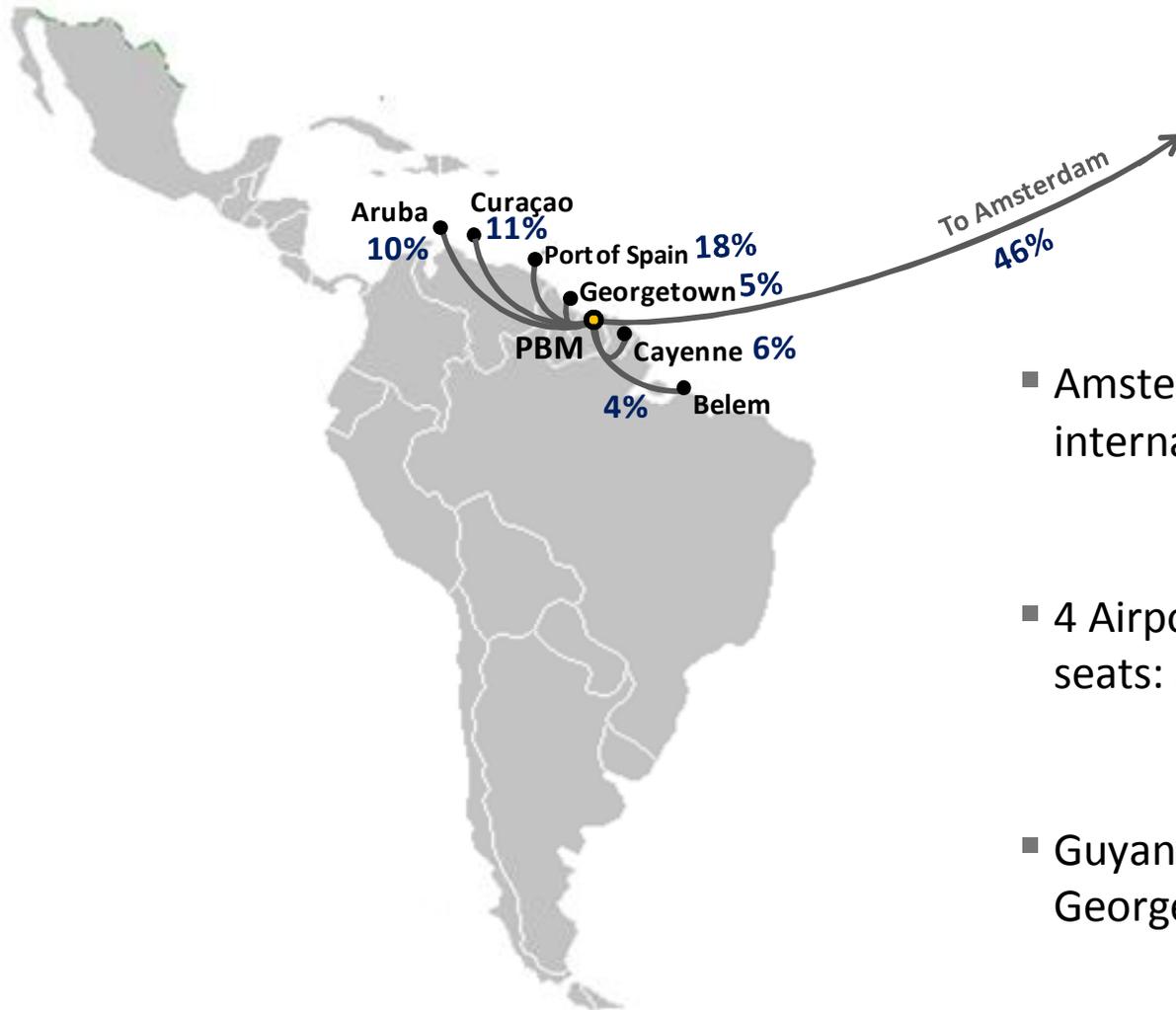
- Amsterdam: almost half of international seats out of PBM

- 4 Airports concentrate 85% of PBM's seats: AMS, POS, CUR and AUA

- Guyana Shield: Cayenne 6%, Georgetown 5% and Belem 4%

Market Outlook - Suriname

Evolution of seating capacity out of PBM - 2010 to 2015

CAGR 2010-15: 3.5%

CAGR 2010-13: 4.2%

2010	2011	2012	2013	2014	2015
274	267	284	310	306	325
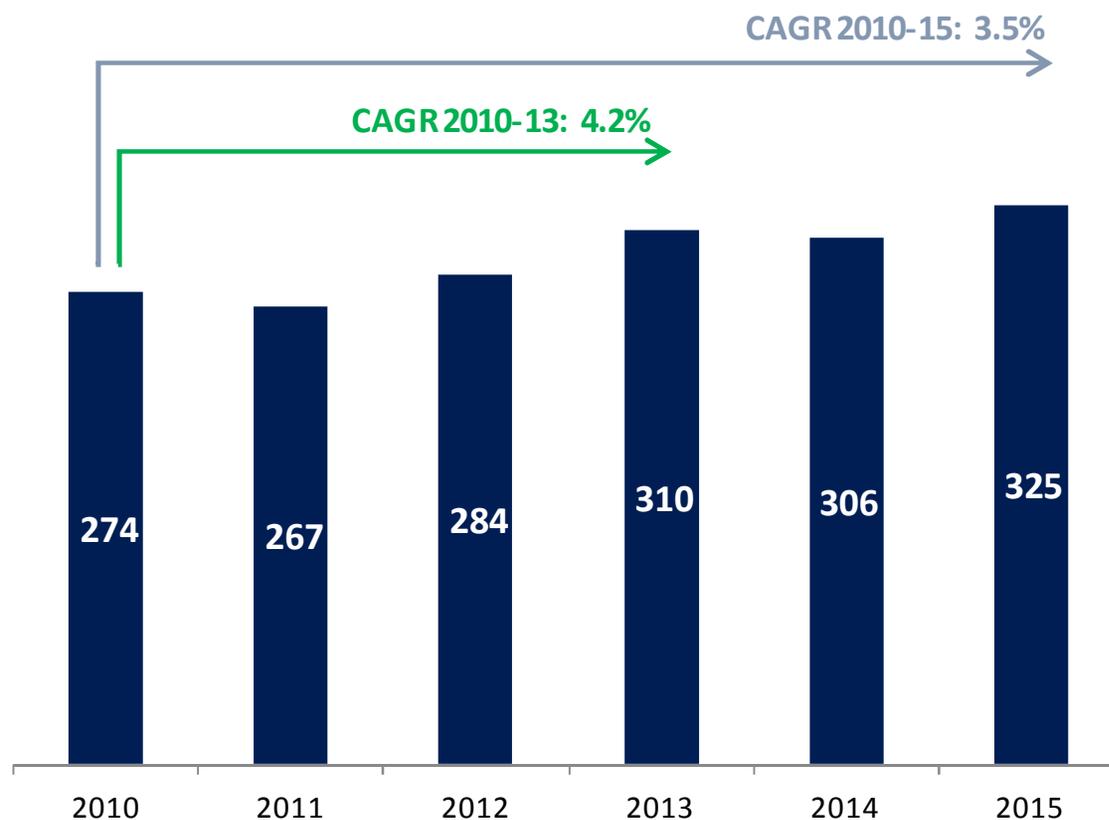
- PBM: important growth between 2010 and 2013 (4.2% CAGR)

- Overall growth explained by increase of available seats to Central America, the Caribbean and Upper South America

Source: OAG.

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Market Outlook - Suriname

Seats out of PBM by destination region - 2010 to 2015

CAGR 2010-15: 3.6%

CAGR 2010-15: 105.5%

CAGR 2010-15: 0.2%

PBM

CAGR 2010-15: -7.3%

PBM by destination region - 2010

7%

39%

54%
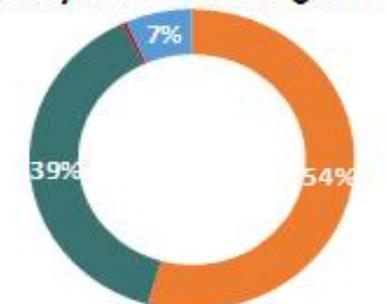
- Europe
- Caribbean and Central America
- Upper South America
- Lower South America

PBM by destination region - 2015

4%

11%

46%

39%
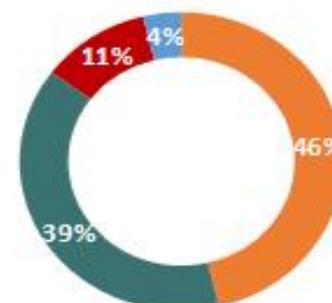
- Europe
- Caribbean and Central America
- Upper South America
- Lower South America

- Amsterdam: decreased from 54% to 46 in capacity share, slow growth (0.2% CAGR)

- Guyana Shield: increased capacity share from 0.5% to 11%

- Central America and Caribbean: same capacity share as 2010 (39%)

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Market Outlook - Suriname

Airline competition: seats out of PBM by carrier - 2015

- 49% — SURINAM AIRWAYS
- 24% — KLM
- 15% — InselAir
- 10% — Caribbean Airlines
- 2% — Others

Main 8 routes out of PBM by operating carrier - 2015

Annual departing seats (K)

Route			Seats (K)
Amsterdam	48%	52%	150
Port of Spain	43%	57%	59
Curacao	100%		36
Aruba	61%	39%	32
Cayenne	100%		21

- SURINAM AIRWAYS
- Caribbean Airlines
- InselAir
- KLM

Source: OAG, 2015.
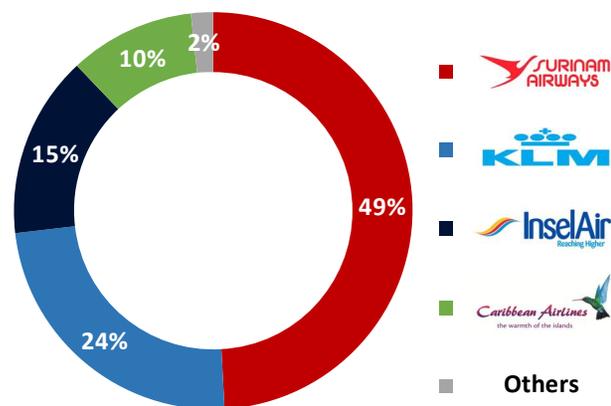
- ■ Capacity share evenly distributed between foreign carriers and Surinam Airways
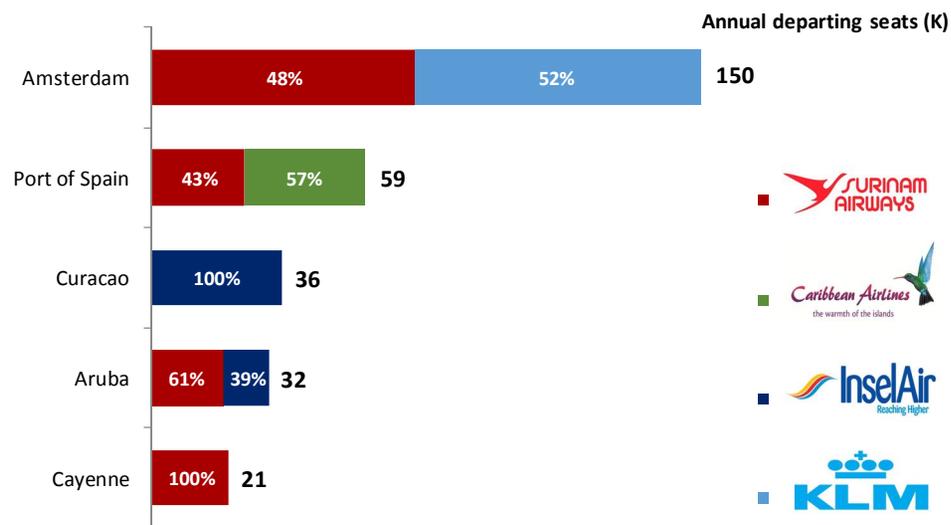
- ■ 4 carriers (Surinam Airways, KLM, Insel Air and Caribbean Airlines) concentrate 98% of capacity share

- ■ Surinam Airways has presence in 6 of the 7 routes out of PBM

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Market Outlook - Suriname

Frequencies per week

Short haul ... *Long haul*

- Long haul, more than 4x per week
- Short haul, more than 4x per week
- Short haul, less than 4x per week

More than 4x per week

4x per week

Less than 4x per week

Distance (Km.)

y-axis: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9

x-axis: -, 1,000, 2,000, 3,000, 4,000, 5,000, 6,000, 7,000, 8,000

Operated by:

| Surinam Airways | Surinam Airways and foreign carrier | Foreign carrier |
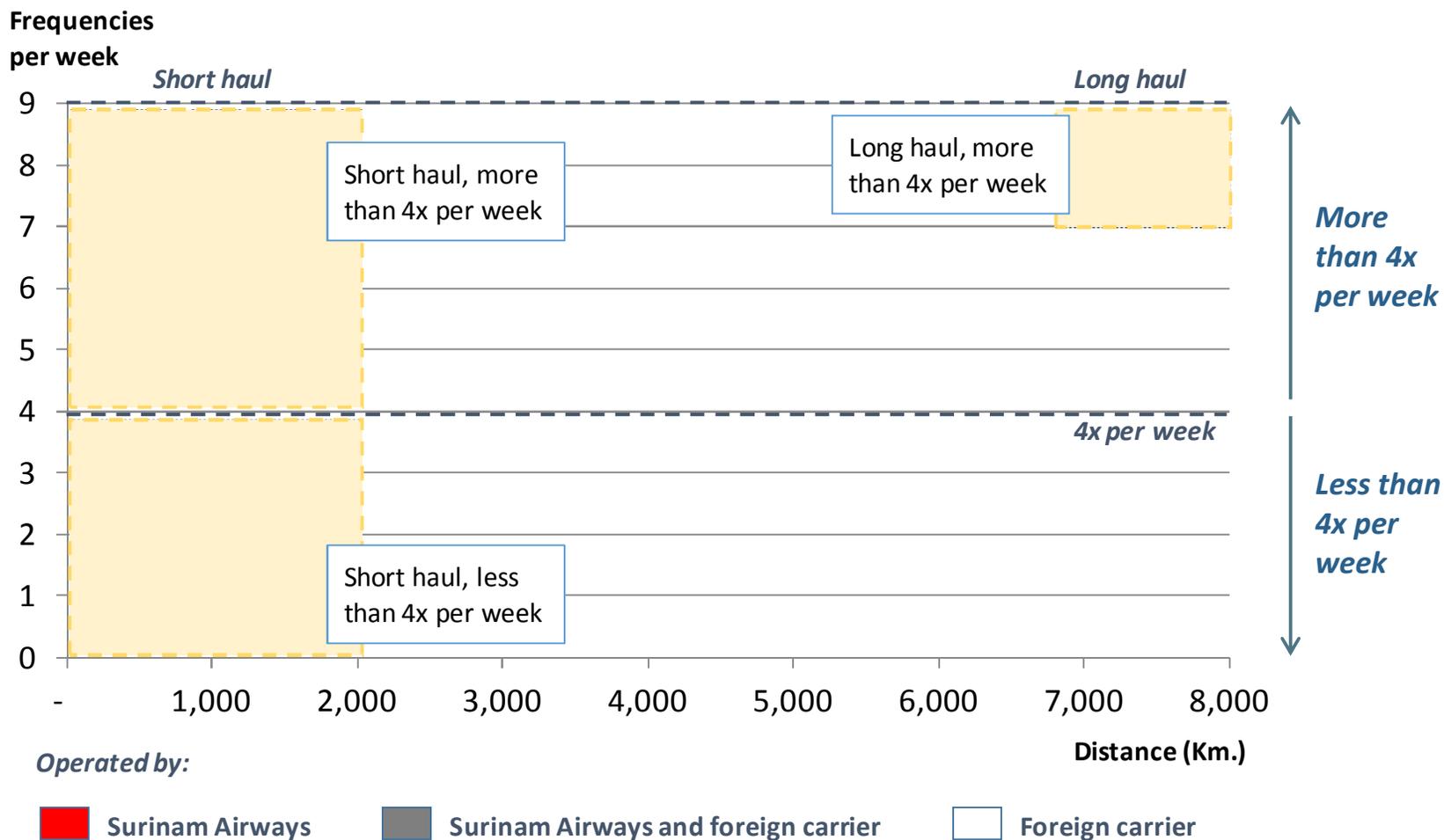
- Surinam Airways: has presence in 6 of 7 markets out of PBM (5 short haul and 1 long haul market

Market Outlook - Suriname

Examples of Surinam Airways schedule out of PBM

Monday, September 14th of 2015

Arriving Seats   **Departing Seats**

Time	
7 to 8 AM	
8 to 9 AM	
9 to 10 AM	**126** To Aruba
10 to 11 AM	**126** To Belem
11 AM to 12 PM	
12 to 1 PM	
1 to 2 PM	
2 to 3 PM	
3 to 4 PM	From Amsterdam **419**
4 to 5 PM	
5 to 6 PM	
6 to 7 PM	

Tuesday, September 15th of 2015

Arriving Seats   **Departing Seats**

Time	
12 to 1 AM	
1 to 2 AM	From Aruba **80**
2 to 3 AM	
3 to 4 AM	
4 to 5 AM	
5 to 6 AM	
6 to 7 AM	
7 to 8 AM	
8 to 9 AM	
9 to 10 AM	
10 to 11 AM	**252** To Port of Spain, Georgetown
11 AM to 12 PM	
12 to 1 PM	
1 to 2 PM	
2 to 3 PM	
3 to 4 PM	
4 to 5 PM	
5 to 6 PM	**317** To Amsterdam
6 to 7 PM	From Amsterdam, Belem **557**
7 to 8 PM	
8 to 9 PM	

- Flights departing from PBM do not take advantage of incoming flights

- Re-scheduling of Surinam Airways' services would improve connectivity

Source: prepared by consultant with information from OAG (2015) and airlines schedules.

Market Outlook - Suriname

PBM - distribution of markets by weekly frequencies

3 markets — Less than 4 per week

2 markets — Between 4 and 6 per week

2 markets — 7 or more per week

PBM - distribution of markets by number of carriers

3 markets — 1 airline
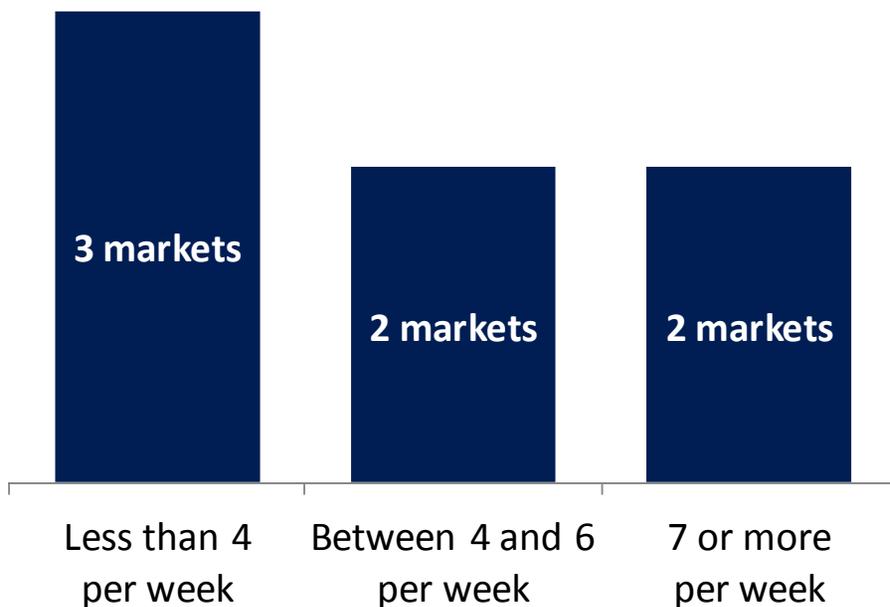
4 markets — 2 airlines
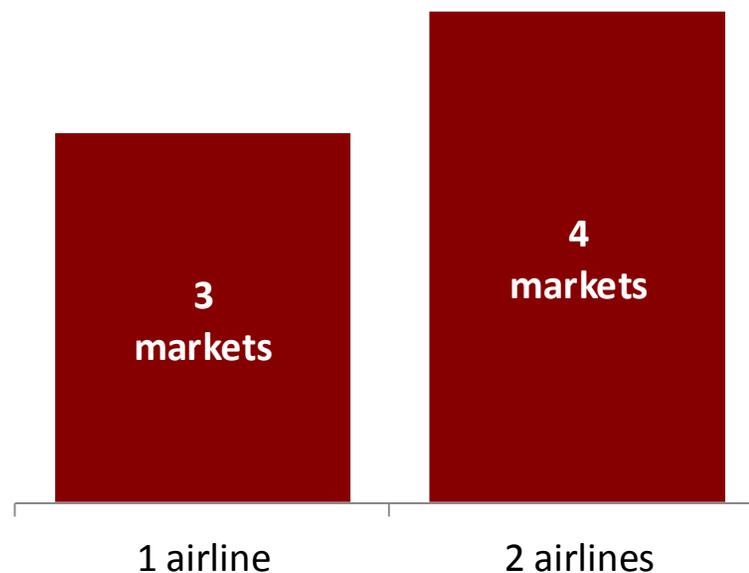
- AMS and POS: 8x per week and two carriers serving these routes

- Remaining 5 markets: either low number of freqs. or low number of carriers (or both)

The idea of developing a hub

- Any airport hub is not the creation of an airport operator or a policy maker, but the derived action of an airline willing to establish and operational base

- The O&D traffic subsidizes the connecting traffic, as O&D traffic represents to the airline a higher yield

- Thus, an airline will select an airport to develop a hub whenever the local mass of O&D traffic is substantial enough

- For this reason, the possibility of developing a hub at either PBM or GEO is impracticable: no airline could a viable business by connecting other cities through either of these capitals

Source: OAG, 2015.

Development of connectivity through nearby hubs

Main routes out of PTY - Copa Airlines

Copa Airlines network

15 markets	San Jose, Cancun, La Habana, Miami, Santo Domingo, Lima, Mexico City, Santiago de Chile, Orlando, Sao Paulo (GRU), Quito, Guatemala City, Guayaquil, Los Angeles, New York	3 daily flights or more
15 markets	Managua, Caracas, Buenos Aires, San Juan de Puerto Rico, Rio de Janeiro, Punta Cana, Washington DC, San Salvador, David, Montevideo, Asuncion, Santa Cruz de la Sierra, Bogota, Las Vegas, Brasilia	Between 10 and 20 weekly flights
17 markets	Port of Spain, Chicago, Cartagena, Cordoba, Manaus Tegucigalpa, Guadalajara, Valencia, Porto Alegre, Boston, Belo Horizonte, Sao Paulo (VCP), Monterrey, Toronto, San Andres, Fort Lauderdale	Between 5 and 9 weekly flights
25 markets	Medellin, St Maarten, Tampa, Nassau, Montreal, Kingston, Montego Bay, Port Au Prince, Barranquilla, New Orleans, Curacao, San Francisco, Liberia, Georgetown, Santa Clara, Aruba, Puebla, Iquitos, San Pedro Sula, Cali, Villahermosa, Bucaramanga, Cucuta, Pereira	Between 1 and 4 weekly flights

- Copa reaches 72 airports in the American continent and the Caribbean

- Copa operates PTY-GEO 2x per week, with the intention of increasing to 4x per week

Development of connectivity through nearby hubs

Potential connections at PTY for Copa's arriving flight from GEO

Arriving flight | Departing flights

	4 to 5 PM
From GEO 5 to 6 PM	
	6 to 7 PM **Departures to 24 destinations: 7 in North America, 7 in South America, 4 in Central America and 2 in the Caribbean**
	7 to 8 PM **Departures to 9 destinations: 1 in North America, 3 in Central America, 2 in the Caribbean and 2 in Europe**
	8 to 9 PM
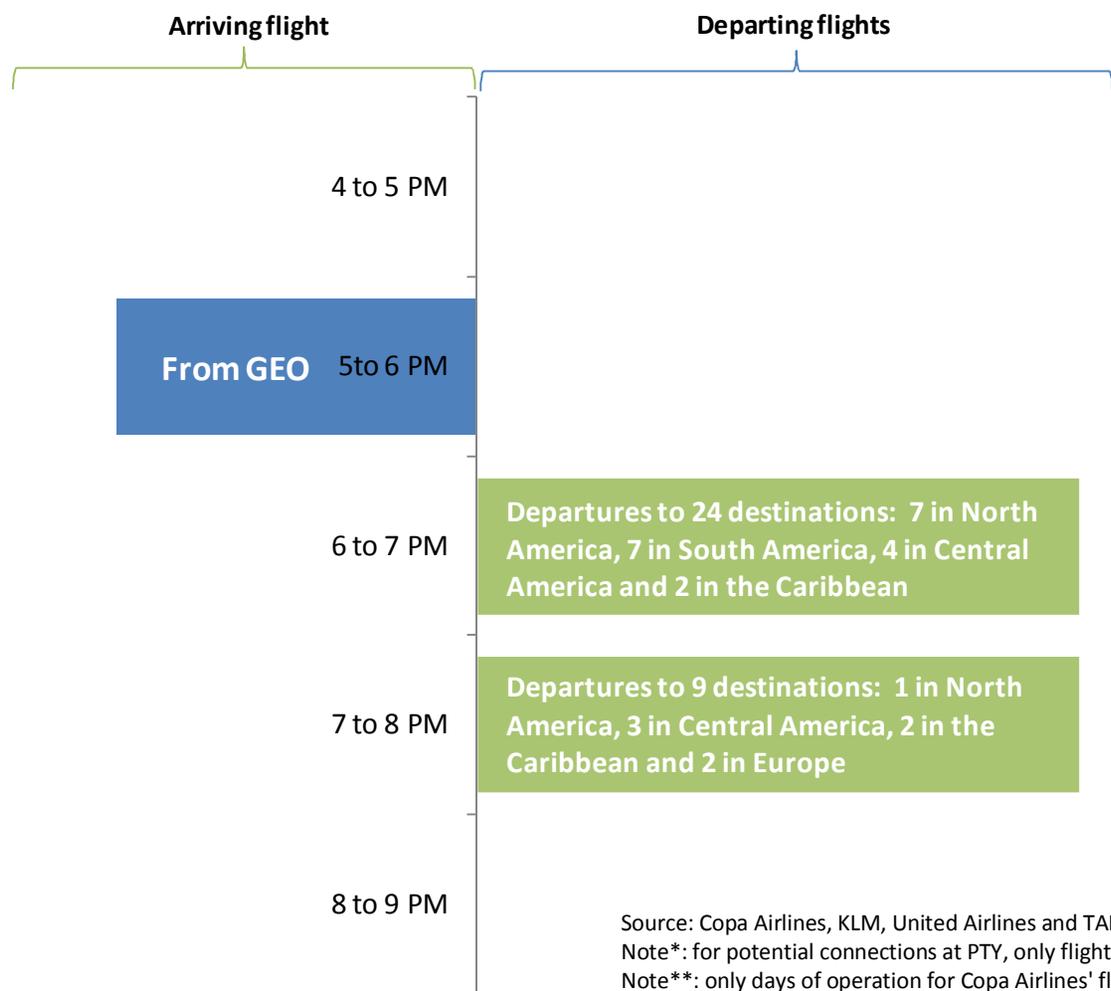
- Potential to connect passengers with flights departing to other 27 destinations out of PTY within 2.5 hours after the arrival

- It would be valuable for PBM to also establish services to PTY (either as non-stop service or as continuation of the service out of GEO)

Source: Copa Airlines, KLM, United Airlines and TAP Portugal schedules, and OAG (2015).
Note*: for potential connections at PTY, only flights from Copa Airlines and other Star Alliance members were considered.
Note**: only days of operation for Copa Airlines' flights from GEO were considered.
Note***: Week of September 14th to September 20th of 2015

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Development of connectivity through nearby hubs

Main routes out of POS - Caribbean Airlines

Caribbean Airlines network

3 markets	Tobago, Georgetown, New Yotk	3 daily flights or more
3 markets	Barbados, Toronto, Grenada	Between 10 and 20 weekly flights
4 markets	Caracas, Miami, Fort Lauderdale, St Lucia	Between 5 and 7 weekly flights
6 markets	Paramaribo, London, Kingston, Orlando, Antigua, St Maarten	Between 1 and 4 weekly flights

- Caribbean Airlines reaches 16 airports in the American continent, the Caribbean and Europe

- Despite being an interesting opportunity, there are problems at POS for connecting pax

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Development of connectivity through nearby hubs

Connections at POS for Caribbean Airlines' arriving flight from GEO

Arriving flight		Departing flights
From GEO	6 to 7 AM	
	7 to 8 AM	**7 destinations** in the Caribbean and South America
	8 to 9 AM	**4 destinations** in the Caribbean and North America
From GEO	9 to 10 AM	**1 destination** in the Caribbean
	10 to 11 AM	**1 destination** in the Caribbean
From GEO	11 AM to 12 PM	**1 destination** in the Caribbean
	12 to 1 PM	**2 destinations** in the Caribbean and North America
	1 to 2 PM	**2 destinations** in the Caribbean and North America
	2 to 3 PM	**3 destinations** in the Caribbean and South America
	3 to 4 PM	**2 destinations** in the Caribbean and South America
	4 to 5 PM	**1 destination** in the Caribbean
From GEO	5 to 6 PM	**3 destinations** in the Caribbean
	6 to 7 PM	**2 destinations** in the Caribbean and North America
	7 to 8 PM	**1 destination** to London

- Sixteen destinations out of POS located in North America, South America, the Caribbean and Europe can be reached

- High number of weekly frequencies (32), allows attractive connecting schedules

Source: Caribbean Airlines and British Airways schedules, and OAG (2015).
Note*: for potential connections at POS, only flights from Caribbean Airlines and British Airways were considered (given code-share agreement between these two carriers).
Note**: only days of operation for Caribbean Airlines' flights from GEO were considered.
Note***: Week of September 14th to September 20th of 2015

Development of connectivity through nearby hubs

Connections at POS for Caribbean Airlines' arriving flight from PBM

Arriving flight		**Departing flights**

From PBM — 6 to 7 AM

7 to 8 AM — **7 destinations in the Caribbean and South America**

8 to 9 AM — **4 destinations in North America and the Caribbean**

9 to 10 AM — **1 destination in the Caribbean**

10 to 11 AM — **1 destination in the Caribbean**
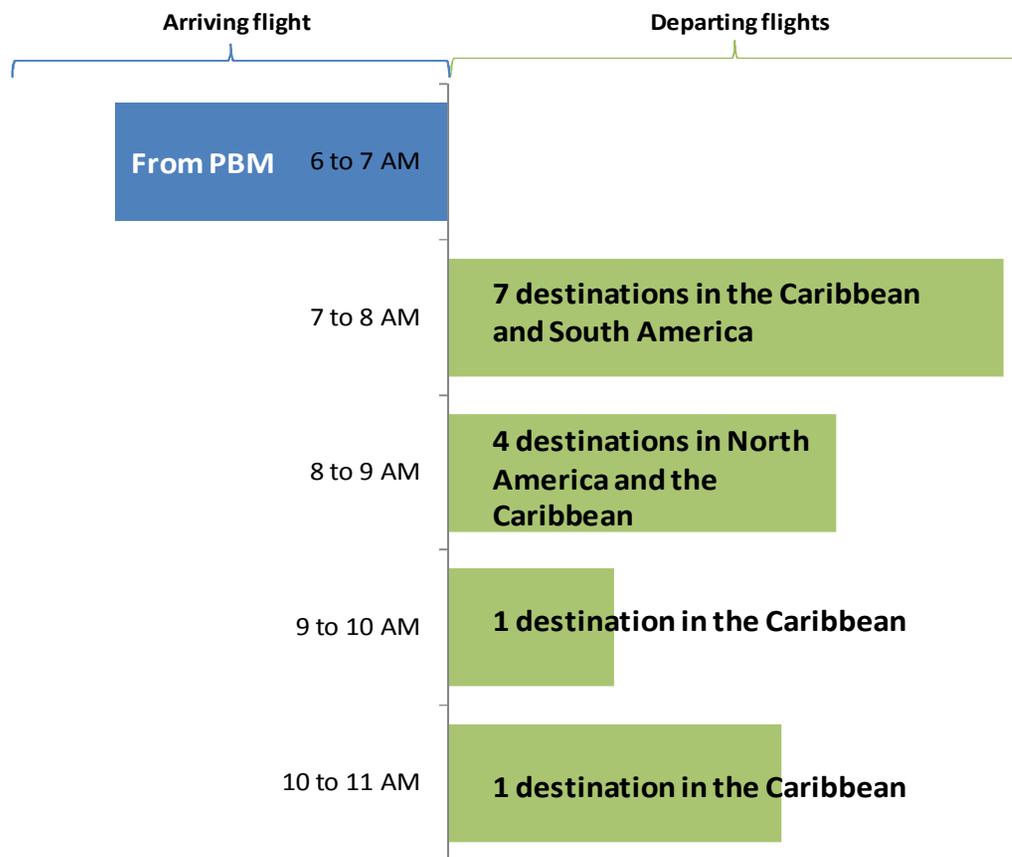
- Ten destinations out of POS can be reached
  - 6 in the Caribbean
  - 3 in North America
  - 1 in South America

Source: Caribbean Airlines and British Airways schedules, and OAG (2015).
Note*: for potential connections at POS, only flights from Caribbean Airlines and British Airways were considered (given code-share agreement between these two carriers).
Note**: only days of operation for Caribbean Airlines' flights from PBM were considered.
Note***: Week of September 14th to September 20th of 2015

Development of connectivity through nearby hubs

Main routes out of BOG - Avianca

Avianca network

5 airports	Quito, Mexico City, Miami, Panama, Guayaquil	3 daily flights or more
7 airports	Santiago, Cancun, Caracas, Sao Paulo, San Jose, Madrid, New York	Between 2 and 3 daily flights
11 airports	Santo Domingo, Punta Cana, Rio de Janeiro, Orlando, Aruba, Fort Lauderdale, Barcelona, Washington DC, Guatemala City, La Paz, Lima	Between 1 and 2 daily flights
6 airports	Curaçao, La Habana, London, San Juan, Buenos Aires, Los Angeles	Between 2 and 6 weekly flights

- Avianca operates 29 routes out of BOG to destinations in the American continent, the Caribbean and Europe

- In the present, no services to PBM nor to GEO

Development of connectivity through nearby hubs

International routes out of BSB

International routes by frequencies and airlines

Market	Weekly Frequencies	Airlines
Miami / Orlando	14	TAM · DELTA
Panama City	10	CopaAirlines
Buenos Aires	8	TAM · GOL · Aerolíneas Argentinas
Lisbon	6	TAP PORTUGAL
Atlanta	5	DELTA
Paris	3	AIRFRANCE
La Habana	1	CUBANA
Punta Cana	1	TAM · GOL
Santiago (Chile)	< 1	GOL

- BSB: 40 domestic connections in Brazil

- However, only 2 international routes to South America (reduced, compared to PTY and BOG)

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Assessment rationale

Study Scope

Current Connectivity of the Guyana Shield

Refocusing of scope: Guyana and Suriname

Assessment sections

Airport Infrastructure

The cost of Airport Infra-structure

Institutional Framework

Air Service Agreements

Market Outlook

Recommendations and Next Steps

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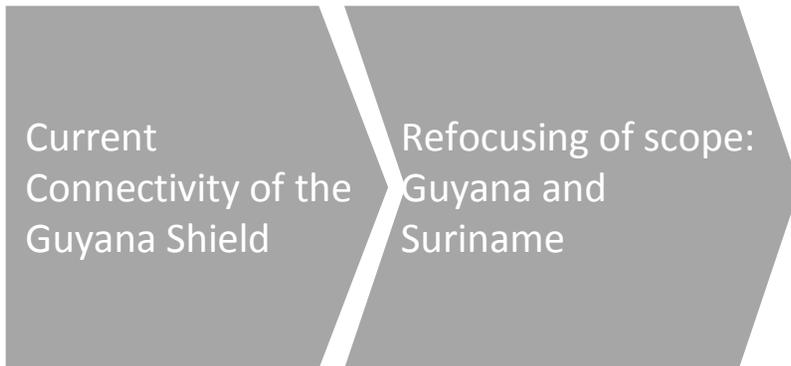
Summary of Recommendations

- The connectivity of both countries will depend on how well connected GEO and PBM are to close regional hubs

- Authorities should establish close dialog with the airlines that present connecting opportunities at hubs: Copa, Caribbean Airlines, Insel Air and Avianca (incentives could be offered)

- Close attention to the development of TAM's hub in Northeast Brazil, could be another important hub in the region (expected to be established by late 2016), specially to connect to South America and Europe

GEO

- **CUR: Insel Air operates 2x per week**
- **POS: Caribbean airlines operates 32x per week**
- **PTY: Copa operates 2x per week**
- **BOG: no services currently**

PBM

- **CUR: Insel Air operates 5x per week**
- **POS: Caribbean airlines operates 4x per week**
- **PTY: no services currently**
- **BOG: no services currently**

Source: consultant.

Proposed next steps

Objective	Proposed actions	Time-frame	Probability of success
Increase/Establish Copa Airlines services to GEO and PBM	✓ Engage with Copa: investigate requirements to establish services to PBM ✓ Different options: o Point to point flights to PBM and GEO from PTY o Rotating flights from PTY to GEO and PBM (requires 5th freedom rights) o Round-trip flights from PTY with a connection at PBM or GEO	Short-term	Mid to High
Establish new Avianca services to GEO and PBM	✓ Investigate interest for new services to GEO and PBM ✓ Avianca might prefer not to compete with Star Alliance partner o Cooperation of flights w/Copa through code share o Combining services at alternative days of the week ✓ Liberalize the existing ASA (now restricted to only 2 services per week)	Short- to mid term	Mid
Increase Caribbean Airlines services to GEO and PBM	✓ Investigate requirements to increase frequencies to GEO and PBM ✓ Developing hub at POS requires efficiency improvements at border control	Short-term	Mid
Increase Insel Air services to GEO and PBM	✓ Investigate requirements to increase frequencies to GEO and PBM	Short-term	Mid
Increase/Establish Gol services to PBM and GEO	✓ Investigate interest to develop non-stop services to GEO ✓ Investigate interest to develop connections at Belen to points in South America	Short-term	Low
Explore evolution of declared intention of TAM to develop a Northeast hub	✓ Engage in talks with TAM to explore interests (potential hub)	Medium Term	Quite low

Source: consultant.

Agenda

Thank you / Obrigado

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