Connectivity and Development of Air Transport

Sustainable development of Air transport in Africa
25-27 March 2015

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Director, International Sales - Africa, Boeing Commercial Airplanes

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The underlying dynamics of our industry

Economic growth

Traffic growth

Fleet Capacity Requirement

Airline Capacity Decisions

Fleet Capacity Growth

Airline Profitability

Capital intensity to adjust capacity

Used Airplanes

New Airplanes

Parked Airplanes

Delayed Retirement

Utilization

High

Low

Long term

Short term

Liberalization

Exogenous shocks

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Air travel growth has been met by increased frequencies and nonstops

- World

SOURCE: August OAG

Index 1993=1.00
Africa traffic varies by market

- **Europe**: 2013 traffic 7.4%, Added traffic 2014-2033 6.7%, Annual growth 4.9%
- **Middle East**: 2013 traffic 7.3%, Added traffic 2014-2033 6.7%
- **Within Africa**: 2013 traffic 8.3%, Added traffic 2014-2033 6.7%
- **North America**: 2013 traffic 6.1%
- **China**: 2013 traffic 7.4%
- **South Asia**: 2013 traffic 6.6%
- **Southeast Asia**: 2013 traffic 6.9%
- **Others**: 2013 traffic 7.4%

*Africa Traffic Growth: 5.3%*

*Africa GDP Growth: 4.7%*
Network structure is not optimised

- Africa’s current network structure means there are many un-served and underserved markets
- Current network structure requires circuitous routings
- Liberalization will allow more direct routes to be operated

**Figure 6-5: Flying Algiers to Lagos**

- SOURCE: Transforming Intra-African Air Connectivity  InterVISTAS / IATA

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Estimate demand
Global Market Allocation System (GMAS)

• GMAS forecasts probability of passenger choice for all worldwide known O&D paths
• GMAS models how passengers choose flights
• Passengers prefer:
  • Shortest elapsed times
  • Least number of stops
  • Efficient connections (Alliance)
  • Online connections
  • Time-of-day schedules
• Business travelers are schedule sensitive, while leisure travelers are relatively more price sensitive

• GMAS does not model for frequent-flyer attraction, bonus offers, marketing tactics, sales promotions and new market stimulations
Liberalisation

New Routes and Frequencies

Shorter Travel Times

Lower Fares

Air Traffic Growth

Increased Tourism

Increased Trade

Inward Investment

Enhanced Productivity

Economic Growth (GDP)

Job Growth

SOURCE: Transforming Intra-African Air Connectivity  InterVISTAS / IATA
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New routes allow faster, more efficient travel

<table>
<thead>
<tr>
<th>Route</th>
<th>Travel Time Before Liberalisation</th>
<th>Travel Time After Liberalisation</th>
<th>Time Saving</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Elizabeth (South Africa) -</td>
<td>5-6 Hours (1-Stop)</td>
<td>2.5 Hours (Direct)</td>
<td>2.5-3.5 Hours</td>
</tr>
<tr>
<td>Windhoek (Namibia)</td>
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<tr>
<td>Port Harcourt (Nigeria) - Accra (Ghana)</td>
<td>5 Hours (1-Stop)</td>
<td>1.5 Hours (Direct)</td>
<td>3.5 Hours</td>
</tr>
<tr>
<td>Addis Ababa (Ethiopia) - Port Harcourt (Nigeria)</td>
<td>9-10 Hours (1-Stop)</td>
<td>5 Hours (Direct)</td>
<td>4-5 Hours</td>
</tr>
<tr>
<td>Cairo (Egypt) - Port Harcourt (Nigeria)</td>
<td>9-12 Hours (1-Stop)</td>
<td>5.5 Hours (Direct)</td>
<td>3.5-6.5 Hours</td>
</tr>
<tr>
<td>Dakar (Senegal) - Abuja (Nigeria)</td>
<td>6-7 Hours (1-Stop)</td>
<td>4 Hours (Direct)</td>
<td>2-3 Hours</td>
</tr>
<tr>
<td>Luanda (Angola) - Durban (South Africa)</td>
<td>6-7 Hours (1-Stop)</td>
<td>3.5-4.0 Hours (Direct)</td>
<td>2.5-3.5 Hours</td>
</tr>
</tbody>
</table>

SOURCE: Transforming Intra-African Air Connectivity InterVISTAS / IATA
Open Skies agreements promote growth

- Impact of Morocco-EU Open Skies on Air Capacity
Liberalisation in Africa could promote huge growth

- Potential growth in passenger traffic after liberalisation

SOURCE: Transforming Intra-African Air Connectivity  InterVISTAS / IATA
787 Dreamliner opening new markets around the world

As of June 30, 2014

Current new nonstop routes flown with the 787:

<table>
<thead>
<tr>
<th>Route</th>
<th>Operator</th>
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</thead>
<tbody>
<tr>
<td>Delhi-Birmingham (AI)</td>
<td></td>
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<tr>
<td>Houston-Lagos (UA)</td>
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<tr>
<td>Tokyo-San Jose (NH)</td>
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<tr>
<td>Stockholm-Fort Lauderdale (DY)</td>
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<td>Delhi-Melbourne (AI)</td>
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<td>Addis Ababa-Dulles (ET)</td>
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<td>Stockholm-Bangkok (DY)</td>
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<tr>
<td>Delhi-Sydney (AI)</td>
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<td>Tokyo-Boston (JL)</td>
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<td>Oslo-Bangkok (DY)</td>
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<td>Oslo-New York (DY)</td>
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As of June 30, 2014
Thank you!