



Enhancing Tourism Competitiveness through Improved Air Connectivity

Presented by:

UNWTO / ICF International



Feria Internacional de Turismo
International Tourism Trade Fair

International Tourism Fair
Madrid, 20-24 January, 2016



Agenda

1. Aviation Industry Overview
2. Improving Air Connectivity through Air Service Development (ASD)
3. Airline Route Planning Process
4. Conducting a Route Forecast
5. Example Business Case



Introduction to ICF

ICF is one of the most experienced global aviation and aerospace consultancies



Airports • Airlines • Aerospace & MRO • Asset Advisory

- **52 years in business (founded 1963)**
- **100+ professional staff**
 - Dedicated exclusively to aviation and aerospace
 - Blend of consulting professionals and experienced aviation executives
- **Specialized, focused expertise and proprietary knowledge**
- **Broad functional capabilities**
- **More than 10,000 private sector and public sector assignments**
- **Backed by parent company ICF International (2014 revenue: US\$1.05 billion)**
- **Global presence**

New York • Boston • Ann Arbor • London • Singapore • Beijing • Hong Kong



SH&E

an ICF International Company

joined ICF in 2007

AeroStrategy
Management Consulting

joined ICF in 2011

G | H | K

joined ICF in 2012

Our client base spans the aviation industry, giving us a holistic view of the industry

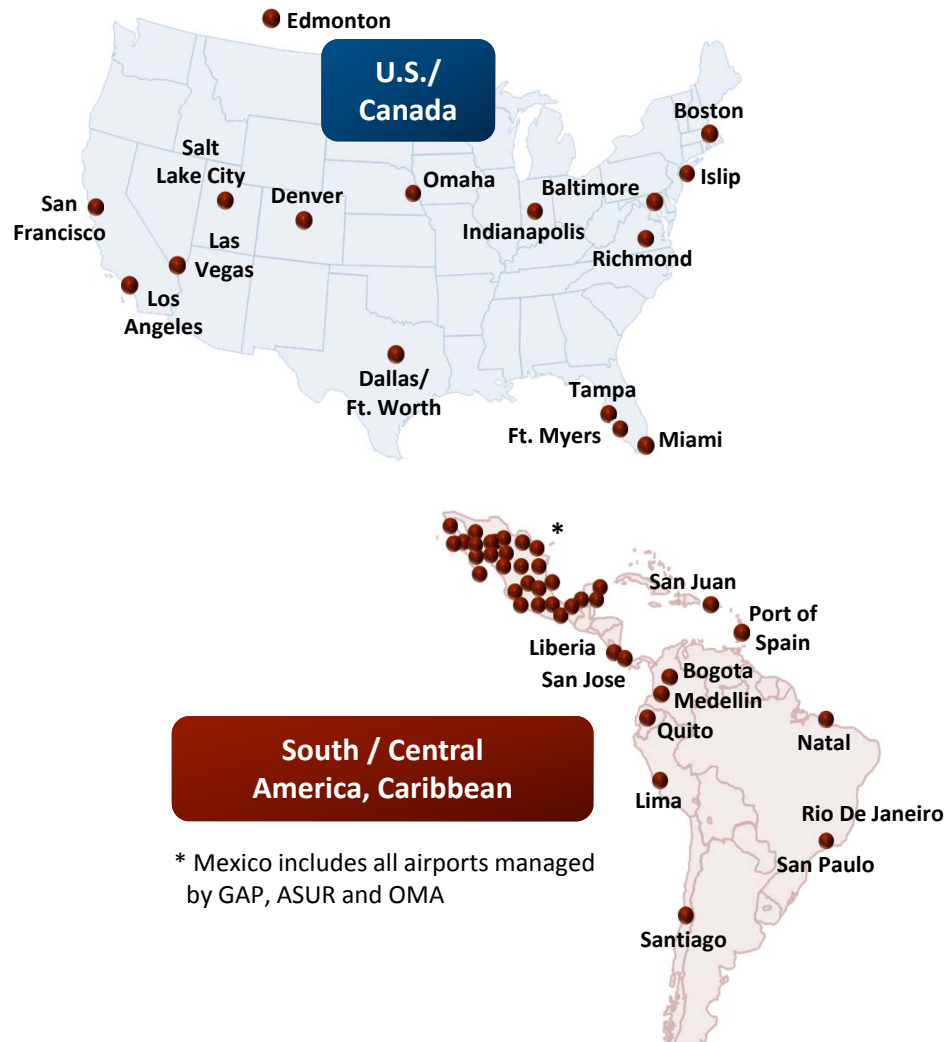
- International and regional passenger airlines
- Major and regional airports
- Tourism ministries and agencies
- National, regional and local governments
- Air cargo, express, and integrated logistics operators
- IT, equipment, and service providers
- Airframe, engine, and avionics suppliers
- Aircraft leasing companies
- Investors and financial institutions
- Booking, distribution, and travel services
- Maintenance, Repair, and Overhaul industry
- Corporate and business aviation



ICF offers an unmatched global airline client list and network of airline contacts



We are especially strong in international air service experience and support



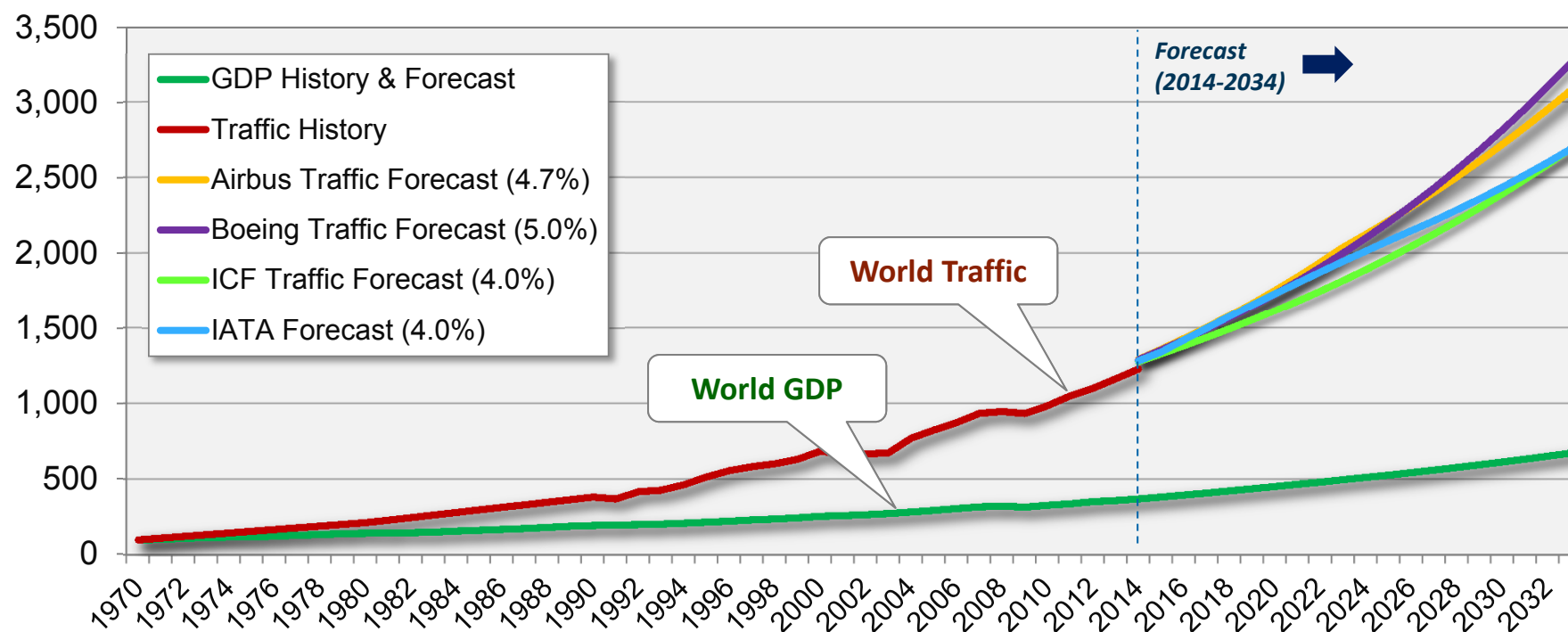


Aviation Industry Overview

World air traffic growth has *outpaced GDP growth* – a trend that is forecast to continue well into the future

World GDP Growth and Air Transport World Traffic (RPKs)

Indexed: 1970 = 100

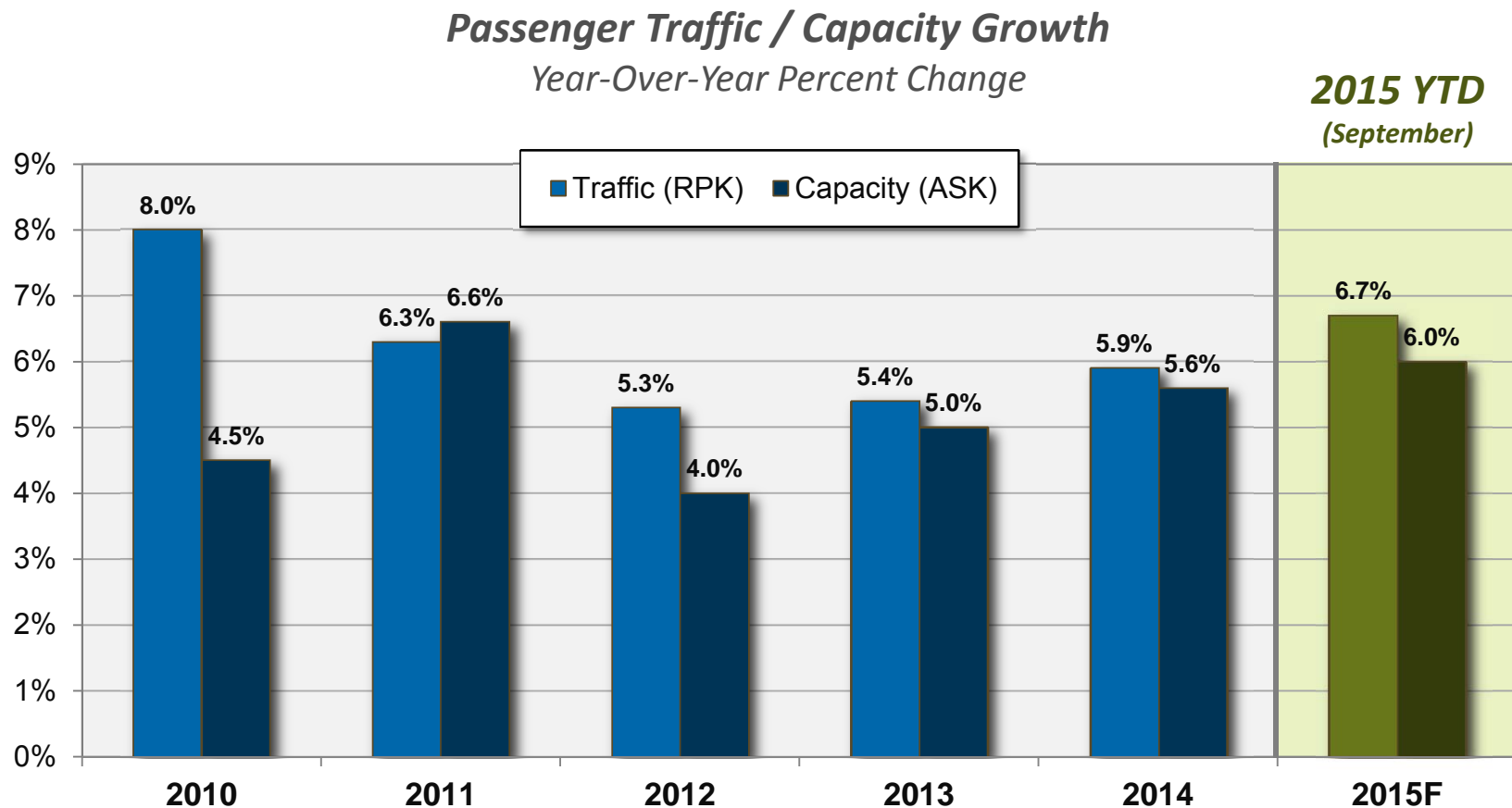


ICF's traffic forecast allows for lumpy economic growth and a weakening of the low-cost carrier cycle

Note: RPK (Revenue Passenger Kilometer): number of paying passengers x kilometers flown

Source: Airline Monitor, February 2015; Oxford Economics; World Economic Outlook, Airbus/Boeing/Embraer Market Outlooks, ICF 2014

Airlines appear to have found the art of “*capacity discipline*” in recent years, much to the delight of investors

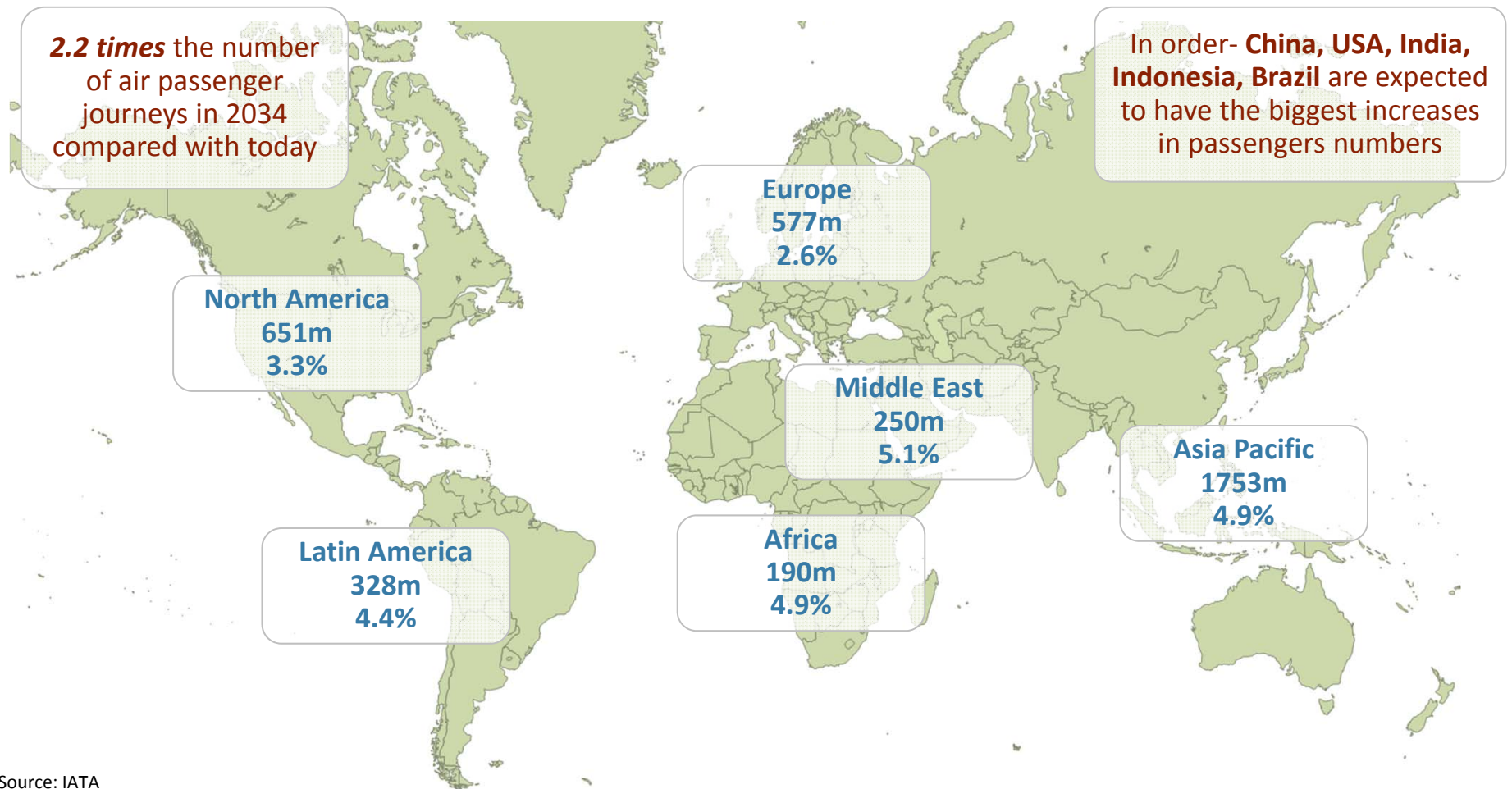


As a result, average load factor has not dropped below 78% for over two years

Source: IATA Air Transport Market Analysis – Dec reports from 2010-2014, September report for 2015

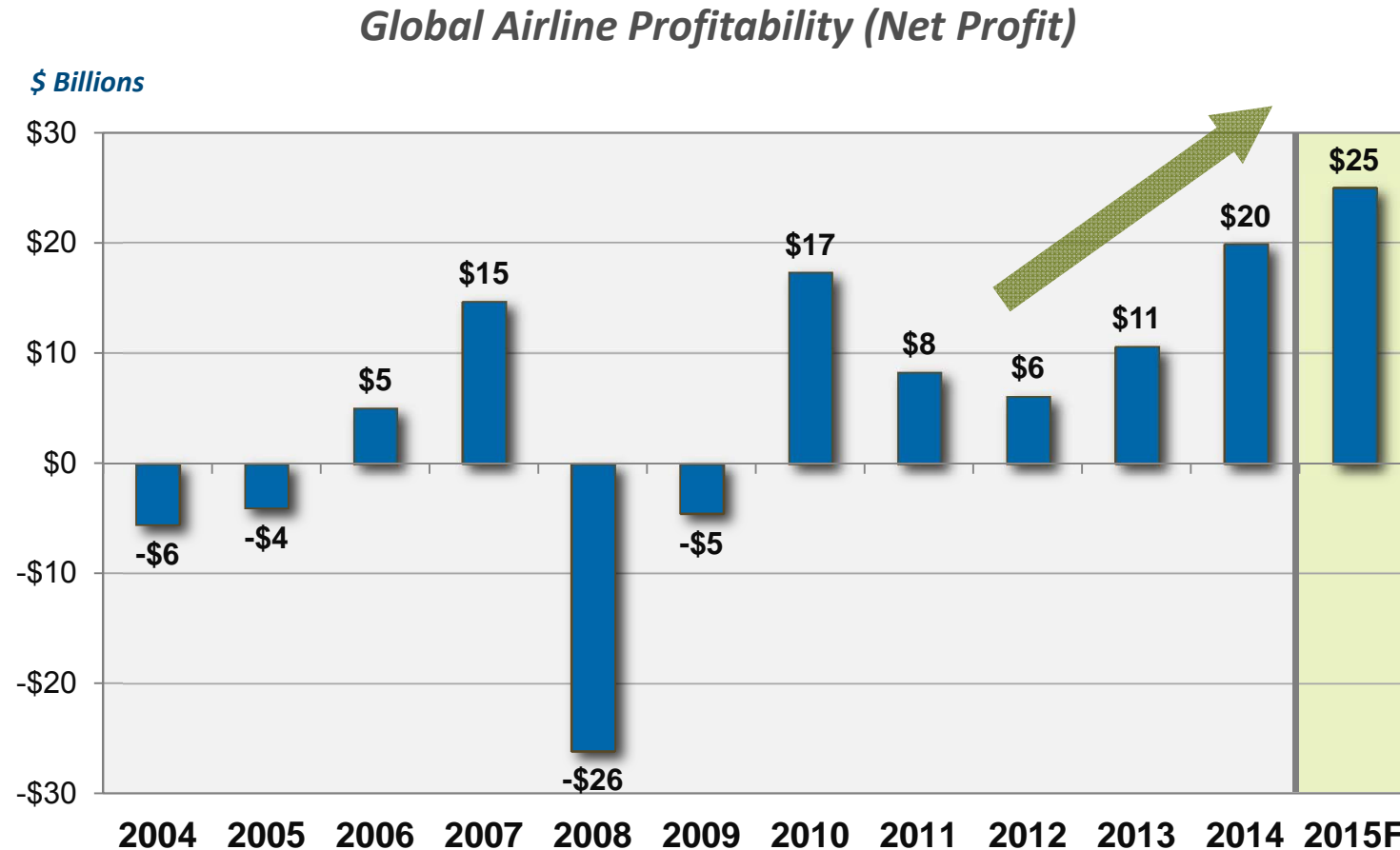
In the next 20 years, IATA forecasts a *4.0% annual average growth* in global air passenger journeys – *differing by region*

Growth and change in passenger journeys by region
(% and million, 2014-2034)



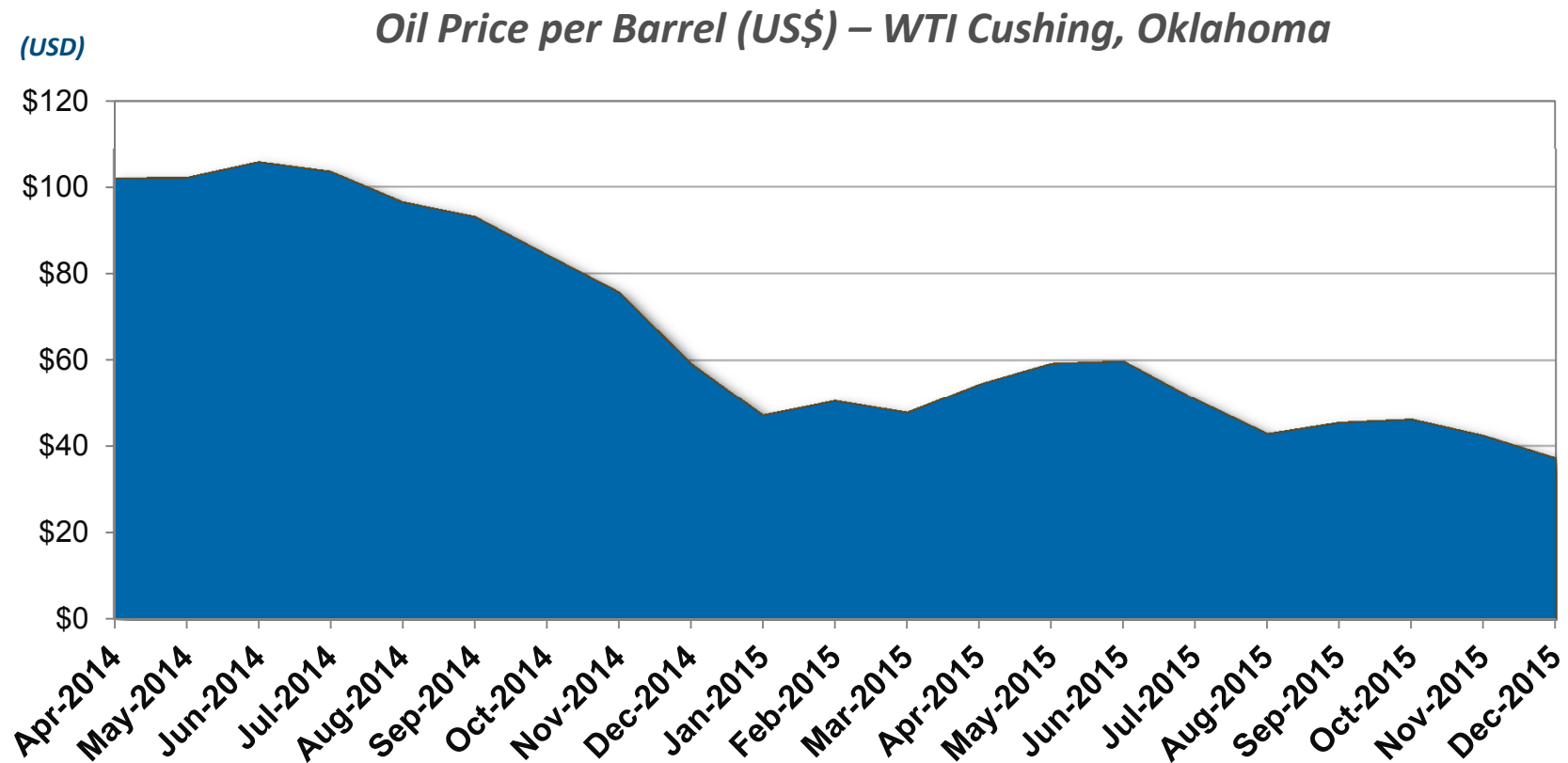
Source: IATA

Driven by capacity discipline, airline consolidation, and lower fuel costs, the industry has *successfully returned to profitability*



Source: IATA Central Forecast Dec 2014

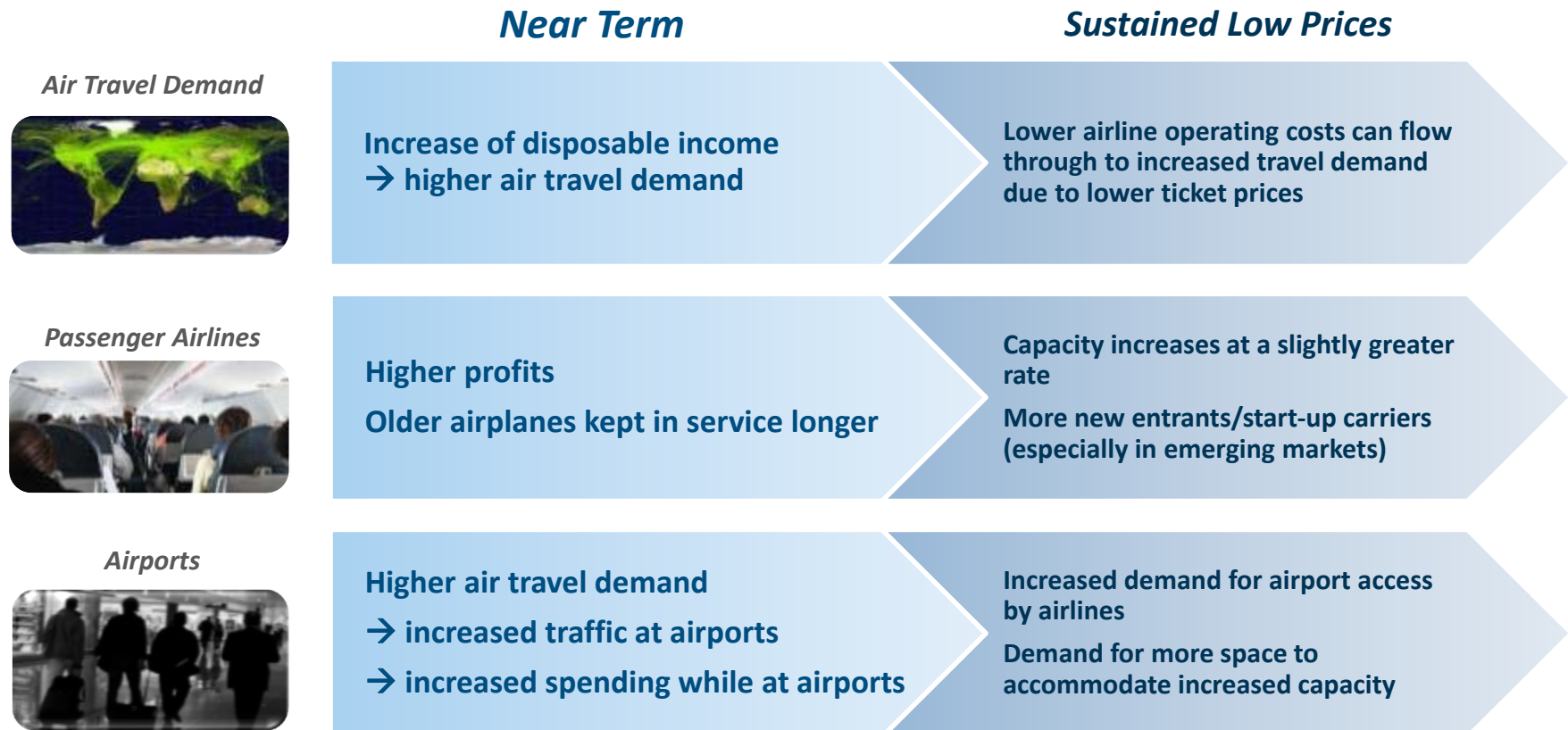
Aviation fuel costs have *dropped significantly* during the past years to below \$40/bbl (65% lower than summer 2014)



If sustained, low fuel prices could bring dramatic changes to the industry

Source: U.S. EIA data of January 18, 2016

ICF sees *a number of potential impacts* on aviation if low oil prices are sustained

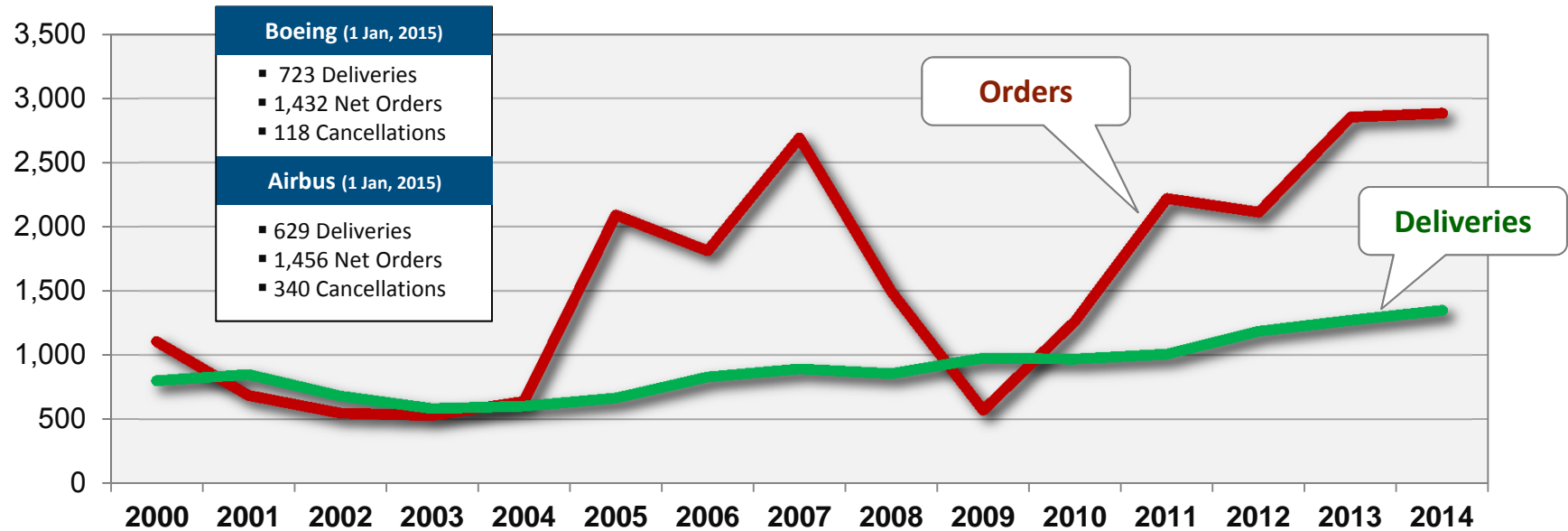


Industry consensus is it's too early to tell if the reductions will be long-term

Source: ICF research

For aircraft manufacturers, the past two years have seen *record order and delivery numbers*

*Boeing and Airbus Aircraft Orders and Deliveries
(2000-2014)*



- Despite significant ordering in 2005-2008, aircraft manufacturers have only recently increased production, substantially increasing the industry backlog
- Orders rebounded in 2011 and in 2012 for Airbus and Boeing respectively – particularly as new generation products like the A320neo and 737 MAX came to the market; production rates of existing aircraft are increasing prior to introduction of re-engined aircraft

Source: Airbus, Boeing, ACAS

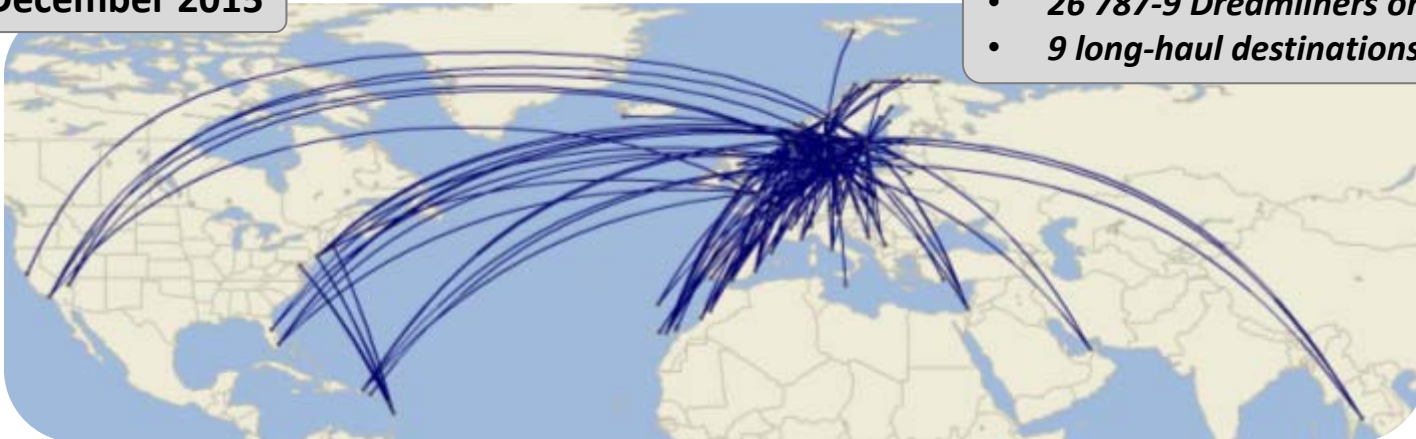
Airline strategy continues to evolve – *a new long-haul, low cost model has emerged*



December 2013



December 2015

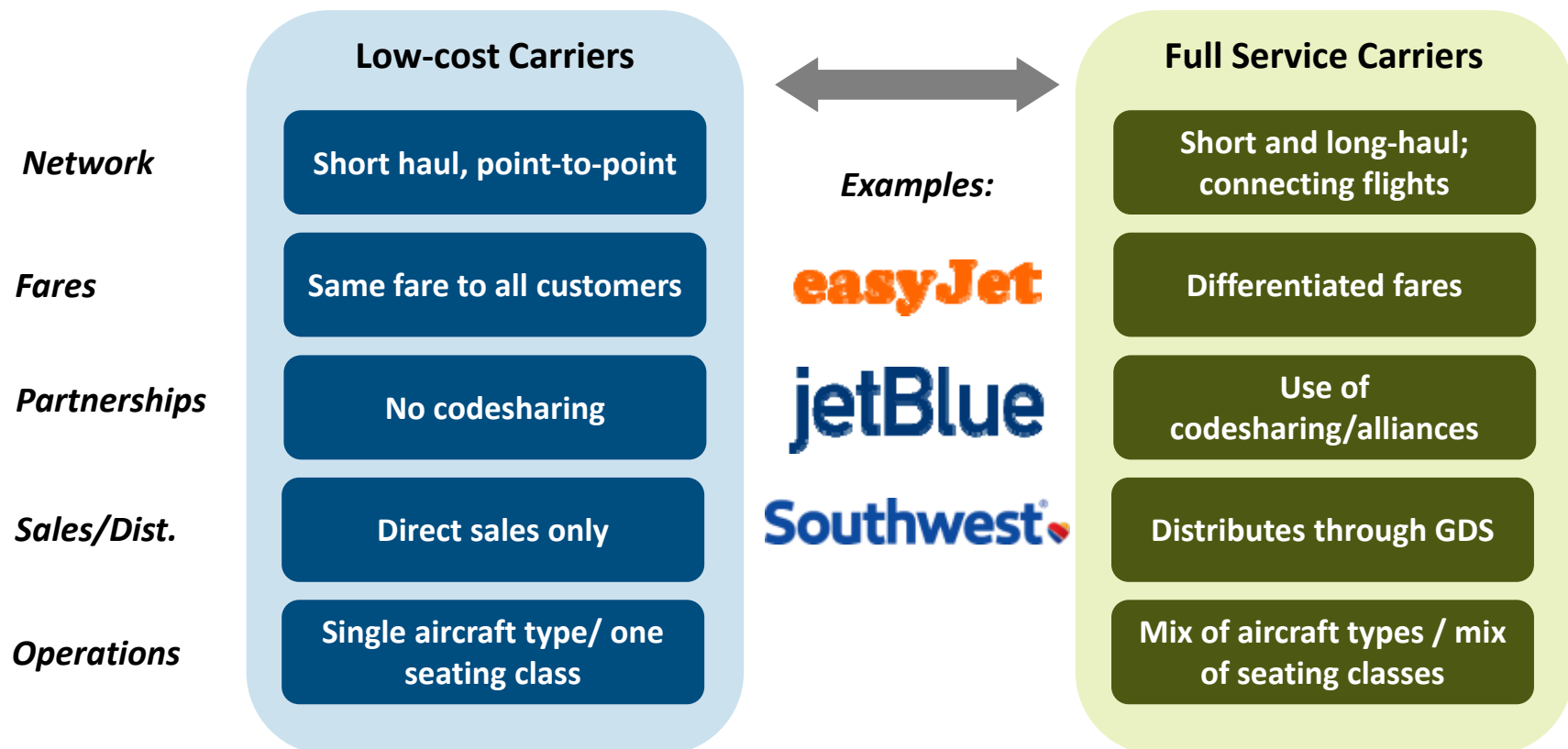


- *26 787-9 Dreamliners on order*
- *9 long-haul destinations added*

Note: Aircraft includes those place by operator and by lessors assigned to operator; Source: Innovata; CAPA

Airline strategy continues to evolve – *hybrid low cost carriers are blurring the line between full service carriers and pure low-cost carriers*

New hybrid model: combination of cost savings methodology of pure LCCs with the services, flexibility, and routes structure of full service carriers



Source: Innovata

Airline strategy continues to evolve – *New global network carriers have emerged to challenge existing players*



December 2008



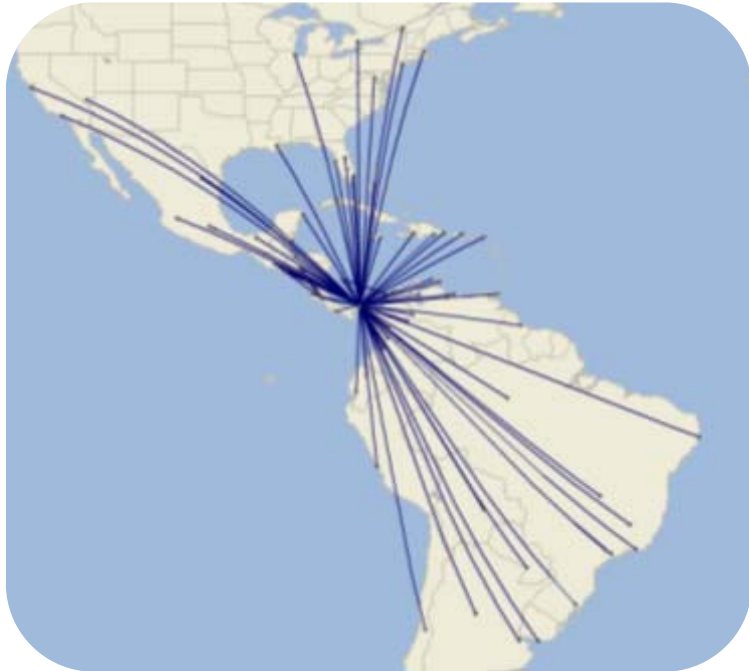
December 2015



Source: Innovata

Regional network carriers have *found their niche and are flourishing – serving secondary markets not touched by global network carriers*

CopaAirlines 




الخطوط الملكية المغربية
royal air maroc



Source: Innovata

What is *the aviation outlook beyond 2015?*



- **The air transport industry enjoys solid growth drivers, including:**

- Population growth
- Increasing air service liberalization
- Economic dynamism of emerging countries



- **Global economic expansion is expected to continue, which in turn will drive air travel demand, though performance will vary by region:**

- North America is leading the economic global acceleration
- Eurozone is finally gaining momentum
- Despite concerns of economic slowdown in China, Asia remains a high growth region
- Latin American economies dependent on natural resources have slumped recently, though the long-term trend is positive



- **Low cost carrier (LCCs) expansion is another aspect of the market structure that will evolve. Low cost carriers are poised to take advantage of the growing middle classes in emerging markets that are flying for the first time**

Source: Airbus



Connecting your Destination through Air Service Development

What is Air Service Development (ASD) and what are *its primary objectives*?

Proactive strategy to influence airlines' decision-making process and increase air service by communicating the strengths of your destination – while talking to airlines in their own “language”

OBJECTIVES:

- **Create** new first-time flights
 - New markets; New airlines
- **Maintain** existing flights
 - Monitor current performance
 - Stay in contact with the airlines
- **Promote** growth
 - More frequencies; Larger aircraft; Better schedule

WHO:

- **ASD programs can be run by:**
 - An airport, a destination, a region or at the national level
 - Should include multiple stakeholders so the destination talks with one-voice
- **For all types of destinations:**
 - Leisure, religious, cultural, etc.

Why does your airport/destination *need an Air Service Development Program*?

Your destination is competing with thousands of other destinations for air service – airlines have limited fleets and resources!

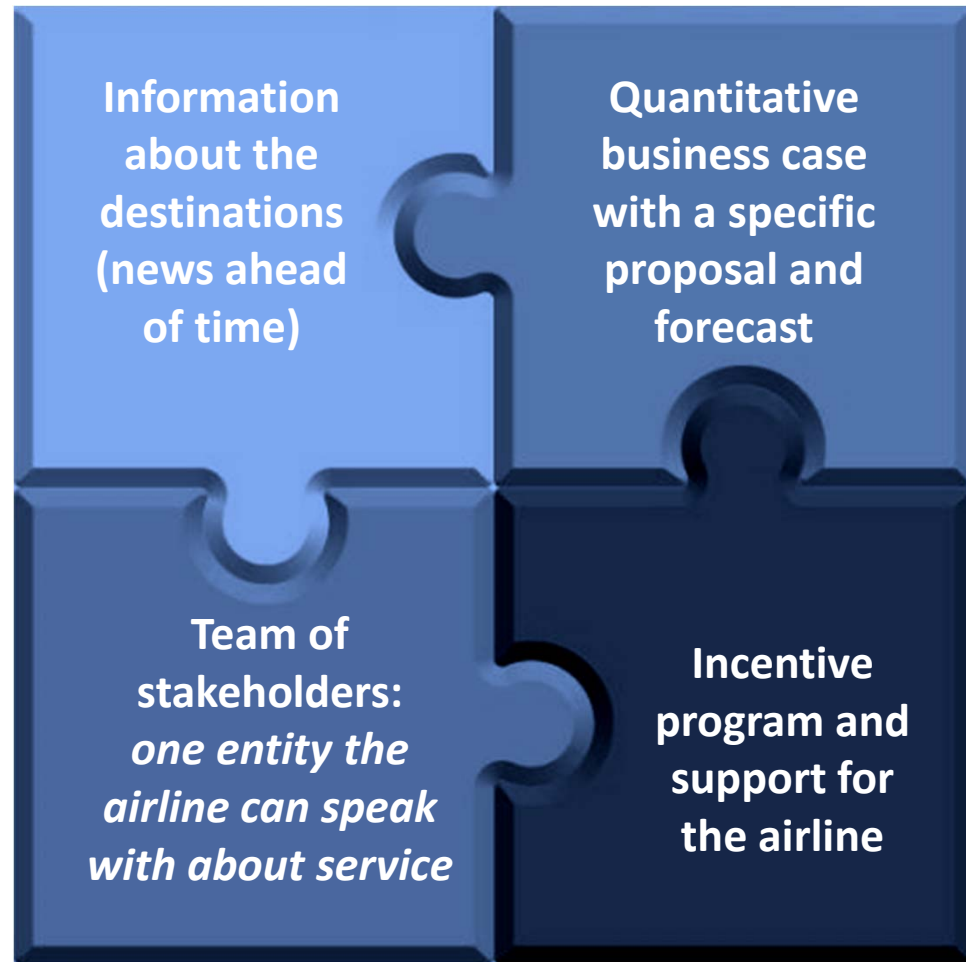
Airports Around the World – Traffic Density



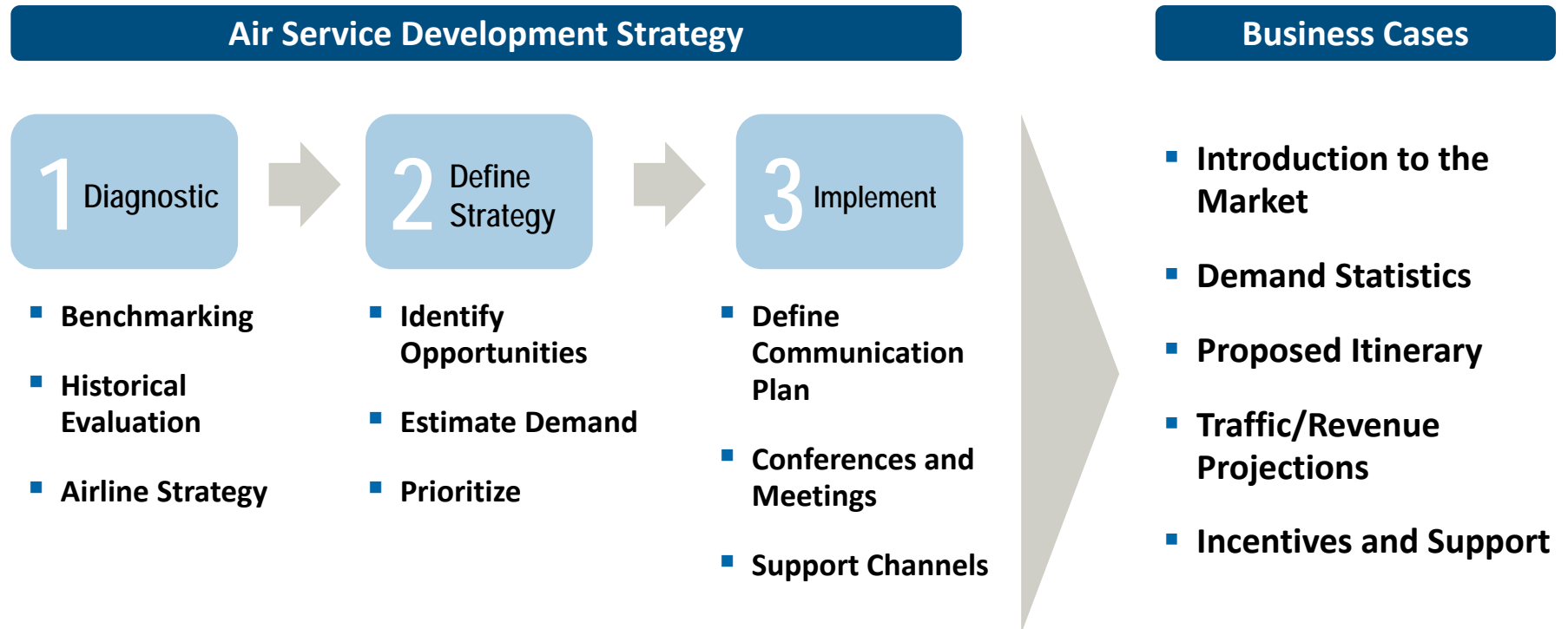
What does an *ASD* program consist of?

- Ongoing Communication with Airlines and Operators – *Not just one time!*
- Talk to airlines in their own language – *with their own metrics and methodologies*

- A well-coordinated effort that combines:



Air Service Development strategy involves a *diagnostic* of the market, establishing a *strategy* and creating an *implementation plan*



The Business Cases are the key tool for executing your Air Service Development Strategy

The *diagnostic* of the airport environment is an essential step in identifying new opportunities for air service

- **Benchmarking**

- Compare the service offering (destinations, airlines, frequencies) of your airport vs. competitors in the same region

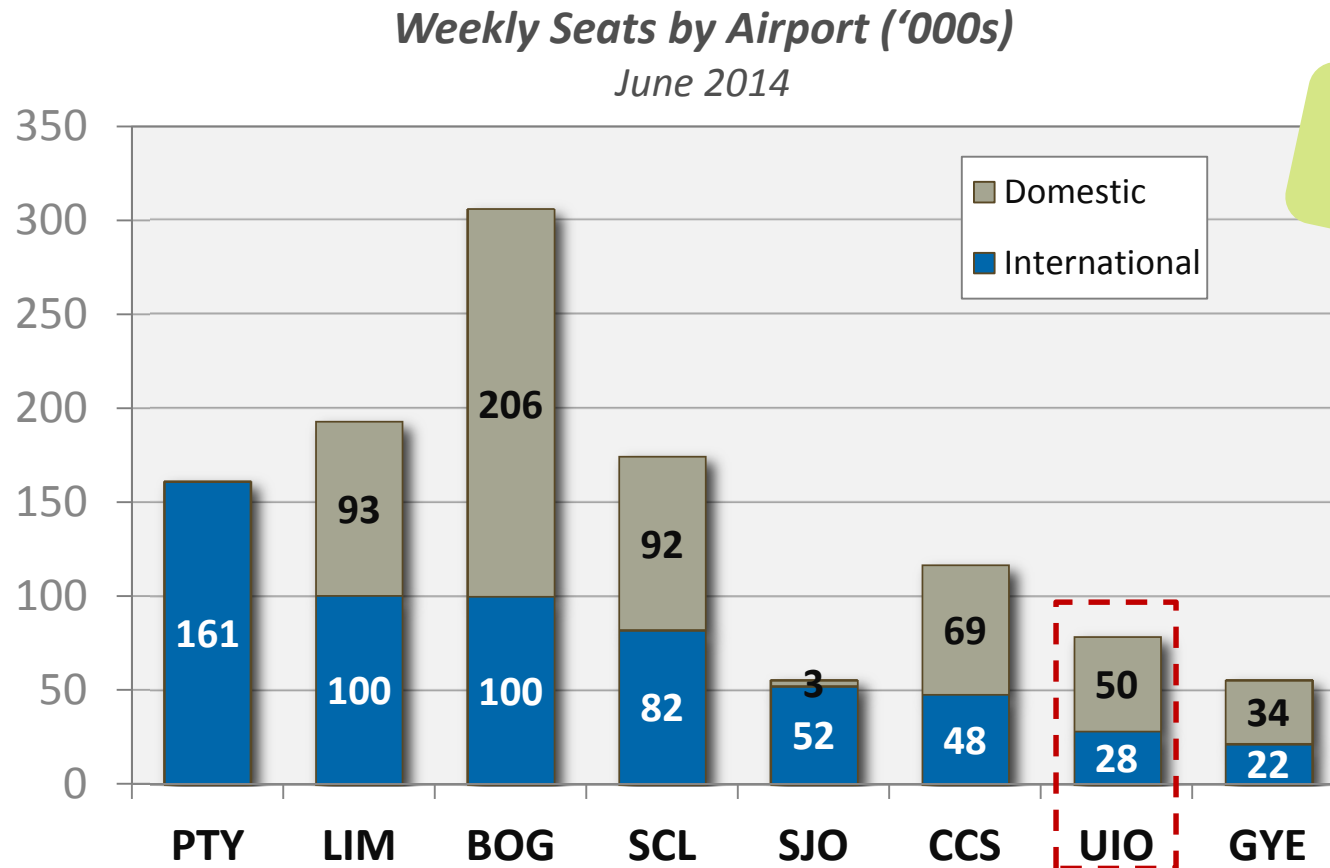
- **Historical evaluation of traffic and service offering**

- Understand where the growth is, what hasn't worked, where there is potential for growth, etc.

- **Airline Strategy**

- Understand how airlines operate (Hub, point to point), evolution of alliances, aircraft orders, etc.

Example: Comparison of Quito's international service vs. other airports in the region



Illustrative Example

UIO has a lower international service offering than its competitors

Source: OAG

The diagnostic allows you to *define a strategy*, focusing on and prioritizing objectives to increase air service

- **Identify potential routes and airlines**
 - What existing routes merit additional service?
 - What new routes do I want to promote?
 - What airlines do I want to attract?
- **Estimating Origin-Destination demand**
 - This is the key element of air service development that allows you to:
 - *Determine the volume of traffic in the local market and beyond-hub*
 - *Understand the seasonality of traffic*
 - *Identify the point of sale*
- **Establish priorities**
 - Prioritize opportunities in the short, medium, and long-term
 - Understand the effort needed to achieve each objective

Lastly, the best method of *implementing* the strategy should be determined – attending meetings and taking advantage of other support channels

- **Define how to contact the airlines of interest**
 - Conferences and/or direct meetings with airlines
 - Begin with the regional office or directly with headquarters?
 - Contacting the right people saves time: Planners
- **Choose the conferences/frequency of attendance that best fit your strategy**
 - Regional, global conferences
 - *Routes, Jumpstart, Tourism conferences for vacation markets*
 - How many times per year?
- **Take advantage of external support channels**
 - What other stakeholders can support the effort to develop air service?

Elements of an *effective* Business Case

Information Promoting your Market

- Economic, demographic, tourism, etc. trends
- Developments that will generate new traffic

Summary of Existing Service and Demand

- Existing service
- Historical traffic growth
- Market size

Fit with the Airline's Strategy

- Comparison with other similar markets operated by the airline

Route Forecast

- Schedule / Aircraft
- Passengers (local and connecting)
- Revenue
- Impact on other routes (if applicable)

Support for the New Route

- Incentives
- Marketing assistance
- External support channels

Airport Information

- Runway and terminal specifications
- Rates and charges

Risk sharing and commitment are *sought by many airlines*, by way of financial incentives



■ Financial incentives from the airport can take many forms:

- Discounts on traditional airport fees
- Creative solutions (e.g. rebates, fuel savings)
- Pre-purchase of airline tickets by local businesses for future use
- Revenue and profitability guarantees
- Funds for advertising and promotion



■ Other Stakeholders

- Discounts on hotel, transportation and meals for airline crew overnights
- Preferential rates for airline vacation programs at hotels and tourist attractions



■ Examples of airport discounts

- | | |
|----------------------|--|
| — Landing Fees | — Parking |
| — Security screening | — Rental of check-in counters and office space |
| — Jet-bridge | |

Growing Air Service Usually Requires You...

- **Work with an Air Service Committee of stakeholders**
 - If you don't have one, start one!
- **Include Air Service planning – far in advance**
- **Talk to airlines and operators regularly**
 - Have an ongoing relationship with them
 - Tell them things they don't know
 - Give them concrete proposals and financial incentives
 - The destination should speak with one voice and present unified proposals
 - Attend “Routes” conferences, both global and regional
 - Attend relevant tourism conferences such as ITB, FITUR, World Travel Market

If you are not sure of how to do these things, ask for help!

Golden Rules:

1

Do not assume that airlines and operators have enough staff or enough information to be evaluating your market regularly – they don't!

2

Airports and destinations must be continually supplying information and making proposals in order to stay “top of mind”

3

Remember that you are competing with (many) other destinations and airports for limited airline capacity



Airline Route Planning Process

In order to make logical and interesting route proposals to airlines, it's important to understand how airlines think

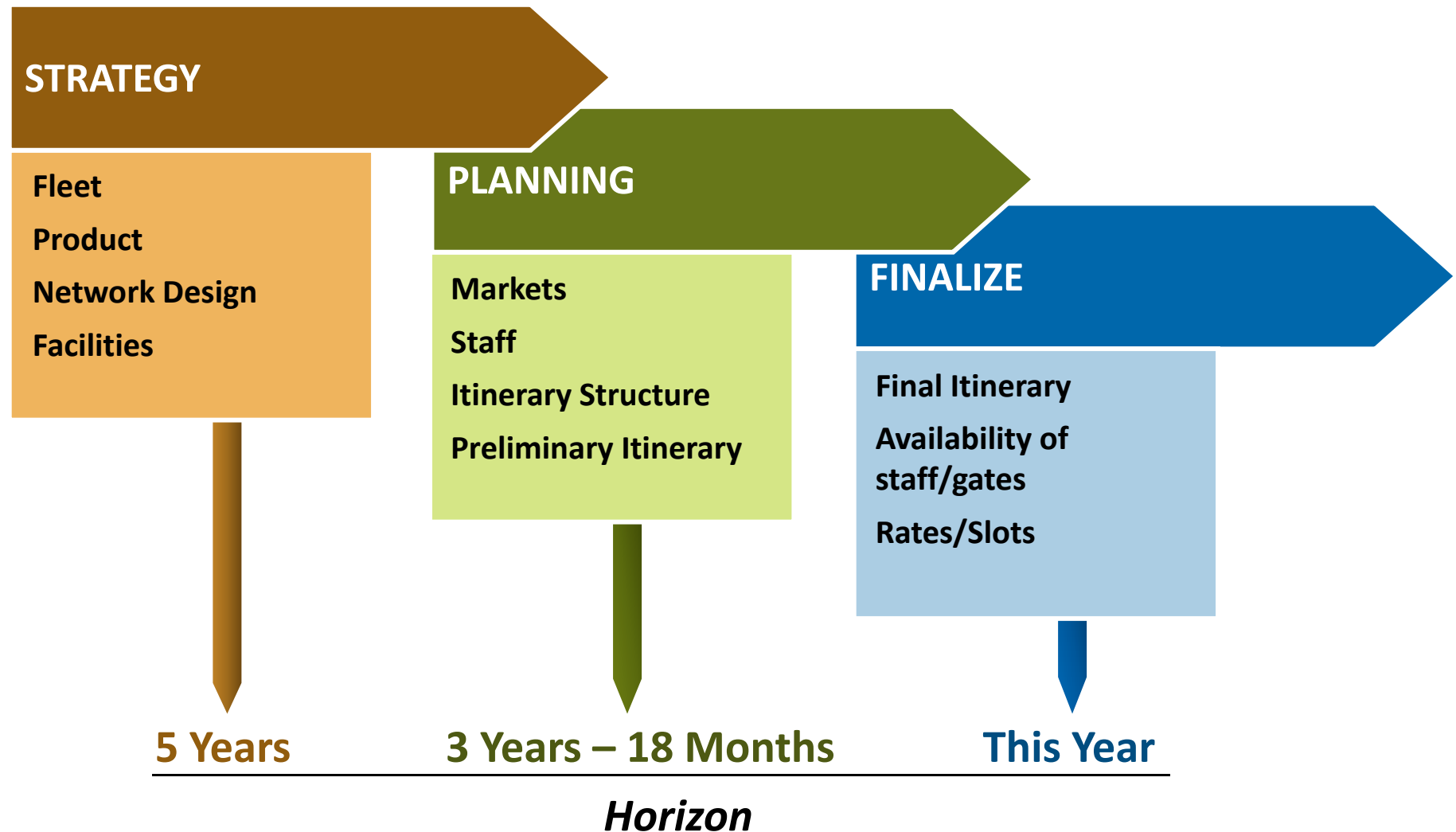
Traditional Airlines

- Formal planning process
- Centralized planning process with little input from regional offices
- Various planning levels with different time horizons
- Expansion plan guided by long-term strategy
- Focused on profitability

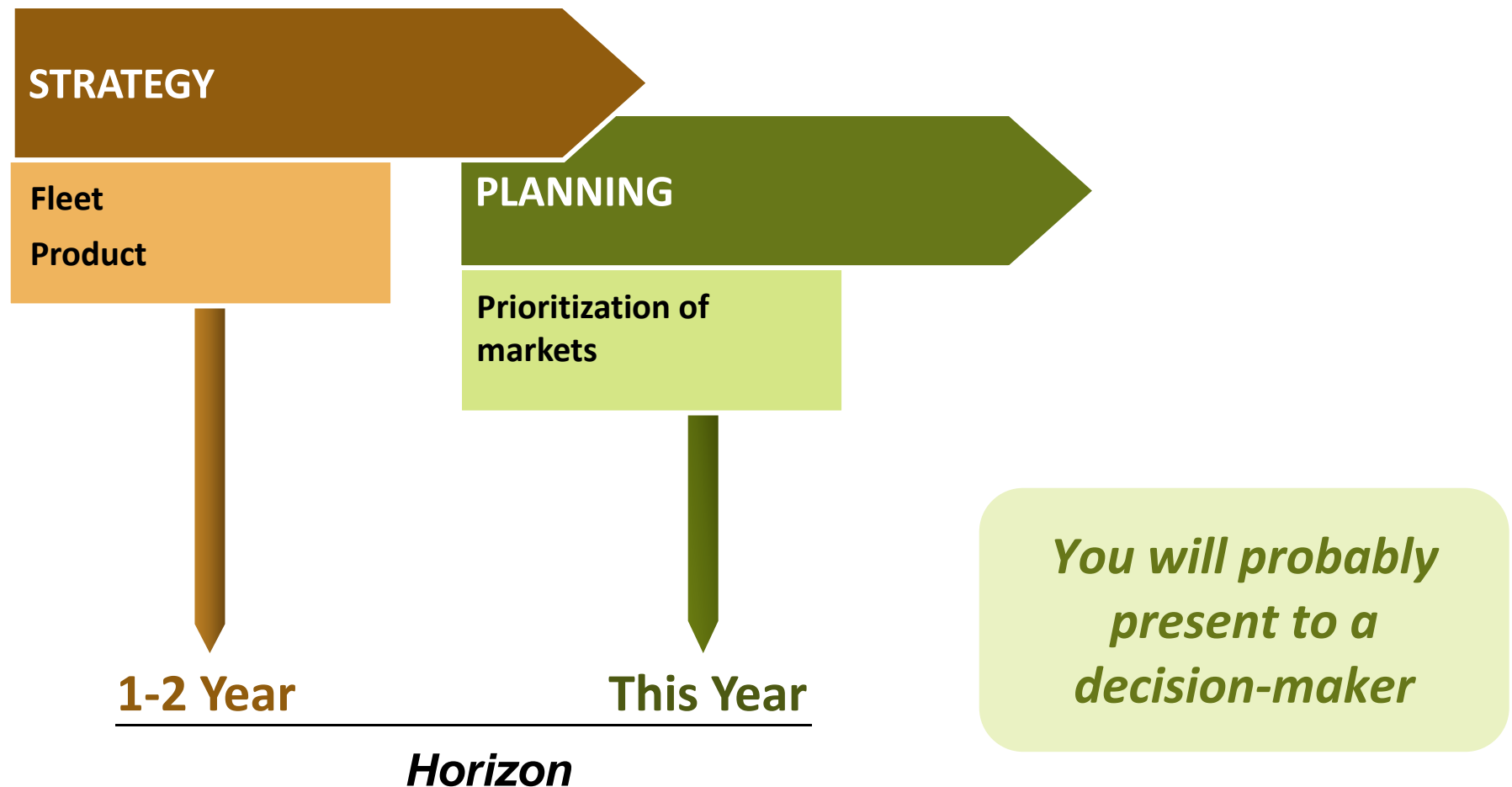
“Niche” Airlines

- Less formal process
- Value the input of their regional representatives
- Few decision makers
- Expect to share the risk (with the airport, tour operators, etc.)
- Focused on growth
- Focused on high volumes of traffic

The planning process for a traditional airline is long...



...While for “niche” airlines, the process is more streamlined



What do airlines consider when evaluating a new route?



■ Network Strategy

- Net new aircraft (orders minus retirements)
- Hub(s) structure
- Strategy for short/long haul
- Alliance strategy

■ Risks and Opportunities

■ Financial Position

- Liquidity
- Costs and revenue vs. competitors

How does an airline decide to deploy its fleet?

- **If an airline doesn't increase its active fleet, new service can only be added if an existing service is cancelled**
 - It is difficult to create new international service by increasing the fleet's utilization (i.e., the hours operated)
- **New (net) aircraft can be used for:**
 - Increase frequencies on existing routes
 - *No route development costs*
 - Increase the aircraft size on an existing route
 - *No route development costs*
 - Open a new route/destination
 - *Requires investment in staff, offices, marketing, etc.*



For airlines, route planning is a question of finding the best use of limited resources

- **For the airport, the question is whether there is or is not demand**
 - Can a high load factor and good fare be achieved?
- **For the airline, traffic and profitability are just the beginning**
 - Do we have the right aircraft?
 - Does the route fit within our network strategy?
 - *Independent*
 - *Our alliance*
 - Is the risk – reward trade-off acceptable?
 - How does this opportunity compare with others?

What chance does an airport have in influencing the decision-making process of an airline?

The Goals of the airline...

- **Minimize risks associated with opening a new route**
- **Make the best use of limited resources**
 - Aircraft and staff
 - Planning analysts (*important: airlines cannot assess all opportunities*)
- **Identify and analyze hundreds of new route opportunities**
 - Participation in route development conferences demonstrates that airlines seek help in this process

...are Opportunities for the airport

- **Reduce or share the risk**
 - Reduce airport costs
 - Marketing assistance
 - Economic incentives for the route
- **Demonstrate a commitment to the client's needs**
 - Efficient operations
 - Modern and well-maintained infrastructure
- **Identify opportunities through a logical, quantitative, and convincing *Business Case***



Conducting a Route Forecast

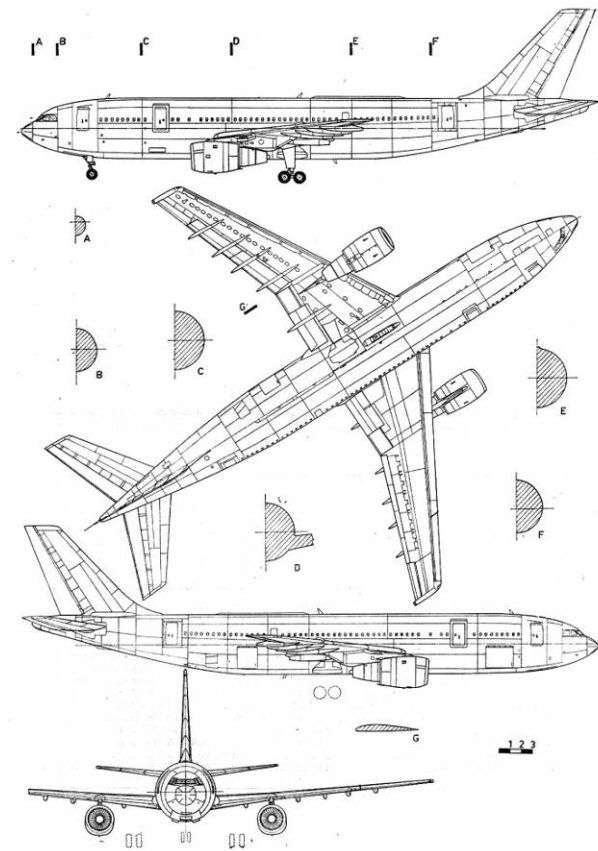
Overview of the route forecasting process

- **Identify potential markets**
- **Choose the aircraft type for the airline/market**
- **Collect data on existing demand and service offered**
- **Define assumptions for the forecast**
 - Suggested itinerary
 - Growth rate of traffic
 - Average fare
 - Market share

Considerations when choosing the proposed aircraft

Key Factors

- Aircraft range
- Size corresponds to level of demand
- Aircraft used by the airline in similar markets
- Orders and delivery schedule
- Operating restrictions
 - Runway length
 - Height above sea level, temperature
 - Noise restrictions



Example of aircraft range analysis

Illustrative
Example

Preliminary Analysis of Aircraft Range

Engine		CF6-80C2B7F	GE90-94B	GE9x-1B70	CFM56-7B26	CFM56-7B27-B1	PW2040
Capacity		218 PAX @ 210 lb	300 PAX @ 210 lb	242 PAX @ 210 lb	126 PAX @ 210 lb	162 PAX @ 210 lb	201 PAX @ 210 lb
Distance (nm)		767-300ER	777-200ER	787-800	737-700	737-800	757-200
Europe							
MAD	4,711		YES - 9,800 lb cargo				
AMS	5,148	NO	NO	NO			
CDG	5,043		YES - 520 lb cargo				
Latin America							
EZE	2,377	YES - 42,300 lb cargo			YES - 6,900 lb cargo	YES - 860 lb cargo	
SCL	2,058				YES - 10,400 lb cargo	YES - 4,800 lb cargo	
GRU	2,341				YES - 7,400 lb cargo	YES - 1,300 lb cargo	
North America							
EWR	2,446				YES - 6,200 lb cargo	YES - 70 lb cargo	YES - 12,260 lb cargo
YYZ	2,610				YES - 4,482 lb cargo		
LAX	3,024	YES - 26,600 lb cargo					
Asia							
ICN	8,143	NO	NO	NO			

Identify local and connecting markets (on the same airline or multiple airlines) what will feed the proposed route

Possible Passenger Flows

- Local
- Connecting

Types of Connections

- Online
- Interline
- With Code Share partners

Estimate the size of the Origin – Destination market: the *essential ingredient* for making a successful Business Case

Sources of Origin – Destination Traffic Data

■ PaxIS

- Captures tickets purchased through all travel agencies that participate in IATA's BSP and includes:
 - *Origin and Destination airports, Connecting airports*
 - *Airline that markets and operates each segment, Point of sale*
 - *Month of trip, Fare class*
- PaxIS supplier, IATA, estimates full market size

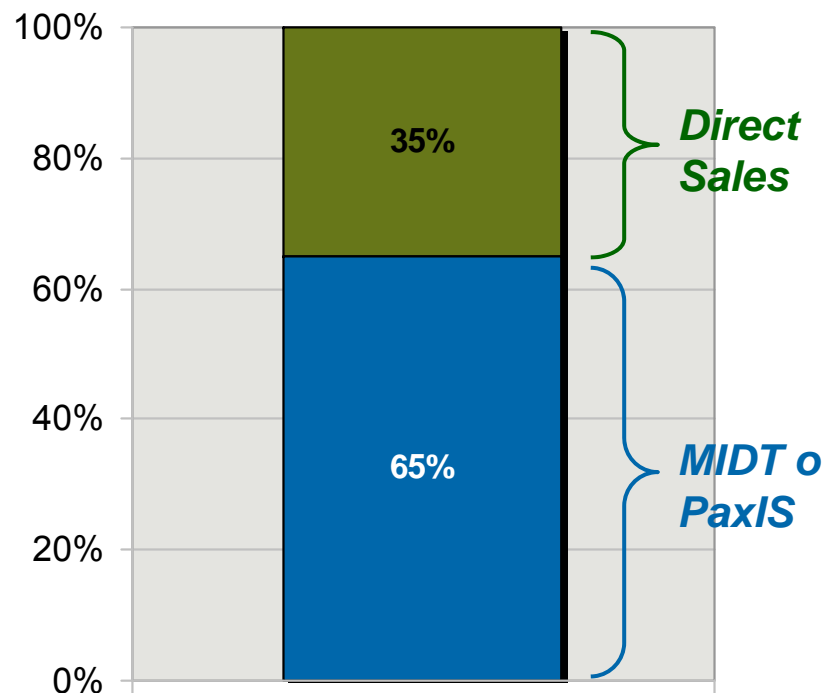
■ Market Information Data Tapes (“MIDT”)

- Captures reservation data from the primary GDS systems (Amadeus, Sabre, Worldspan y Galileo). The level of detail is similar to what is provided by PaxIS

However, neither MIDT nor PaxIS capture direct sales...

MIDT/PaxIS data should be *calibrated* to estimate direct sales

Example: Total O&D Demand



- **MIDT and PaxIS only capture sales made through GDS/travel agencies**
 - They do not capture direct sales made through airlines (website, reservation center, sales office, etc)
- **The penetration of MIDT and PaxIS depends on the market and airline**
 - It is estimated that MIDT and PaxIS capture 65% of international sales to/from the United States

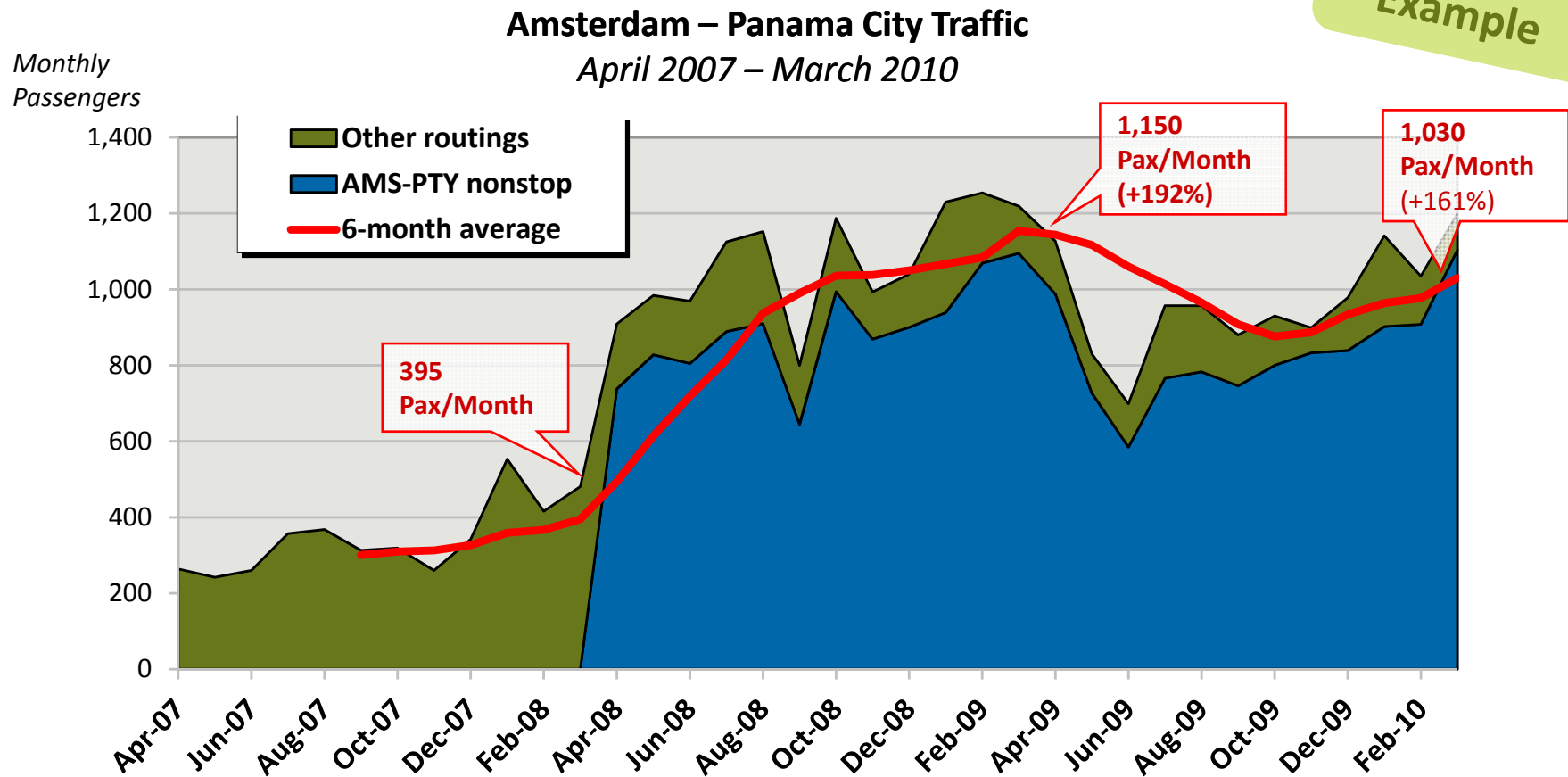
The calibration process requires complimentary statistics (see annex) and varies according to the market and the information available

After calculating the actual Origin – Destination traffic, the *demand stimulus* generated by the new service must be estimated

- **New nonstop flights typically stimulate traffic demand**
 - Stimulus is the result of easier market access and greater marketing of the destination (airlines, tour operators, etc.)
 - New service attracts new passengers, just as it allows existing passengers to travel more frequently (above all in the business segment)
- **A market's first nonstop flight can stimulate demand between 100% and 300%**
- **In addition to demand in the local market, it is common to see lesser stimulation in connecting markets, especially when the airline serving the new route has a strong presence in the connecting markets**

For example, KLM's entrance in the Amsterdam- Panama City market stimulated traffic

Illustrative Example



Source: MIDT, April 2007 – March 2010

Estimating average fares by origin – destination market

- **Both PaxIS and MIDT have information on average fares by market**
 - However, both sources tend to over estimate the fare as more price – sensitive passengers tend to use direct sales channels
- **Average fares by airline and market can also be found on the internet**
 - Travel agencies such as Expedia, Travelocity, Orbitz, etc.
 - Search engines such as Sidestep, Kayak, etc.
 - Airline websites
- **In order to estimate the average fare on the proposed route, it is recommended to use the best information possible for markets with a similar profile as a point of reference**

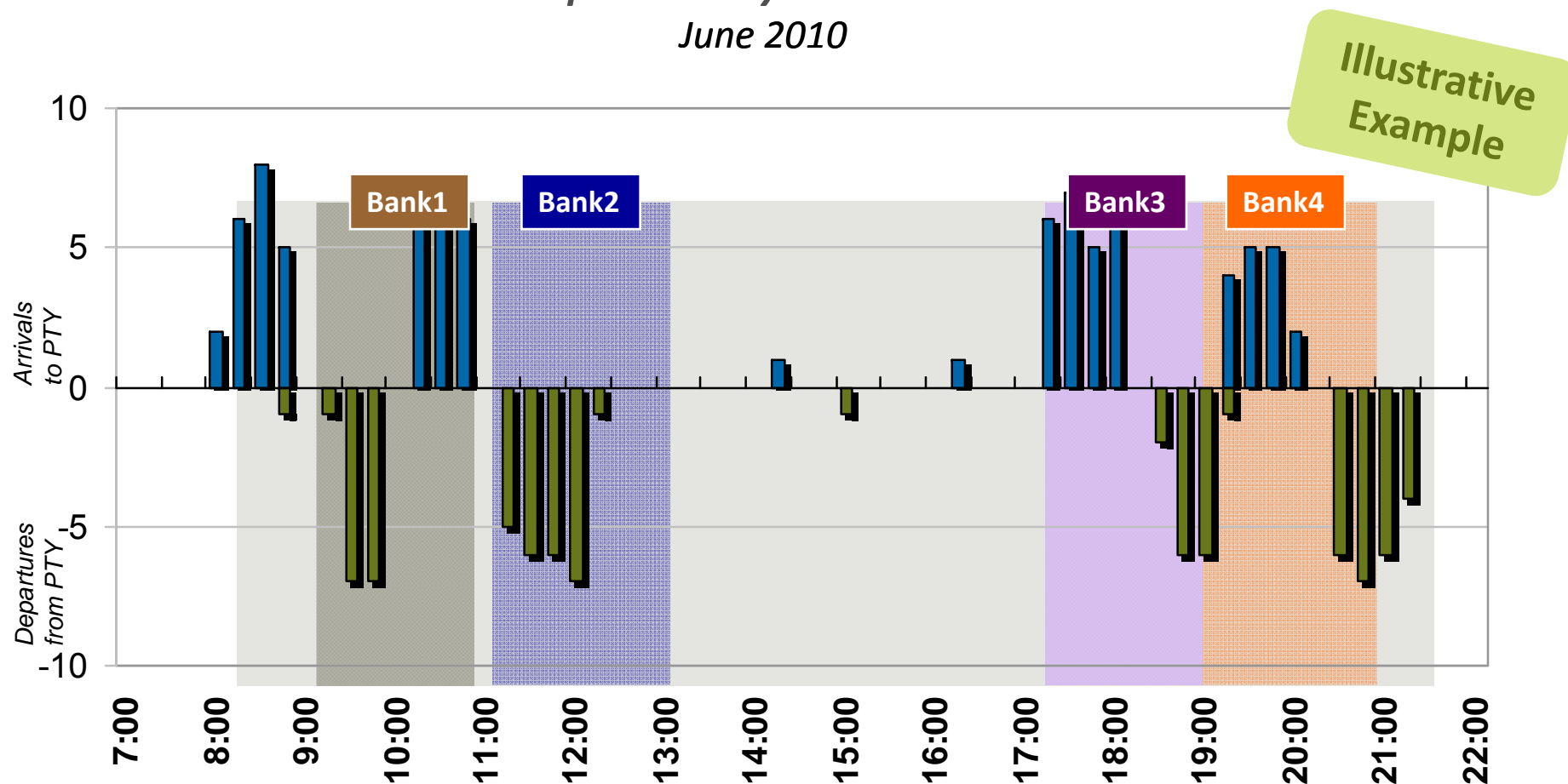
Choosing the schedule – Key Factors

- **It is an airline that connects passengers through a hub?**
 - If so, the schedule should fit into a connecting bank in order to maximize traffic
- **Does the airline have alliance partners at the airport?**
 - If so, “online alliance” connections should be considered
- **What are the schedules in similar markets?**
 - Overnight?
 - Morning arrival/departure? Evening? Etc.
- **How many weekly frequencies?**
 - The maximum possible should be proposed according to demand, but also consistent with similar markets operated by the airline
- **Seasonal or year-round service?**
 - Depends on the seasonality of traffic and the type of market (business, leisure, VFR, etc)

For example, in the case of a proposal for Copa, any new route should fit into a connecting bank

Operations by hour at PTY

June 2010



Source: OAG Schedules

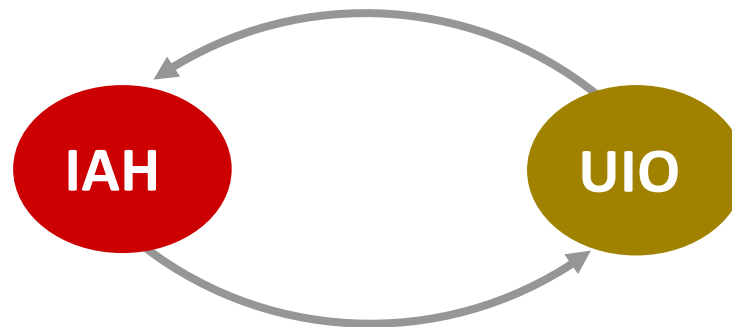
All of this information is needed for the essential analysis of the Business Case: the forecast of market share, passenger traffic, and revenue on the proposed route

- ICF uses **NETWORKS**, a proprietary tool that models route schedules to estimate the market share of each airline
 - Currently used by British Airways, Copa Airlines, Virgin Atlantic, Oneworld
- **NETWORKS** is “QSI” (Quality of Service Index) model, an industry-accepted methodology for calculating carrier share
- **NETWORKS** quantifies the market share of each segment (the “QSI”), taking into account:
 - Type of service (Online, Interline, Etc.)
 - Frequency
 - Number of stops and connections
 - Total travel time (between origin and destination)
 - Type of aircraft (size, jet vs. turboprop)
 - Etc.

What is a “local” passenger?

- **“Local” passengers begin their journey at the flight’s departure airport and end their journey at the flight’s arrival airport (and vice versa)**
 - Local passengers do not make connections or change planes

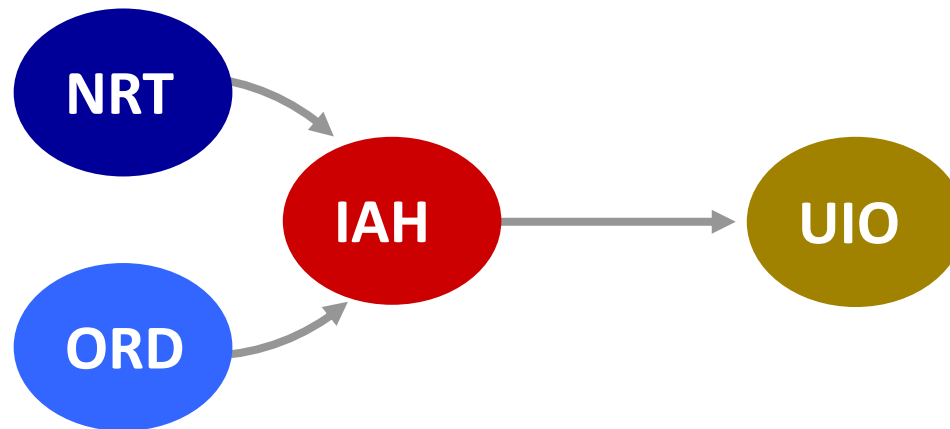
Example: Houston – Quito



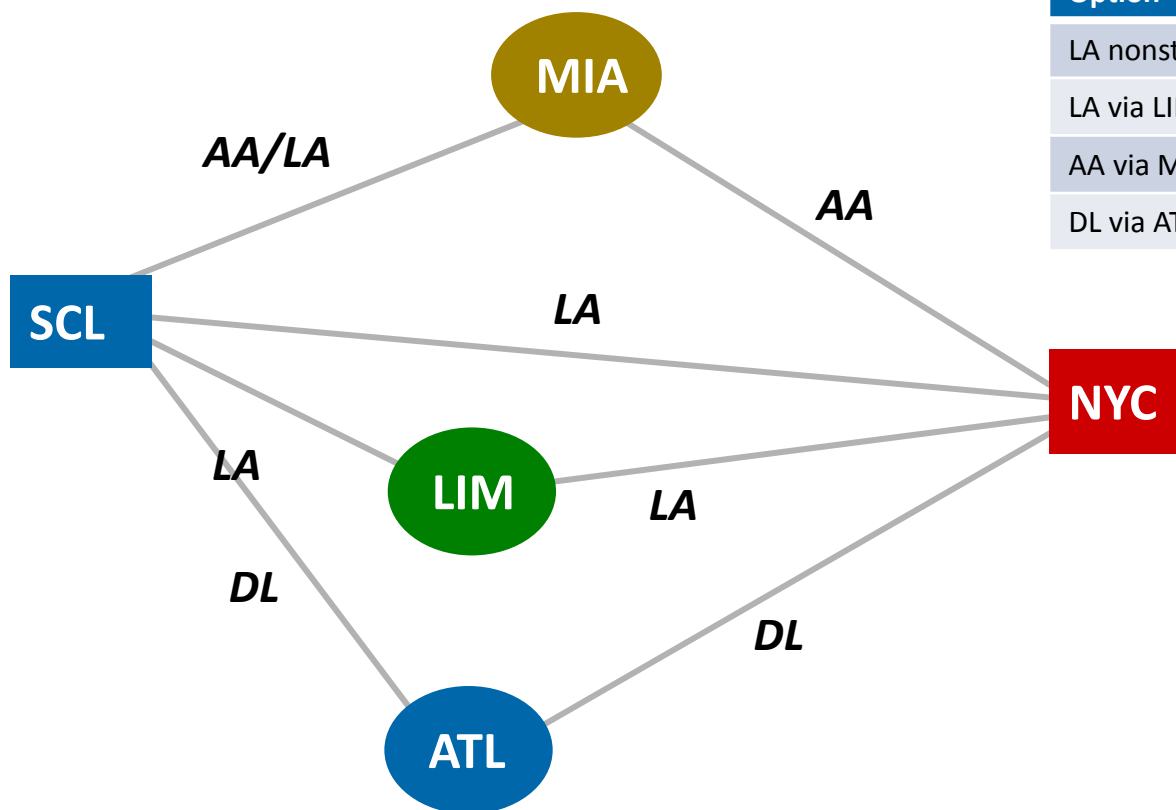
What is a connecting passenger?

- A connecting passenger begins their journey at a point before flight's origin and/or ends their journey at a point beyond the flight's destination
 - These passengers make one or more connections

Example: Houston – Quito

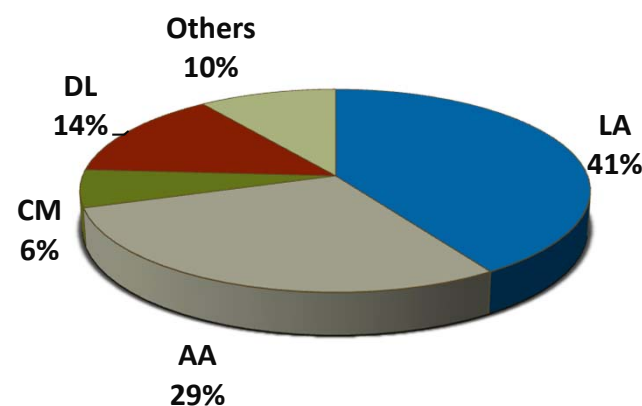


QSI example: SCL – NYC market



Option	Time	Frequency	Stops	Cxns
LA nonstop	10:50	5x weekly	0	0
LA via LIM	12:30	Daily	1	0
AA via MIA	13:40	Daily	1	1
DL via ATL	13:55	Daily	1	1

*QSI Share SCL-NYC
June 2010*



Source: SH&E NETWORKS based on OAG schedules June 2010

The model quantifies each service in the market and allocates traffic and revenue according to its market share

SH&E Networks - C:\Documents and Settings\18409\My Documents\NETWORKS\w\UIO Spirit FLL-UIO Jan2010

File Edit View Tables Reports Tools Window Help

Service Analysis for MIA-UIO

Distance: 1782 Mi / 2867 Km Std FT: 04:04 Avg FT: 05:40 Split: 00 / 00

Org	Dst	Flight(s)	Dep Time	Arr Time	Elap Time	Cnx	Stop	Days	CSI	Pax
Stn	Stn								Share	Share
MIA	UIO	2K 901.1	20:15	01:45	05:30	0	1	1234567	0.000	0.0
		Total 2K							0.000	0.0
MIA	UIO	AA 931.1	15:20	19:30	04:10	0	0	1234567	11.747	24.5
MIA	UIO	AA 967.1	17:30	21:40	04:10	0	0	1234567	11.747	24.5
		Total AA							23.495	49.0
FLL	UIO	AV 37.9 / AV 81.11	16:20	23:15	06:55	1	BOG	1234567	0.690	1.4
MIA	UIO	AV 7.6 / AV 81.11	16:00	23:15	07:15	1	BOG	1234567	0.599	1.3
		Total AV							1.289	2.7
MIA	UIO	CM 491.1 / CM 829.1	07:31	13:44	06:13	1	PTY	1234567	0.950	2.0
MIA	UIO	CM 421.1 / CM 211.1	16:23	22:22	05:59	1	PTY	1234567	1.066	2.2
		Total CM							2.016	4.2
MIA	UIO	LR 691.18 / LR 661.7	07:42	13:30	05:48	1	SJO	1 5	0.132	0.3
MIA	UIO	LR 691.18 / LR 661.4	07:42	13:30	05:48	1	SJO	1 7	0.264	0.6
MIA	UIO	LR 691.14 / LR 661.7	07:42	13:30	05:48	1	SJO	1 2	0.132	0.3
MIA	UIO	LR 691.14 / LR 661.4	07:42	13:30	05:48	1	SJO	1 6	0.132	0.3
MIA	UIO	LR 691.17 / LR 661.7	07:42	13:30	05:48	1	SJO	1 4	0.132	0.3
		Total LR							0.793	1.7
FLL	UIO	NK 9000.1	17:30	21:30	04:00	0	0	1 6	5.311	11.1
		Total NK							5.311	11.1
MIA	UIO	XL 517.1							15.010	31.3
		Total XL							15.010	31.3
		Total MIA to UIO							47.914	100.0
UIO	MIA	2K 900.15							0.000	0.0
UIO	MIA	2K 900.12							0.000	0.0
UIO	MIA	2K 900.14	12:45	19:30	06:45	0	1	7	0.000	0.0
		Total 2K							0.000	0.0
UIO	MIA	AA 932.1	07:40	11:50	04:10	0	0	1234567	11.747	24.4
UIO	MIA	AA 966.1	09:55	14:00	04:05	0	0	1234567	12.481	25.9
		Total AA							24.229	50.3
		Total							106.222	50.3

CSI Trace for NK 9000

CSI Summary:

PaxType	Daily Base	Weekly Base	Daily Enh	Weekly Enh
	2.6556	5.31112	2.6556	5.31112

Daily Enhanced CSI Computation:

PaxType	Factor	Component	Source
	1.00000	Connection	[none]
	1.44000	Seats	[(lowestOpSeats = 144) / 100] ^ 1.000
	1.00000	Stops	CsiStopFactors[0]
	1.05379	Elapsed time	[(market T = 244.229) / (ET = 240)] ^ 3.000
	1.75000	In-market carrier pref	{*.InMarket,NK,MIA,UIO.}
	1.00000	Clustering	CsiGroupWithDirectOp_op[0]
	2.65556	(Daily Base CSI)	
	1.00000	Round-trip	CsiRoundTripGapPenalty
	1.00000	MarketShare	DefaultMarketShareCurve
	1.00000	Interference	
	2.65556	(Daily Enh CSI)	

"QSI" is calculated based on several service parameters

Each carrier's market share is based on its QSI score

Note: SICF uses the nomenclature "CSI" to refer to "QSI"

The final result is a traffic and revenue forecast for the proposed route

Frequency: 2x Weekly
Aircraft: A319

Frequency and Aircraft

Illustrative
Example

Traffic and Revenue Forecast for the Route FLL – UIO

2010

	(Financials in USD)			Per Flight		Per Week (4 Flights)	
	Passengers	% Total	Revenue	Passengers	Revenue	Passengers	Revenue
Local Passengers	Local Market						
	Miami - Quito	54	56%	\$11,678	217	\$46,712	
Connecting Pass.	Connecting Markets						
	New York - Quito	29	30%	\$4,118	118	\$16,473	
	Chicago - Quito	4	4%	\$520	15	\$2,082	
	Quito - Washington	3	3%	\$483	13	\$1,934	
	Boston - Quito	3	3%	\$377	11	\$1,508	
	Orlando - Quito	2	2%	\$290	8	\$1,161	
	Other	2	2%	\$129	7	\$517	
	Total Connecting	43	44%	\$5,919	173	\$23,675	
Other Revenue	Total Pax/Pax Revenue	98		\$17,597	390	\$70,386	
	Other Revenue (@ 10% of pax)			\$1,760		\$7,039	
Load Factor and Fare	Total Flight Revenue			\$19,356		\$77,425	
	Load Factor 68% Average Fare (excl. surcharges) \$180						

Revenue from passenger tickets is complemented by other sources (cargo, onboard sales, etc), which is estimated based on each airline's experience

For top tier airlines, network simulation tools have become an integral part of today's management decision making process

Network & Schedule Analysis
systems and services



Created for Air France and fully developed for British Airways over ten years ago, NetWorks has been continuously refined ever since

NetWorks traces its heritage to SH&E founder Nat Simat, who developed the original methodology while serving on the US CAB

Why? In an increasingly complex business environment with narrowing profit margins, simulation enables airlines to **reduce financial exposure and risk**

Who uses *NetWorks*?

- ✈ *Schedule and network planners*
- ✈ *Airline strategists*
- ✈ *Fleet and capacity managers*
- ✈ *Revenue Planners, and*
- ✈ *Regional Managers*

... to help them **better understand their network's strengths and weaknesses** – by itself and against its competitors

NetWorks is used to generate and model scenarios, before evaluating results

The key stages of a NetWorks simulation:

■ **Service Generation:**

- Determines All Feasible Service Offerings in Each Relevant O&D City-Pair Market, for Your Airline and Your Competitors
 - *Nonstop, Direct & Connect*
 - *On-Line, Interline, Code-Share*
 - *Takes Into Account Connecting Time & Circuitry Limitations*

■ **Share Estimation:**

- *NetWorks* Estimates an “Entitlement Share” of Each O&D Market for each airline
 - *Based on a Comparison of Service Offerings in Each Market*

■ **Traffic Allocation:**

- Traffic is Allocated to Individual Flights Based on the “Entitlement Share”, Adjusting for Spill
 - *NetWorks* Contains a Realistic Spill Model Which Iteratively Spills Traffic to Alternative Flights as Capacity Limits are Approached



Example Business Case

Los Cabos–Houston for Southwest Airlines
Grupo Aeroportuario del Pacifico (GAP)

Mexican Pacific Airport Group (GAP) Route Proposals



**Grupo
Aeroportuario
del Pacífico**



Opportunity in Los Cabos



routes
americas



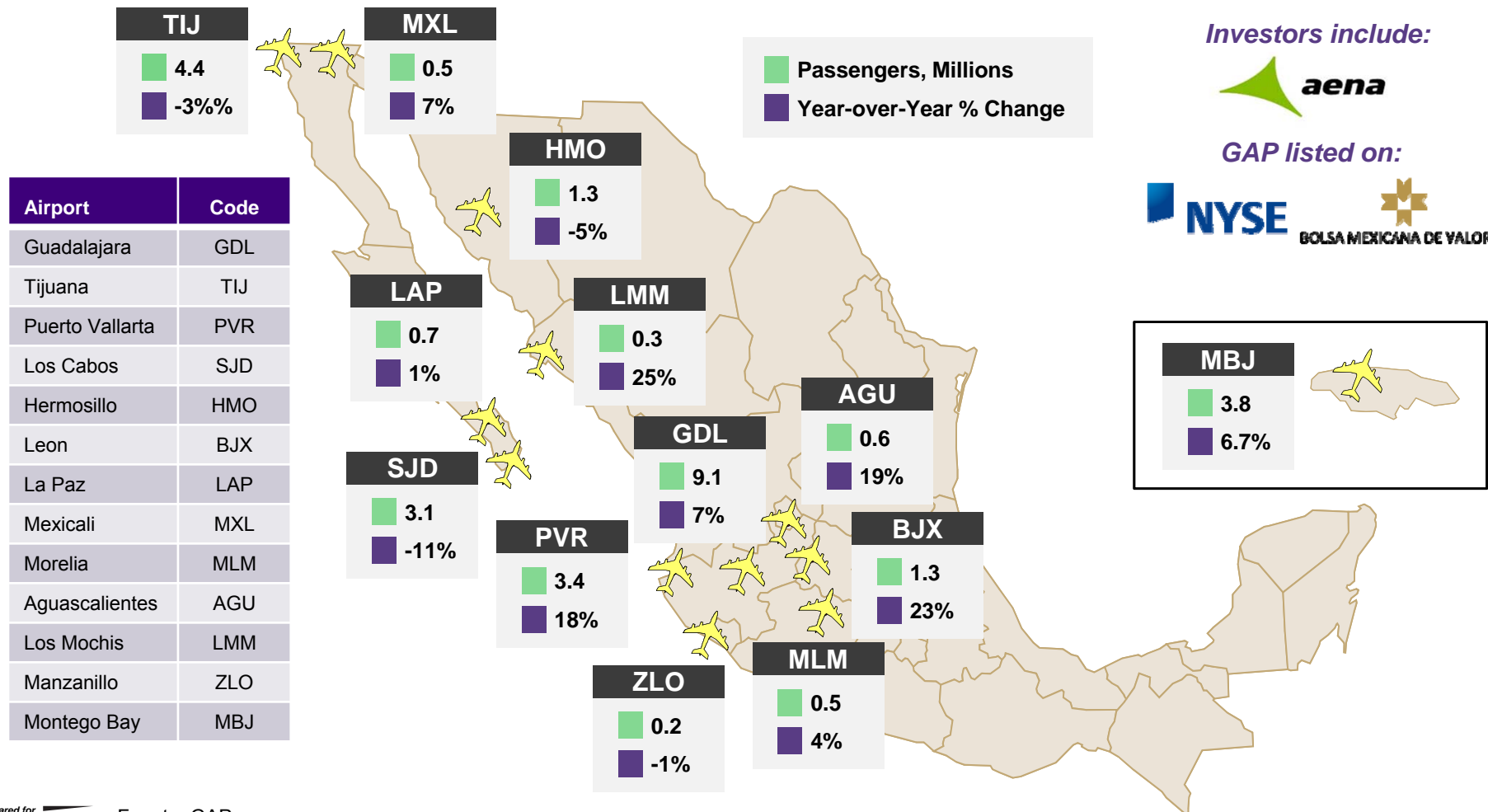
Prepared for:

Southwest®

Mexican Pacific Airport Group (GAP) maintains and operates 12 airports in Mexico, as well as Montego Bay Jamaica



GAP airports served 29.2 million passengers in the 12 months ending June 2015, representing 4% growth over the previous year



Introduction



- ◆ In the schedule for February 2014, Southwest/AirTran operate to 3 Mexican destinations:

Destination	Origin
Los Cabos	Austin Denver, Orange County
Mexico City	San Antonio, Orange County
Cancun	Atlanta, Austin, Baltimore, Chicago, Denver, Milwaukee

- ◆ ICF and GAP have developed traffic forecasts and tested schedule scenarios for the following markets :

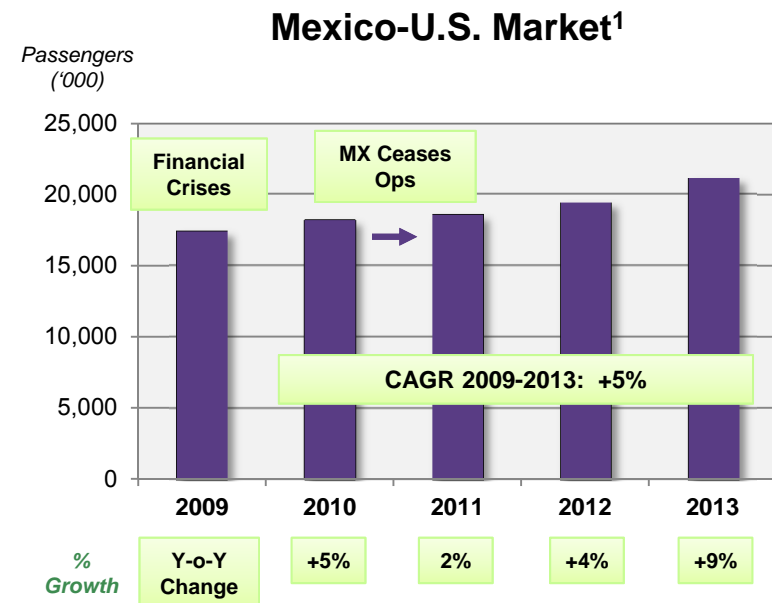
Market	Season	Passenger Segment	Weekly Freq.	Estimated Load Factor
HOU-SJD	Annual	Leisure	4	84%

- ◆ Construction on the new international terminal at the Hobby Airport has started in late 2013 with the first international flights by 2015

International markets to Mexico have seen steady growth since the economic downturn of 2009



Passenger Traffic Trend (scheduled and charter flights)

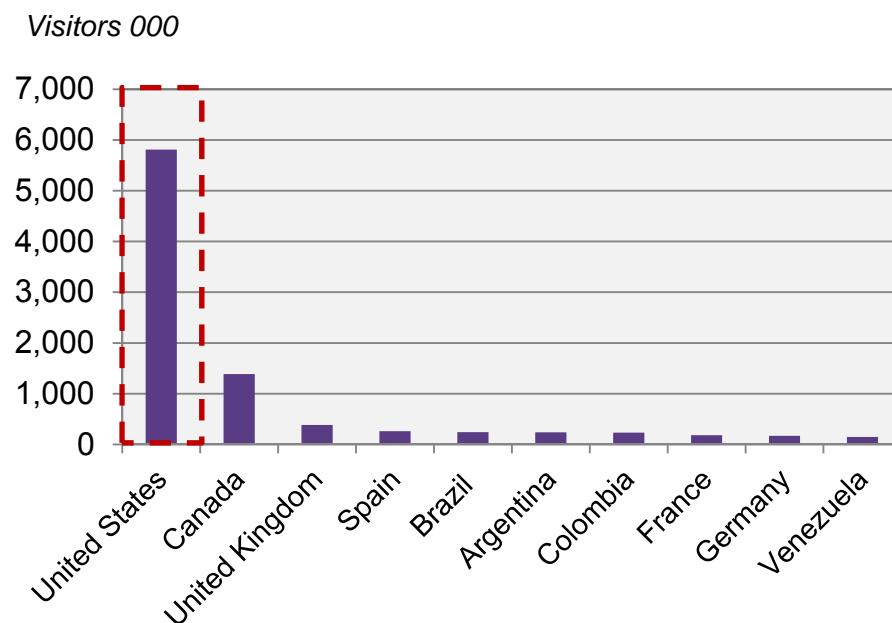


The Mexico international market, including the Mexico-U.S. market, has shown positive growth over the past five years, rebounding to above 2009 passenger levels

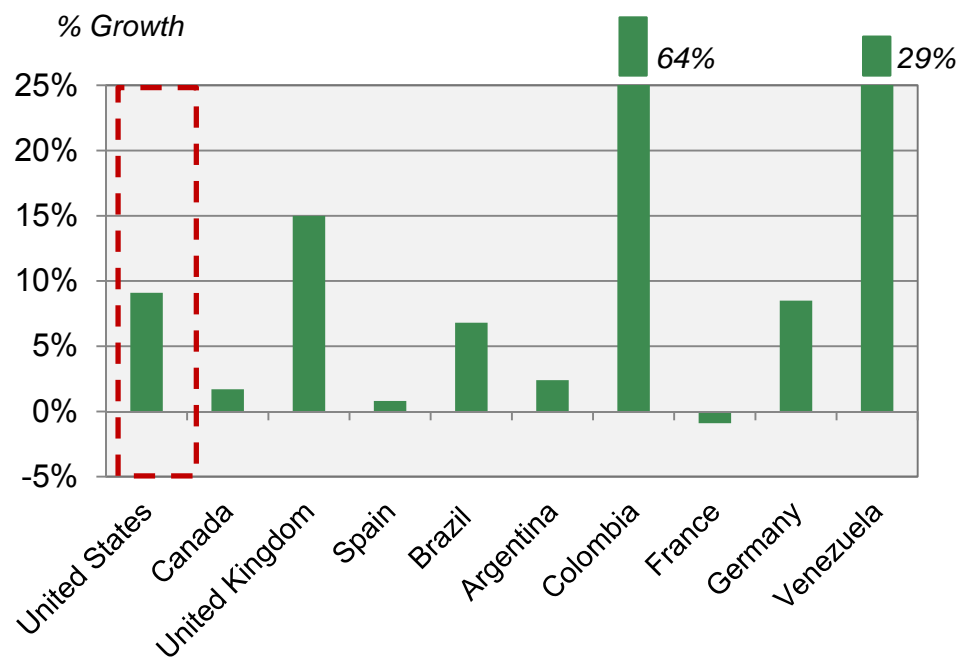
The U.S. ranks first among foreign visitors to Mexico with 55% of all foreign tourist arrivals



Nationality of the Foreign Visitors to Mexico
10 Top Countries
Jan-Nov 2013



Growth in Foreign Visitors to Mexico
Top 10 countries
Jan-Nov 2013 versus Jan-Nov 2012



From January to November 2013, the number of foreign visitors to Mexico grew by 9.1% compared to the same period of 2012

Mexican Pacific Airport Group (GAP) Route Proposals

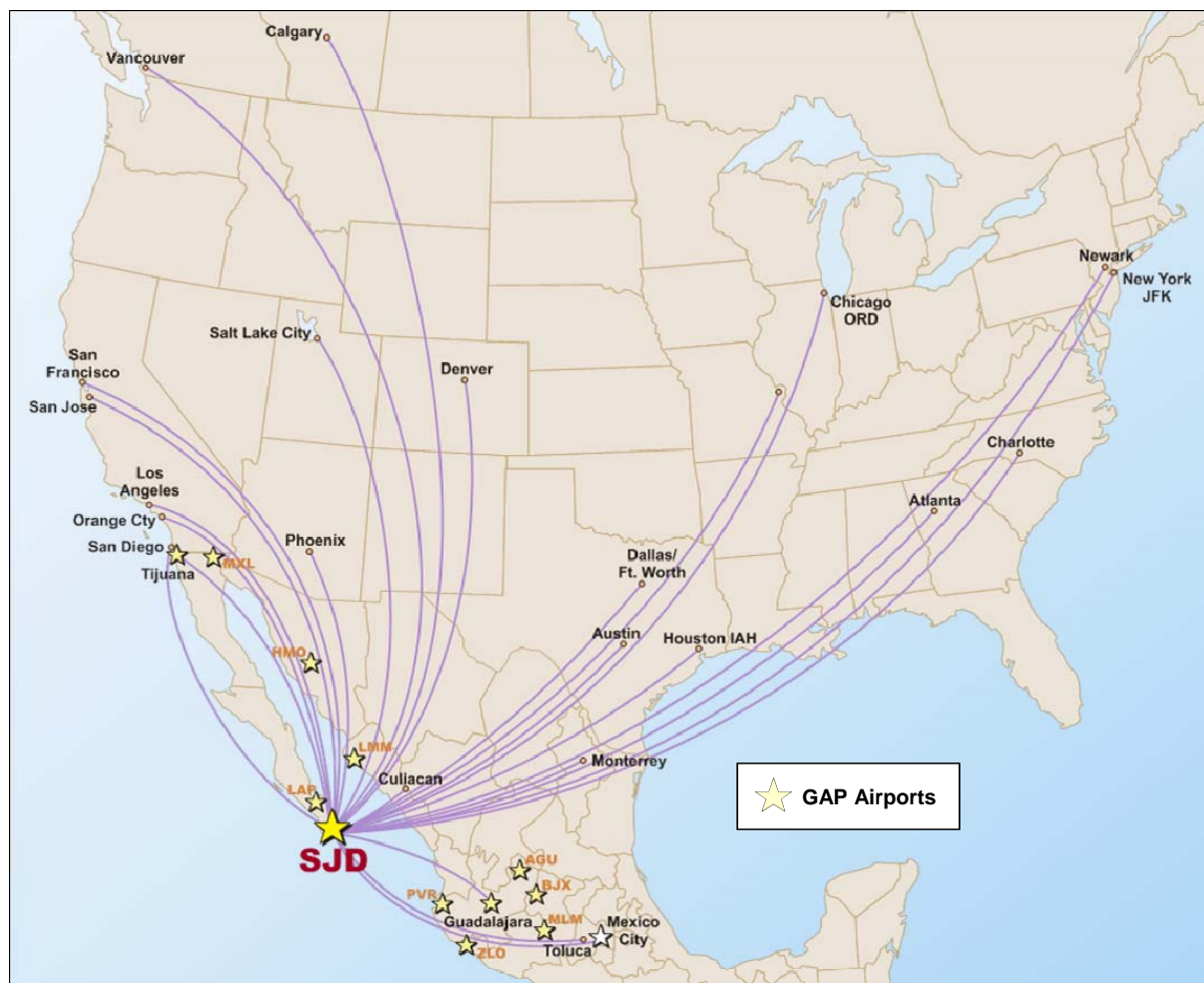


**Grupo
Aeroportuario
del Pacífico**



Market Overview of Los Cabos

In June 2014, Los Cabos will have non-stop scheduled services to/from 25 cities across Canada, Mexico and United States



Los Cabos Destinations	
Domestic (Mexico)	6
International	
United States	17
Canada	2
Total	25

Los Cabos has 279 weekly departures scheduled for June 2014, serving 25 destinations

Los Cabos has attractions for leisure travelers including a variety of restaurants, night clubs, bars and recreational activities



- ◆ **World class scuba diving, snorkeling, fishing, boating and other water sports**
 - The excellent beaches, weather and swimmable waters increase aquatic activities
 - One of the 2 destinations in Mexico where the Iron Man event takes place every year
- ◆ **Premier golf destination in Latin America**
 - 14 Golf courses
 - First Tiger Woods design opened in December 2014.
- ◆ **Marlin Capital of the World**
 - One of the best deep-sea fishing destinations in the world
 - Largest sport fishing fleet in Mexico
- ◆ **An amazing night life with restaurants, night clubs and bars**
- ◆ **Visitors can indulge in Los Cabos' many amazing spas**



Source: Mexican Tourism Ministry, Government of Baja California Sur

Los Cabos offers a range of infrastructure including all-inclusive resorts, times shares and boutique hotels



Lodging in SJD (2012)

Hotel Rooms (4 Star and Up)	22,368
Time Share Facilities	52
Time Share Units	8,747

Recent Hotel Developments joining the Los Cabos Inventory

- Hyatt (568 rooms) opened Nov. 2013
- The Secrets (478 rooms) opened Dec. 2013
- The Ritz-Carlton (124 villas) opening 2014
- JW Marriott (300 rooms) opening 2015



Two luxury hotels opened in late 2013, adding to Los Cabos' rapidly expanding hotel infrastructure



Recent Hotel Investments in SJD:

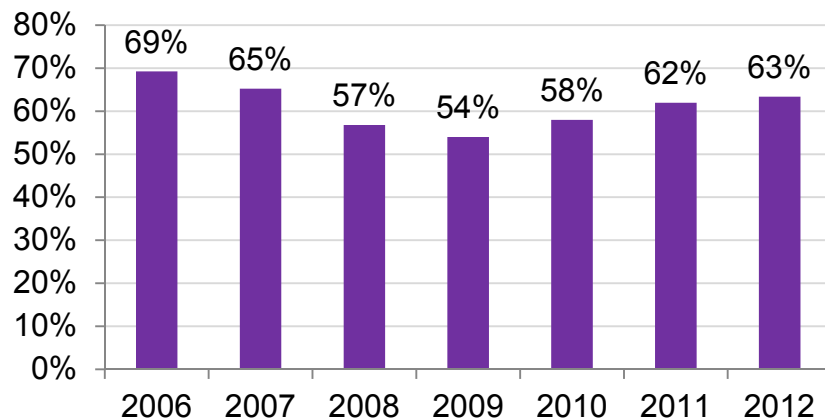


- ◆ **The 157-room Hyatt Ziva Los Cabos opened in November 2013**
 - This all inclusive hotel will be focused on families
- ◆ **The Secrets Puerto Los Cabos Golf & Spa Resort opened in December 2013**
 - Secrets Los Cabos will provide an ultimate adults only luxury escape including elegant accommodations, world class spa, and gourmet dining
- ◆ **In 2013, Apple Leisure Group announced an investment of USD \$600 million in areas including Los Cabos**
 - The investment will include six new resorts with approximately 2,800 rooms
 - Top destinations will include Los Cabos, Puerto Vallarta, and the Riviera Maya
 - Current plans call for properties under the Sunscape, Secrets, Now, and Breathless brands

Well-known international hotel chains, all inclusive resorts and boutique hotels offer visitors to Los Cabos a wide variety of accommodation options



Los Cabos Hotel Occupancy Rate



Los Cabos is among the top three Mexican destinations for leisure travelers offering over 20,000 rooms in hotels of 4 or more stars and time share facilities

According to Expedia's "Insider's Select" One & Only Palmilla was ranked as "the best hotel in the world" out of 650 hotels

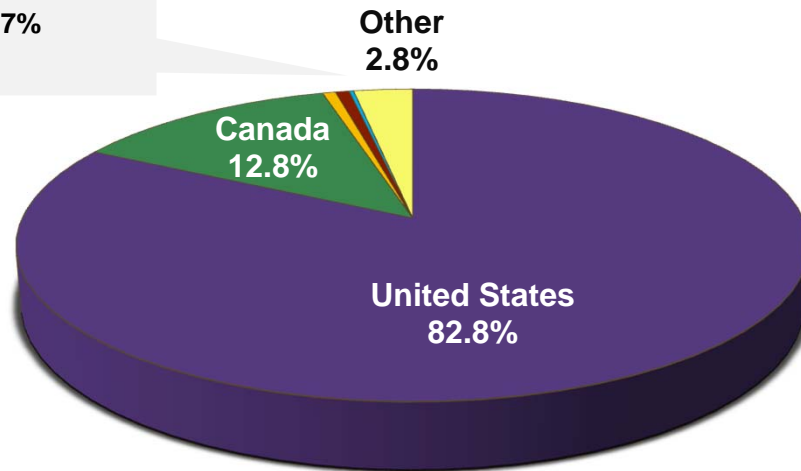


The United States is the largest nationality of foreign visitors to Los Cabos



Top Nationalities of Foreign Visitors to Los Cabos
YE Nov 2013

United Kingdom: 0.6%
Australia: 0.7%
India: 0.2%



Top Destinations in Mexico visited by US Visitors
YE Nov 2013

	Mexico Destination	Total Visitors
1	Cancún	2,548,719
2	Los Cabos	994,197
3	Mexico City	937,510
4	Vallarta Nayarit	551,774
5	Guadalajara	537,402
	Other	744,795
	Total	6,314,397

US visitors to Los Cabos showed a growth of 19% from YE November 2013 over YE November 2012

The Houston – Los Cabos market is the 10th largest market with 20 frequencies



Top U.S. – Los Cabos Markets Sizes *CY2015 Annual, No Stimulation*

Rank	Destination	Weekly Passengers ¹	Weekly One Way Frequencies (June 2014)	% (Point of Sale) POS
1	Los Angeles (LAX/ONT)	3,207	35	U.S. (95%)
2	Bay Area (OAK/SFO/SJC)	2,723	30	U.S. (97%)
3	San Diego	1,781	21	U.S. (92%)
4	Phoenix	1,042	27	U.S. (94%)
5	Orange County	977	14	U.S. (95%)
6	Seattle	915	-	U.S. (92%)
7	Denver	910	9	U.S. (99%)
8	New York	752	4	U.S. (97%)
9	Dallas/Fort Worth	699	26	U.S. (95%)
10	Houston	668	20	U.S. (95%)
	Other	8,748	24	
Total		22,423	210	

1/ Passengers Weekly Each Way (PWEW). Market sizes are adjusted for direct sales, and do not include stimulation

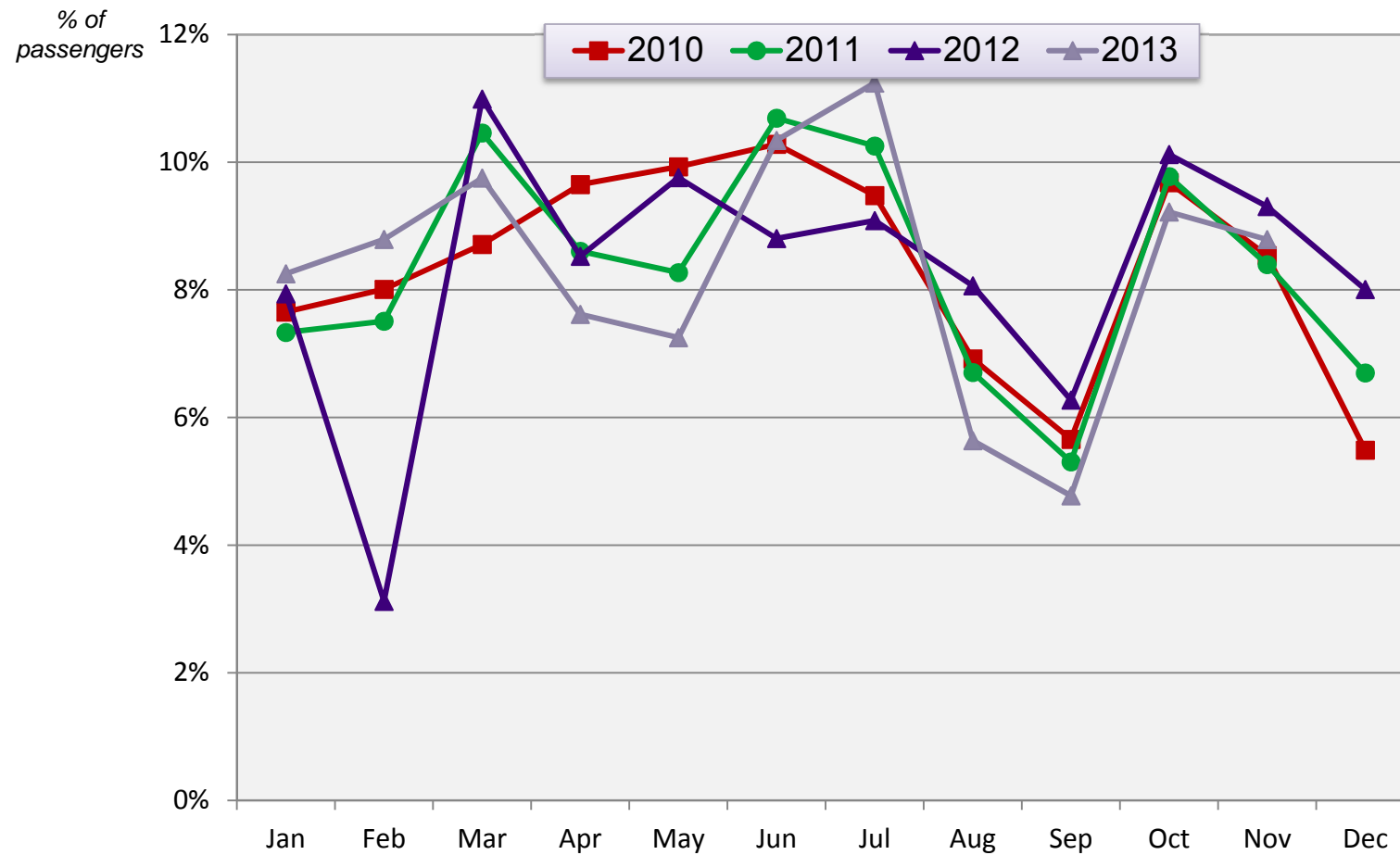
Source: ICF SH&E Analysis using IATA PaxIS MIDT and OAG

Note: Based on IATA Traffic Forecast for the period YE Nov 2013-2015 using a CAGR of 4.8% between the U.S. and Mexico

Travel between the Houston and Los Cabos market shows peaks during the winter and summer



Demand Seasonality between Houston and Los Cabos market
2010, 2011, 2012 and 2013









There are 141 weekly online services between Houston and Los Cabos with US Airways (now American) leading the market with 27 connecting frequencies



Houston– Los Cabos

Current On-line Services/Frequencies (June 2014)

Airline	Connection Point	Total Online Connecting Weekly Frequencies ¹
 U.S. AIRWAYS	Phoenix (PHX)	27
 DELTA	Atlanta (ATL)	7
	Salt Lake City (SLC)	5
 UNITED	Los Angeles (LAX)	9
	Denver (DEN)	7
	<u>Non-stop</u>	20
 American Airlines	Dallas (DFW)	22
	Los Angeles (LAX)	7
 AEROMEXICO	Mexico City (MEX)	13
 Southwest	Denver (DEN)	1
	Austin (AUS)	3
Total		141

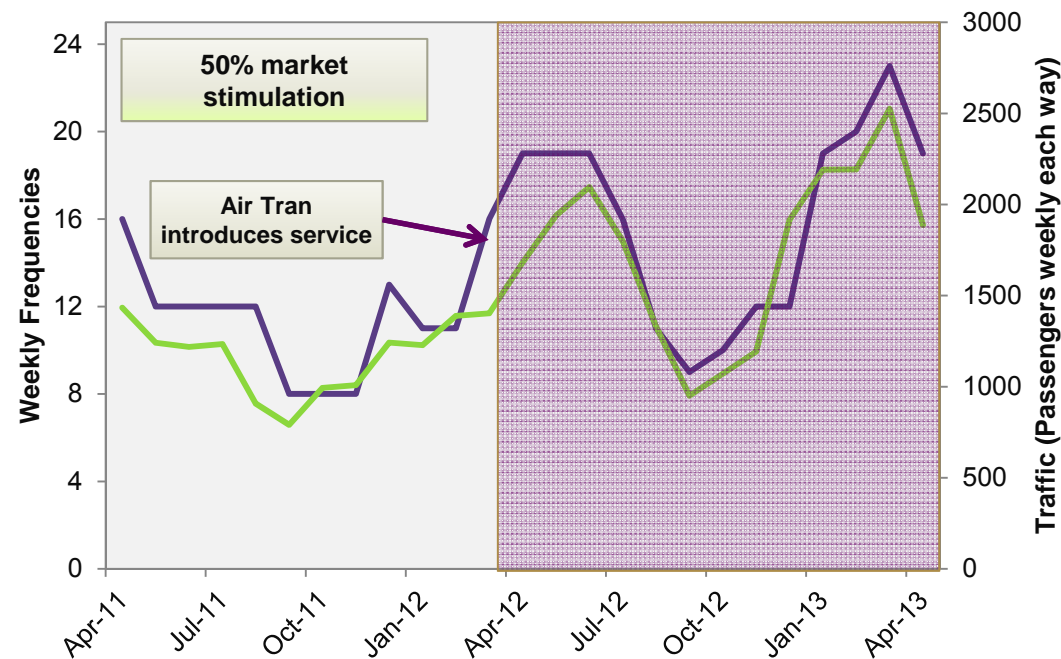
NOTE: 1\ Code-share flights are not considered in the connecting services. Includes only single connections. The online connecting frequencies reflect only the number of actual entries into the respective final destination. The airline may offer multiple options to get to the connection.

Source: OAG

AirTran was able to stimulate the market demand between Denver and Cancun by introducing non-stop services



Denver- Cancun Demand Stimulation due to AirTran New Service

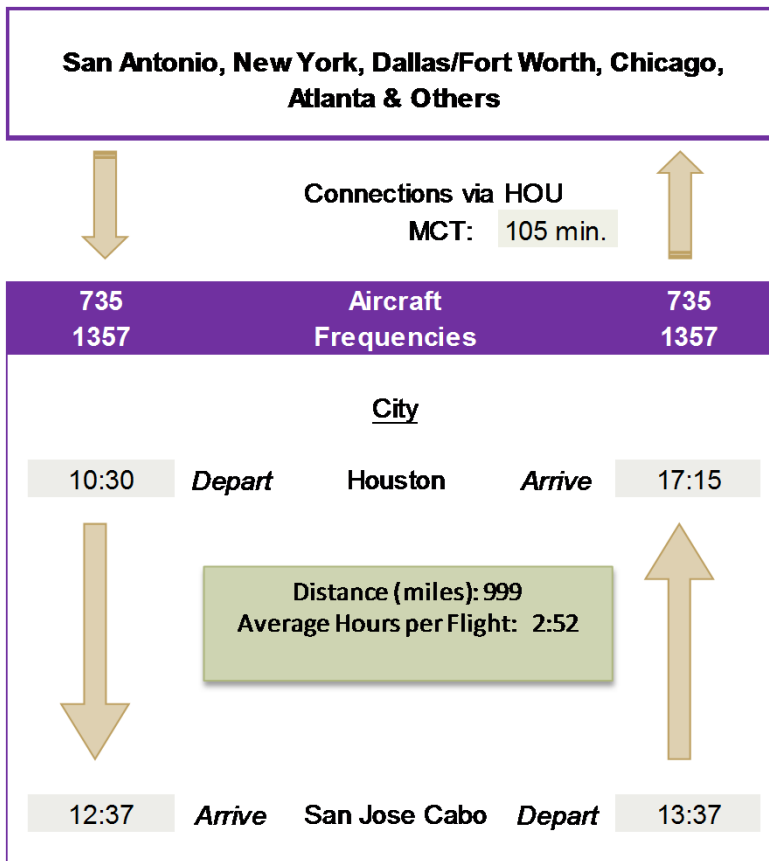


In April 2012, AirTran launched daily flights between Denver and Cancun in the presence of United and Frontier. As a result of these new services, AirTran was able to stimulate the market by a respectable 50%.

For the HOU-SJD schedule, GAP and ICF suggest suitable timings for leisure passengers appropriate for the hotels' check-in and check-out



Southwest Schedule for Proposed Houston-Los Cabos Nonstop Service Four Weekly Flights on an 737-500



Note: Local time

- ◆ The schedule suggested is for year round service and the timing is convenient for leisure travelers
- ◆ GAP and ICF stimulated the market size by 50% as a result of the new nonstop service, which is in line with Air Tran launching non-stop service between DEN-CUN in the presence of United

Southwest could achieve a 84% average load factor in the Houston-Los Cabos route with stimulation of 50% with annual service



Southwest Schedule for Proposed Houston-Los Cabos Nonstop Service Four Weekly Flights on an 737-500 – Results by Week

Market	Code	2015 PAX PWEW. O&D Psgrs ^{1&2}	Stimulation	2015 PAX PWEW. W/ Stim.	% QSI ¹	Forecast Passengers	% Onboard Psgrs Sector	Total Weekly Segment Revenue ³
Local Traffic								
Houston-San Jose Cabo	HOU	668	0.5	968	21%	208	51%	\$137,587
Beyond Houston								
San Antonio	SAT	104	0.0	104	37%	39	9%	\$15,327
New York	NYC	752	0.0	775	3%	20	5%	\$7,212
Dallas/Fort Worth	DFW	700	0.0	700	2%	17	4%	\$6,919
Chicago	CHI	581	0.0	581	2%	14	3%	\$4,999
Atlanta	ATL	242	0.0	242	4%	10	3%	\$4,341
Others		2,343	0.0	2,343	4%	102	25%	\$37,772
Subtotal		4,722	0.0	4,744	4%	202	49%	\$76,570
Grand Total						409	100%	\$214,157
Average On board passengers						102		
Seats per Flight						122		
Average Load Factor						84%		
Average Fare³ (without commissions and taxes)						\$262		
Weekly Total Passenger Revenue						\$214,157		
Other Revenue(@ 10% of Passenger Revenue)						\$21,416		
Total Weekly Revenue						\$235,572		

Notes:

/1 GAP and ICF SH&E further adjust PaxIS Plus data to insure accuracy on market sizes

/2 Based on IATA Traffic Forecast for the period YE Nov 2013-2015 using a CAGR of 4.8% between the U.S. and Mexico

/3 Air fare data sources (PAXIS, O&D Survey, Airline Websites) do not include taxes and commissions. Pax-IS fares could be overstated

Mexican Pacific Airport Group (GAP) Route Proposals



**Grupo
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Incentives and Next Steps

GAP has the relationships and market knowledge to assist Southwest in their evaluation of the proposed destinations



Market Analysis

- GAP & ICF airport group are prepared to assist Southwest with all due diligence required to gain a thorough understanding of the proposed route



Visit to Los Cabos

- GAP would like to invite the Southwest planners to visit GAP airport facilities and its touristic locations



Visit to Southwest's offices

- Alternatively, GAP would be pleased to meet with more Southwest's staff at corporate headquarters

Thank You!



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