Grupo Aeroportuario de la Ciudad de México

AICM Studies

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2 Introduction

2.1 Description of AICM

The Metropolitan Area of Mexico City is currently served primarily by the **Aeropuerto Internacional de la Ciudad de Mexico (AICM)**, and the four smaller surrounding airports: Toluca, Cuernavaca, Puebla and Queretaro International Airports.

AICM is Mexico's busiest airport by both passenger traffic and aircraft movements, and as of 2016 is the busiest airport in Latin America.

As the main hub for Mexico's largest airline Aeroméxico and a secondary hub for its subsidiary Aeroméxico Connect, the airport has become a SkyTeam hub. It is also a low cost carrier hub for Aeromar, Interjet, Volaris and a focus city for VivaAerobus.

The airport is located in a densely populated area and has suffered from a lack of capacity due to restrictions on expansion. Incentives have been provided to airlines to encourage them to relocate to surrounding airports in the Airports Metropolitan System and take advantage of available capacity, however demand for airport services remains focused on AICM.

Figure 1 : Aeropuerto Internacional de la Ciudad de Mexico (AICM)[1]

[1] Image © 2016 DigitalGlobe

Over the past decade the Mexican Government has increased the capacity of AICM through the redesign and expansion of Terminals 1 and 2, and by increasing the availability of slots, increasing the number of aircraft gates, and making infrastructure and operational improvements to the airfield.

AICM occupies a land area of approximately 769 ha[2] and has the following key features:

- 2 Code E runways approximately 4000m in length, which operate dependently
- 2 passenger terminals with 91 aircraft stands serving passenger operations (57 contact, 34 remote) and an overall total of total of 108 aircraft stands2.
- An automated people mover (APM) which connects the two terminals
- Associated aeronautical facilities including; cargo, aircraft maintenance, flight kitchen, fuel farm and various other airline airport support facilities

2.2 Description of the Facilities Planned for NAICM

The **Nuevo Aeropuerto Internacional de la Ciudad de México (NAICM)** is to be a world-class airport offering exceptional quality of service and availability to a wide range of international and domestic destinations

The NAICM is to be built on a site with an area of approximately 4,950 ha located east of the city approximately 6.5 km from the existing AICM.

[2] AICM

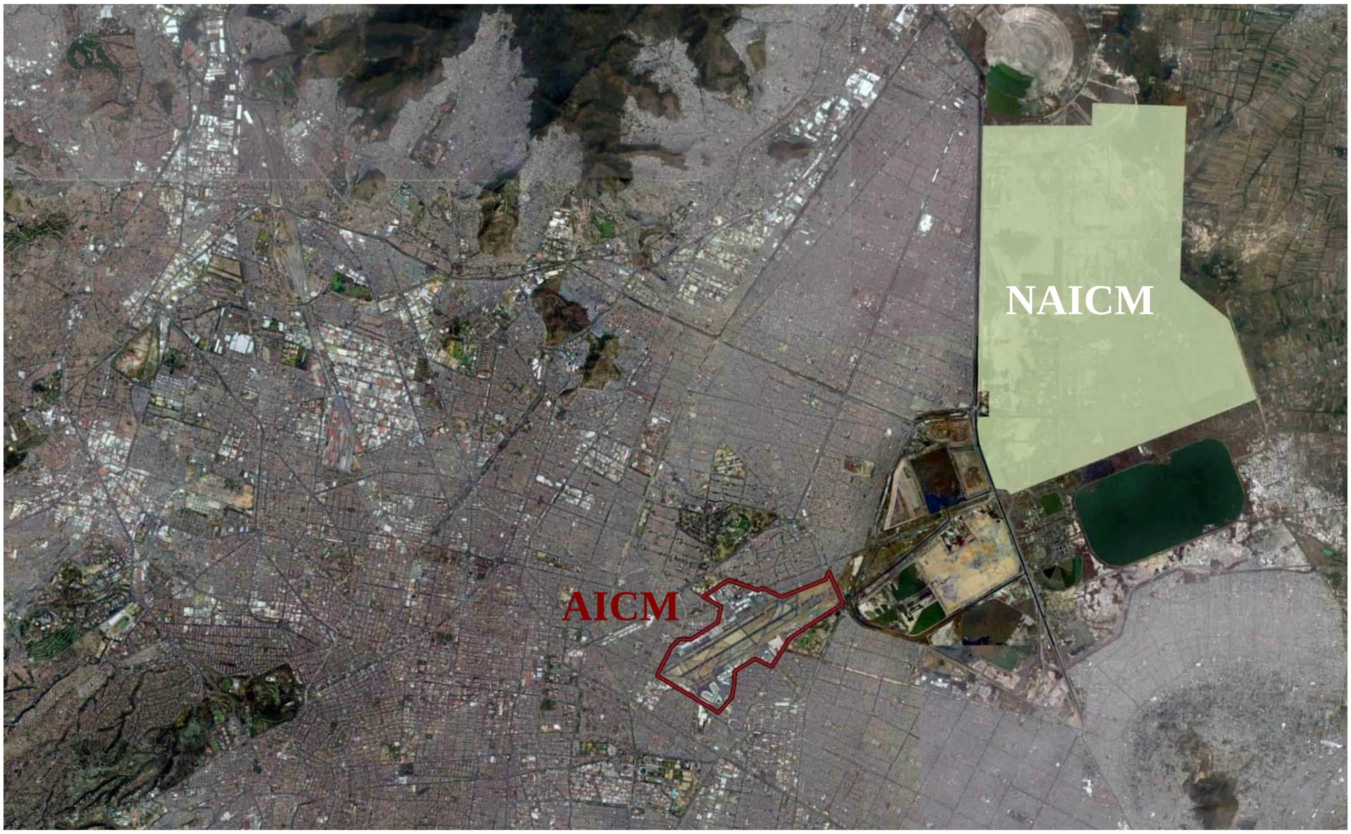


Figure 2: NAICM Development Area

The new airport is planned to be developed in phases. The key components of the **Phase 1** development are:

- 3 Code F Runways, two at 5000m in length and one at 4500m in length, providing fully independent operations with capacity for up to 144 hourly and 855,000 annual movements.
- A single passenger terminal serving 168 aircraft stands (contact and remote). The terminal building is sized to accommodate 12,300 peak hour and 57 million annual passengers on opening day and for the incremental expansion of the processing facilities for 18,000 peak hour and 88 million annual passengers.
- Development of approximately 200 ha of associated aeronautical facilities including; cargo, aircraft maintenance, flight kitchen, fuel farm and various other airline airport support facilities.
- Airport access system; including new access roads from the north and south of the site, a ground transportation center, parking and extension of the Mexico City Metro and bus rapid transit to the passenger terminal building.

Ultimately, the airport is planned to expand to include 6 runways, 2 passenger terminals, 2 satellites, 275 aircraft stands and 575ha of associated aeronautical facilities.

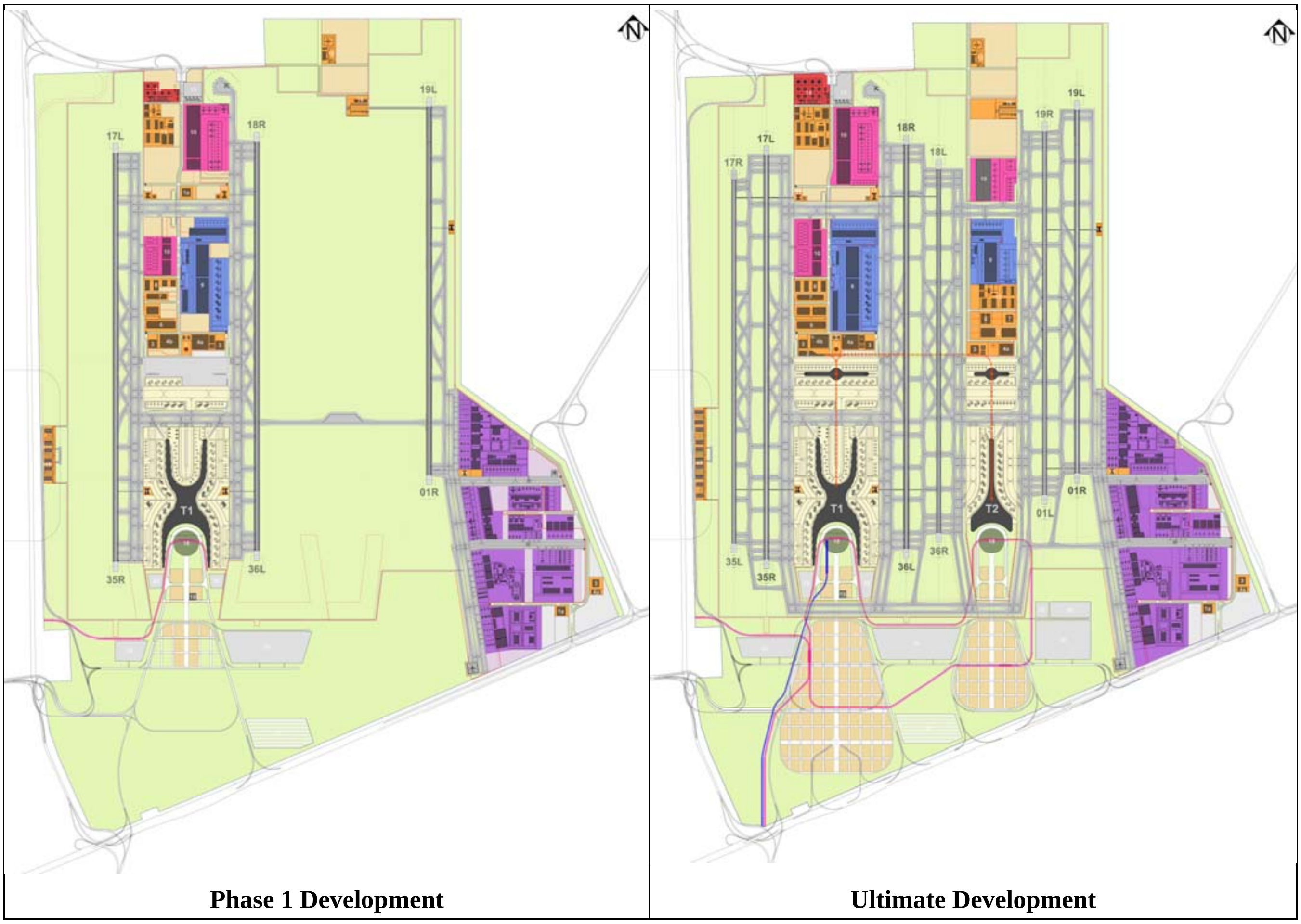


Figure 3 : Nuevo Aeropuerto Internacional de la Ciudad de Mexico (NAICM) Master Plan

2.3 AICM Existing Capacity Constraints

In 2015, Mexico City Airport grew its traffic by 12.2% to 38.4m passengers. The airport has registered average annual growth of 10% p.a. since 2010. For 2016 the total number of passenger expected to grow by 7.2% to 41.2m. ATMs is expected to rise at a slower rate to 396,000 from 380,000 in 2015 (4% growth).

The airport traffic is projected to continue its recent growth momentum expanding to 60m passengers by 2025 (4.6% CAGR). Long term forecast would see a more moderate growth to 117m passengers by 2050.

The current airport is operating above its declared capacity limit, with slots for expansion being highly restricted. The passenger ATM in 2017 estimated at 405,000 passenger ATMs, assumed as the absolute maximum limit for the existing airport.

In a constrained scenario with respect to the maximum capacity of the AICM and without considering the development of NAICM (hypothetically), we have forecast the level of traffic that could feasibly be observed at MEX in the long term to grow to 50m+ through higher increase in passengers/ATM from a combination of increase in load factor, larger aircraft size and change in domestic/international network mix.

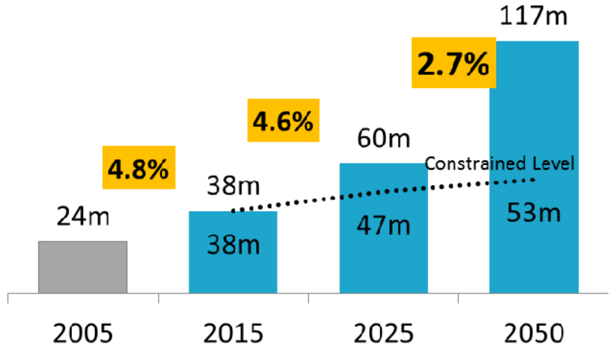


Figure 4 : Summary MEX Unconstrained and Constrained Forecast

2.4 TUA

As with other airports, MEX impose a form of passenger user charge called TUA (Tarifa de Uso del Aeropuerto) for the use of the airports facility. This is on top of other aeronautical charges such as landing, parking and aerobridge usage. The current TUA fee is USD22.37 for domestic passengers and USD34.78 for international passengers. The TUA fee is charged for all passengers departing from the airport but currently excludes connecting passengers.

2.4.1 Strength Of TUA Based Repayment Structure

The airport’s revenue is mainly driven by the TUA (passenger charges) revenue stream. Compared to other sources of revenue for an airport, the TUA is the most important and the highest quality stream of cash flows available to an airport as they are inherently stable and less elastic than other airport revenue sources. It is levied on aircraft movement and passenger throughput and ultimately paid directly by end users (passengers) via the airline, with a simple and transparent structure. At Mexico City, the denomination of TUA in dollars mitigates charging in local currency and the associated foreign exchange risk.

TUA charges are also tied in with inflationary increase (+CPI) annually each January to reflect increases in US CPI as published by the USBLS , which over a longer term to give airline customers a level of certainty over future charges. Furthermore, as has been done in the past, TUA could be further increase using CPI/RPI + x formula to increase above inflation - subject to government approval. Government ownership of the airport creates fundamental alignment on the strategic importance of the airport development and should ease process of obtaining extraordinary increases of the TUA if needed, compared to a private operator. In the case of a global gateway like Mexico City, the need to fly to Mexico for business is the primary decision-making factor in the reason to travel, particularly compared to the relative amount of the TUA.

2.5 The Fundamental Strengths of the Airport

Mexico City Airport's fundamental strengths is in its role as the main gateway for air travel for both Mexico City and the country as a whole. Mexico City is a global mega-city with a large, young and growing population demographic, expected to be the largest in the Western Hemisphere within the next decade. The city is improving its stature and influence globally both in trade and tourism, not least supported by the resilient Mexican economy. While other major Latin American economies have seen variable growth in recent years, Mexican economy has remained relatively stable.

In addition to strong macro-economic fundamentals, the airport itself is in an advantageous position regionally, owing to its central location between North/South America and the strength of the Mexican airlines. The airport has a diverse and balanced mix of hub, low cost and regional carriers led by Aeroméxico and the LCCs of Interjet, Volaris and VivaAerobus. These airlines are among the best-in-class in terms of competitiveness and size; and are further expanding their network footprint through delivery of over 200 aircraft in the next decade.

These factors reflect a resilient and positive growth market for the future of the New Mexico City International Airport.

This section will be divided in 6 sections as follows:

- 2.5.1 Critical Mexican Transportation Infrastructure
- 2.5.2 Principal Aerial Gateway To Mexico
- 2.5.3 Competitive Passenger And Airline Charges
- 2.5.4 Strong O&D Traffic Base
- 2.5.5 Mexico City Hub
- 2.5.7 Strong Recent Growth

2.5.1 Critical Mexican Transportation Infrastructure

Mexico City weights for 31% of the GDP (2014) and stands at the 18th position worldwide among other international cities, country wise it makes the capital the epicentre of the economic flow. The strength of the traffic demand at MEX depends on the health of the economy that support the growth of Mexico City and Mexico in general. At the same time, the airport plays a vital role in supporting further growth in economic activity, trade and travel of the country through connectivity to the global cities around the world.

With growing middle class and rising GDP per capita, the national economy in Mexico is healthier than most other Latin American countries with an estimated growth rate above 2% for the coming years (IMF). Mexico has a resilient economy compared to the region. Its growth is faster than the US and Brazil, and is forecast to remain ahead for the next few years at least. While investors interested in this heavy-weight emerging country keep increasing their investments (FDI growth by 15% since 2010 with strong peak in 2013 with 45Bn), the airport of Mexico City plays a key role in this sustainable growth which is to connect the capital with other important entities in the globalization. Mexico City is also one of the largest urban areas in the world. This large population, combined with future GDP per capita growth, implies a natural and rapidly increasing level of demand for air services from Mexico City which will far exceed the current capacity of Mexico City Airport.

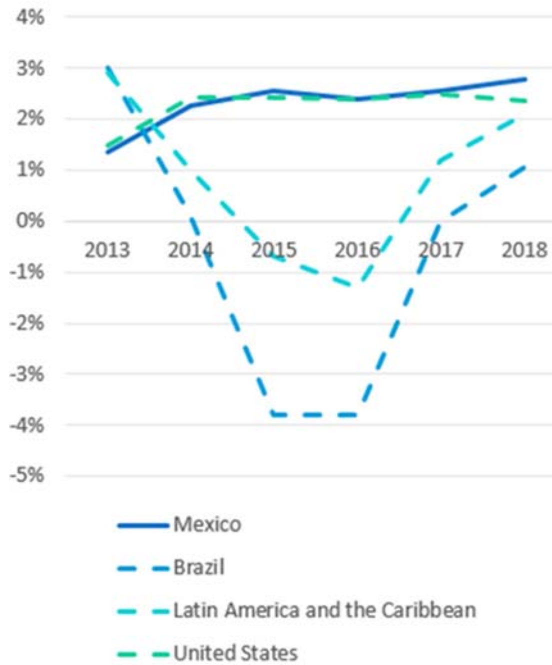


Figure 5 : Short Term GDP comparison

2.5.2 Principal Aerial Gateway to Mexico

The tourism industry is one of the pillar of the Mexican economy, forecast to contribute to 16.3% of the GDP in total contribution by 2025, currently at 6.2%, Mexico's tourism industry is one of the fastest growth among G20 countries in Travel & Tourism (WTTC). Mexico attracted over 32m international visitors in 2015 and is the largest tourist destination in Latin America. The country is ranked 9th in the world in terms of international tourist arrivals. Half of these tourists arrive by air and Mexico City Airport plays its role as the major gateway for these international visitors to Mexico.

Mexico City itself is growing its tourism appeal. It has been voted as the number one top global destination to visit in 2016 by the New York Times. MasterCard's 2015 Global Destination Cities Index report places Mexico City as the 2nd busiest city in Latin America for international overnight visitors, behind Lima, growing in rank from 4th place in 2011.

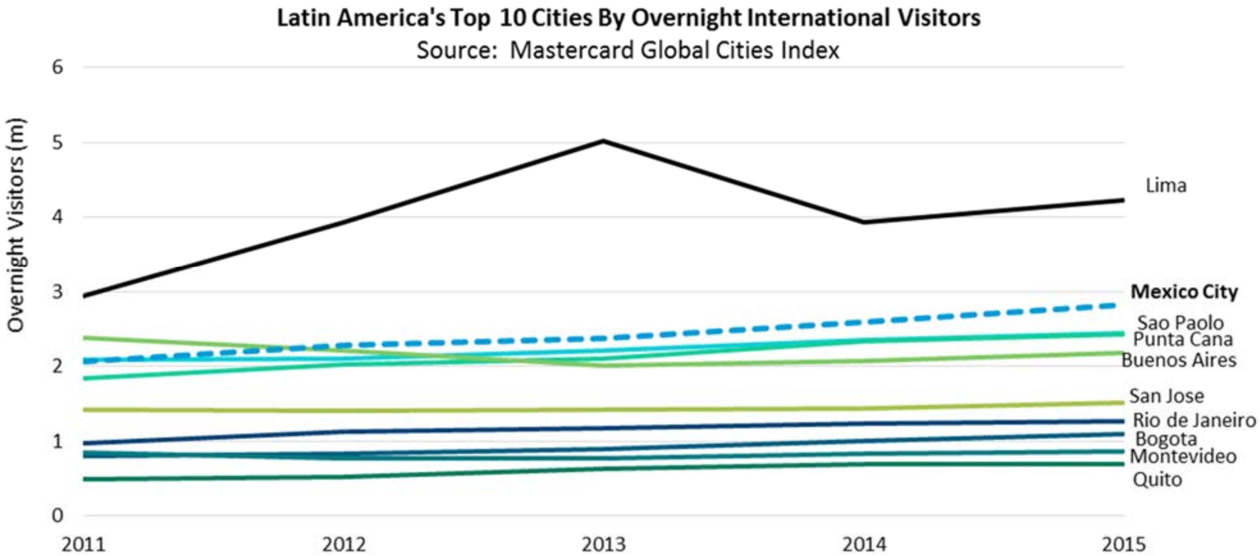


Figure 6 : Latin America's Top Cities By Overnight International Visitors

The country is not only growing due to its tourism activity, Mexico is the 4th largest oil exporter in the world and 7th largest auto producer. The biggest direct impact on the GDP comes from Retail (without wholesale) and most of its industries are beneficiating from the 44 free trade agreement which facilitates potential FDI for productions. Mexico is also one of the largest producer of silver with one of the oldest mining industry heritage from the Spanish colonial era. The Mexico City airport is the principal aerial gateway to Mexico.

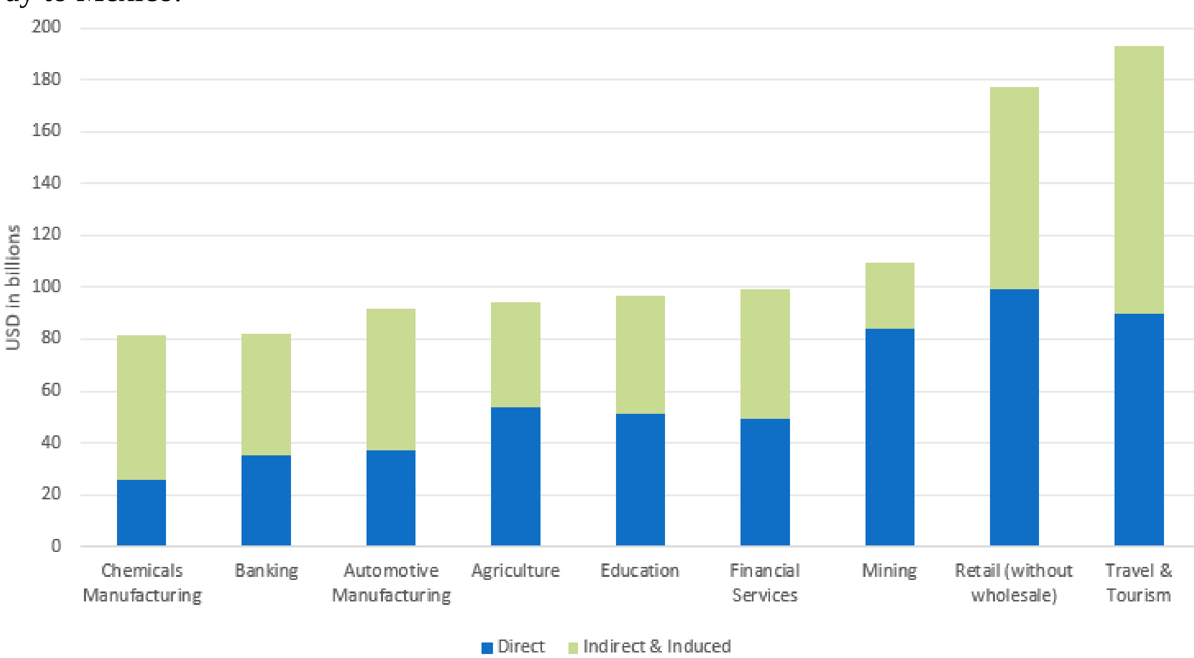


Figure 7 : Mexico GDP Impact by Industry (WTTC, 2014)

2.5.3 Competitive Passenger And Airline Charges

While the recent increase in TUA (implemented in 2014) puts passenger fees at the airport among the highest regionally, on overall airport turnaround charges basis (including landing, infrastructure, security and government charges) are on a low segmentation hence balancing the total charges which keeps MEX competitive against both regional and global peers (further analysis will be detailed within the section 4.5 below).

By observing the growth between the traffic variation and the increase in TUA over the past 3 years, we observe that, despite having a strong uphill (positive) linear relationship (r = 0.82), traffic is relatively free from the impact of the TUA as long as the rate variations are within reason, which therefore will not be impacting the traffic growth expectations.

2.5.4 Strong O&D Traffic Base

The population of Mexico City has been growing steadily over recent decades and is currently positioned as the second largest urban agglomeration in the Western Hemisphere. According to UN Statistics, the city population is expected to grow and overtake Sao Paolo to become the largest within the next decade. The city is currently the sixth largest urban metropolitan in the world behind Tokyo, Delhi, Shanghai, Sao Paolo and Mumbai.

In addition to a larger population base, Mexico's population are relatively young (biggest group below 30). In its study on *propensity to fly by age group*, Eurocontrol estimates that the young demographics with age group of 20-44 tend to have the highest travel propensity compared to the rest of the population. This reflects the potential that Mexico City possess in further developing the air travel market.

The strength of the O&D traffic lies within this large population base, which is forecast to grow both in number and prosperity. An increasing middle class, driven by the underlying improvements in the economy, will push further demand for air services. Based on the latest investors' presentation by Aeroméxico in May 2016[3], the upper middle class will almost double by 2025.

[3] Aeroméxico May 2016 Investors Presentation based on data by INEGI / CONAPO.

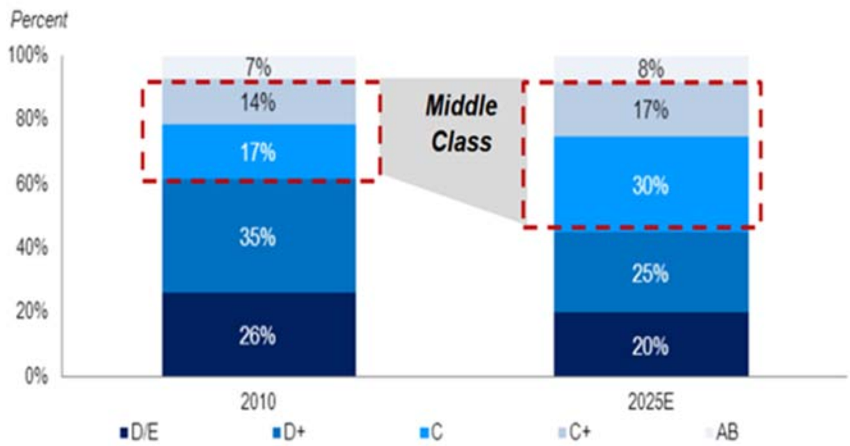


Figure 8 : Mexico growing middle class (Aeroméxico)

The chart below shows the projected change in composition of the Mexican population between 2010 and 2050. Over that period, the population is likely to shift to a position where the majority of the inhabitants will be within the working age range. This, combined with the growth in GDP and falling unemployment rate, will support a growing demand in O&D traffic, both domestically and internationally.

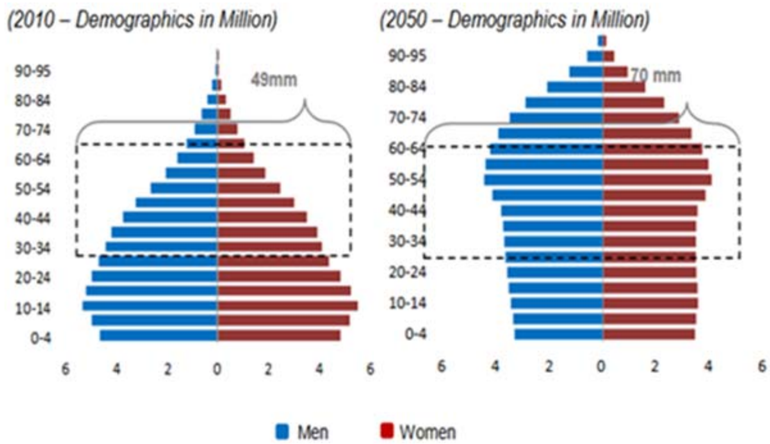


Figure 12 : Demographic Profile (Source: Aeroméxico)

2.5.5 Mexico City Hub

The New Mexico City Airport, headed by Aeroméxico and its Skyteam members, has potential to be developed into the central hub of the Americas. Combined capacity growth of the Skyteam airlines at MEX over the past 7 years has been near 9% perannum (CAGR). Recent examples of Skyteam network development include a new service connecting Rome operated by Alitalia, and China Southern which plans to link Mexico City with Guangzhou.

Liberalisation of US-Mexico air service agreement coupled with the airports central location gives it an obvious opportunity for the development of hub services through Mexico City from Central and South America through to domestic and other North American destinations. This will be particularly important for accessing USA from high-growth/ large population countries to the south such as Argentina, Brazil and Chile.

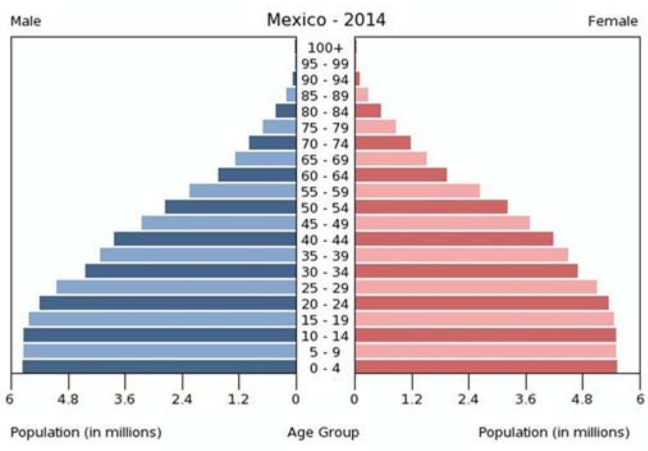


Figure 9 : CIA World Factbook, 2015

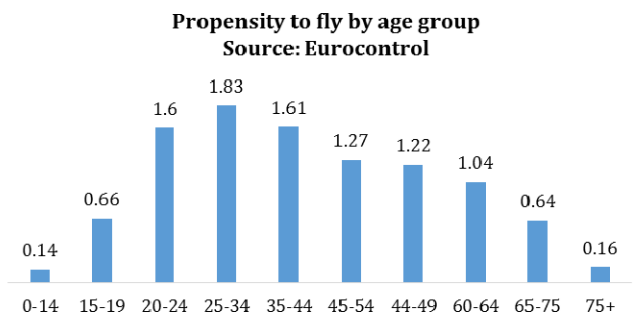


Figure 10: Propensity to fly by age

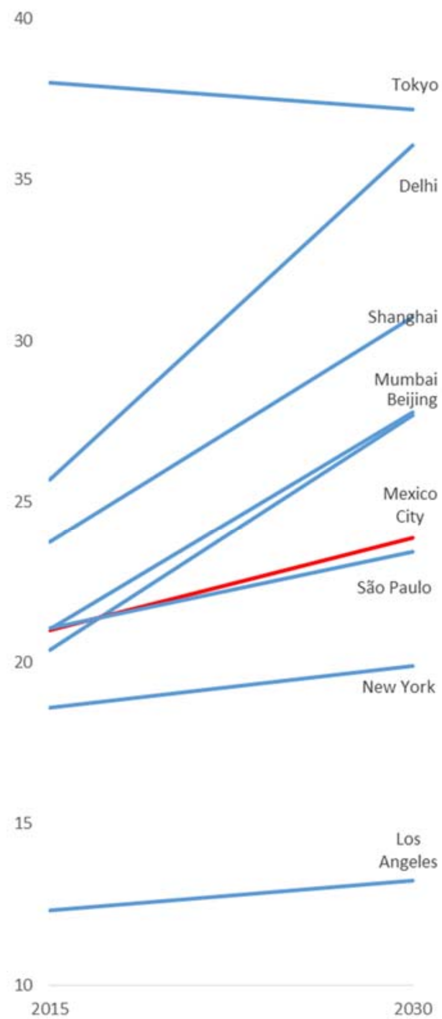


Figure 11 : Cities with among the highest population by 2030

Figure 13 : MEX as a Skyteam hub centrally located to connect North and South

Summary of operations between major US hubs and Central/South American countries (2015 Data)		
Country	Total Capacity	Total Movements
Brazil	3,461,955	28,260
Colombia	1,916,077	24,508
Panama	1,816,726	23,588
Costa Rica	1,602,983	20,074
El Salvador	1,066,536	14,198
Peru	1,037,231	10,168
Argentina	900,747	7,340
Ecuador	698,240	7,634
Guatemala	679,755	8,524
Chile	654,488	5,686
Honduras	541,526	7,814
Venezuela	521,987	6,232
Nicaragua	469,951	5,958
Belize	366,063	5,068
Guyana	114,547	1,376
Bolivia	105,456	1,146
Uruguay	96,204	974
Paraguay	6,336	72
Total	**16,056,808**	**178,620**

Figure 14 : Operations between US and Latin America

The majority of capacity between North and South America is to Brazil, particularly from Eastern and Central US hubs such as Dallas, JFK and Miami. Services from the West Coast of the US are limited partly due to the range of the majority of current generation narrow-body aircraft. NAICM would be best positioned to capture services from the West and Southern areas of the US given the advantages offered to airlines in operating more frequent, shorter operations, freeing up wide-body aircraft for use on other long-haul services. Assuming 75% capture of these services (which, based on other hubbing operations between continents such as Istanbul Ataturk, Doha ad Abu Dhabi, is a reasonable assumption), this would equate to 10,000 movements per annum (or 11%). This is before new hub growth opportunities are pursued.

In order to achieve this, NAICM management should work with the airlines to enable the most convenient, and wide ranging number of, connections to be made, potentially protecting new slots for these purposes or facilitating slot swaps. In addition, incentives could be offered on transfer/connecting passenger volumes to make NAICM a more attractive transfer location for airlines, which would be of particular benefit to the Skyteam member airlines.

2.5.6 Diverse And Balanced Airline Mix

MEX has a diverse and balanced mix of airlines. Aeroméxico which is part of Skyteam alliance has a capacity share of 45%. MEX has 4 strong Mexican low-cost carriers (LCC) who among them make up a balanced 40% share of capacity, with the remaining share taken up by other foreign airlines. This balanced mix of different types of airlines (hub/network/point-point/low cost) provides resilience for MEX to flexibly meet differing future demand scenarios. Comparing MEX to similar profile (London Heathrow LHR, Istanbul IST, Hong Kong HKG, São Paulo–Guarulhos GRU, Dubai DXB) on the chart below, we can clearly see a distinction between MEX and the others.

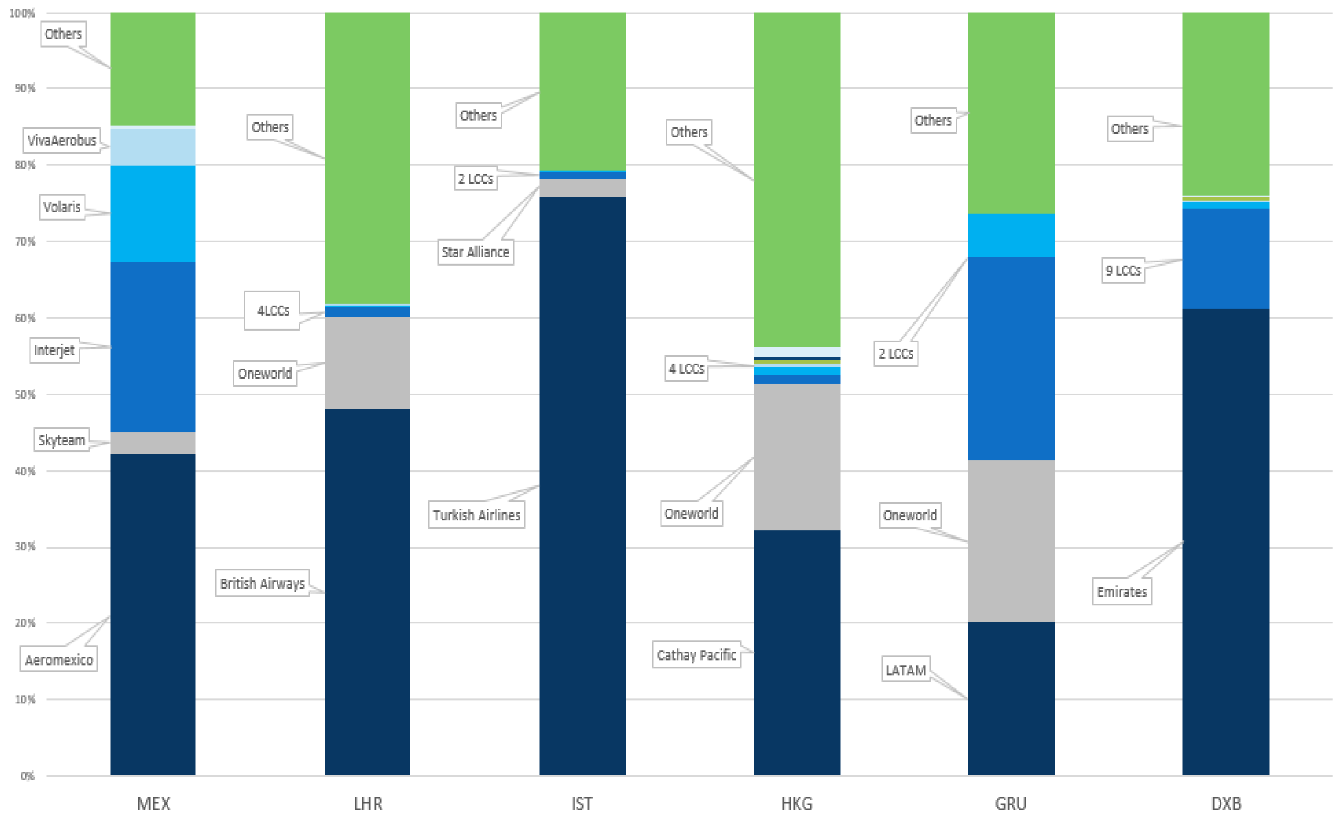


Figure 15 : Mix of airlines for major airport, 2016 Capacity

While MEX’s main carrier has a market share of 45%, at Istanbul and Dubai respective the main carrier covers over 60% of the market and both airports have a lower share of LCC traffic. This demonstrates the diversified profile of traffic at MEX, showing that future growth is not reliant on the success of just one airline or business model.

2.5.7 Strong Recent Growth

Traffic growth in Mexico City airport has seen a strong trend in the past few years growing, from 24.1m in 2010 to 38.4m in 2015. The annual average growth since 2010 has been 10% p.a.

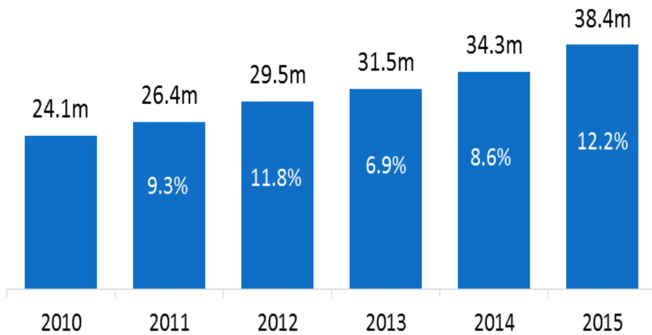


Figure 16 : Historical Traffic Growth

As previously discussed, GDP growth is an important factor in the traffic growth of the airport which, once superimposed, shows a strong correlation.

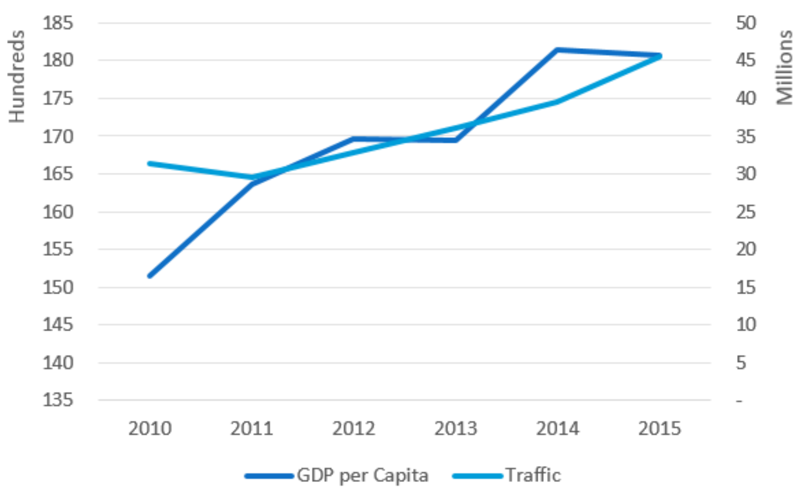


Figure 17 : GDP Per Capita growth along Traffic growth

Underlying economic growth has been simultaneously supported by the growth of airline seat capacity to accommodate the increase in demand, the biggest (in 2015) provided by VivaAerobus with a growth of 24% , followed by Volaris (22%) and Aeroméxico (17%) and Interjet at 11%. In the recent years the growth of the LLCs at Mexico City Airport has been extremely positive. With the development of the US-Mexico open skies, new LCC entrants from United States such as JetBlue and Southwest are starting to enter the market.

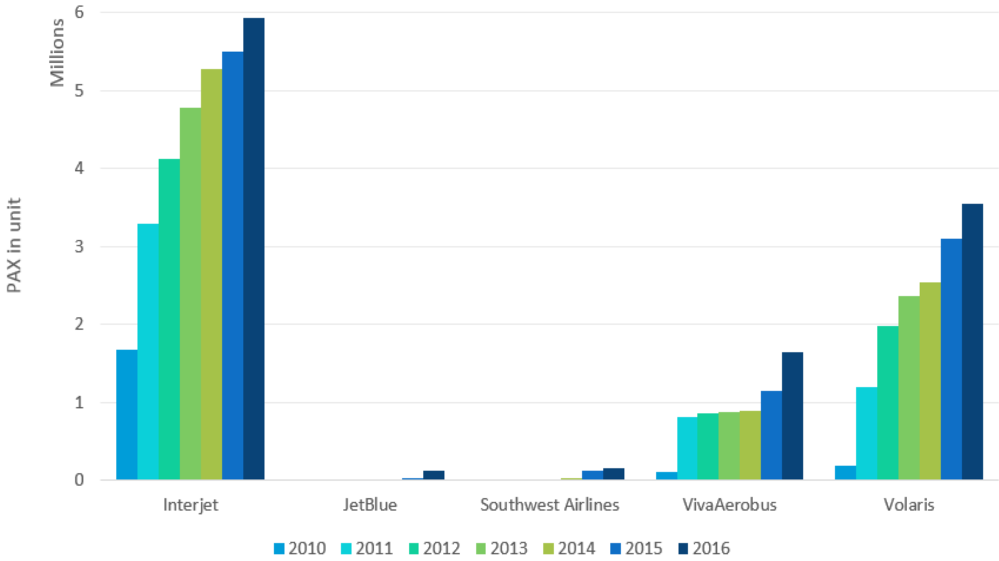


Figure 18 : Capacity growth of LCC from MEX, 2010 to 2016

The Mexican LCCs have over 40% share of the current market at MEX. Their capacity CAGR between 2010 and 2016 is 29%. To support this considerable growth momentum in the future, the Mexican airlines have their order book at high volume to make sure they have the inventory available to meet the demand expected from various economic factor.

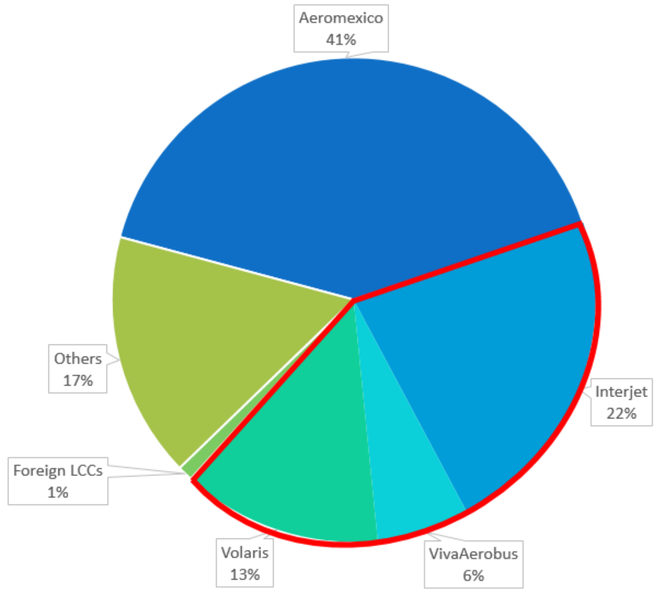


Figure 19 : Capacity share of the LCC at MEX airport in 2016

Aeroméxico has over 60 aircraft on order and over 30 on options, whilst the Mexican LCCs are looking to add over 120 aircraft (including options) based on current order book over the next decade.

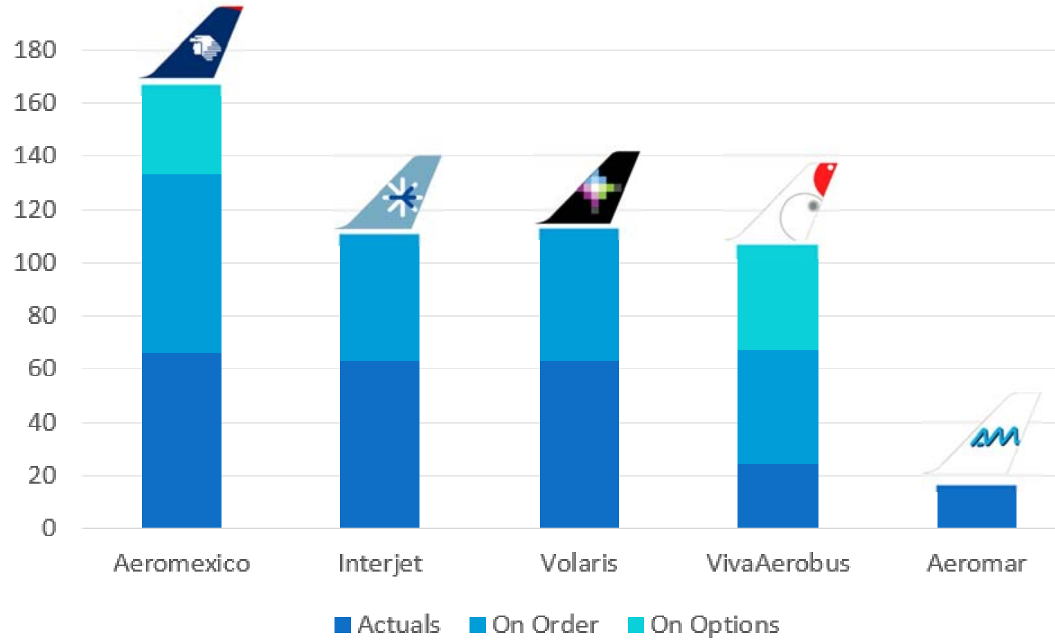


Figure 20 : Actual fleets and future acquisitions of Mexican airlines (excluding leases and retirements)

Turning to the efficiency of the domestic carriers, by comparing cost per available seat kilometer (CASM) between the Mexican airlines and Latin American/US competitors, we clearly see the advantage that the Mexican airlines have over regional competitors. These airlines understand that to unlock the potential increase in demand and continuous growth in traffic for Mexico, they need to remain competitive on costs so that new capacity can be added in the most efficient way. Volaris and VivaAerobus has class-leading operating costs, well below those of the US network airlines and other regional competitors. This low cost base translates into low air fares, which in turn has been translated into a strong forward order book for new aircraft, focused on answering this demand as much as possible to maximize growth.

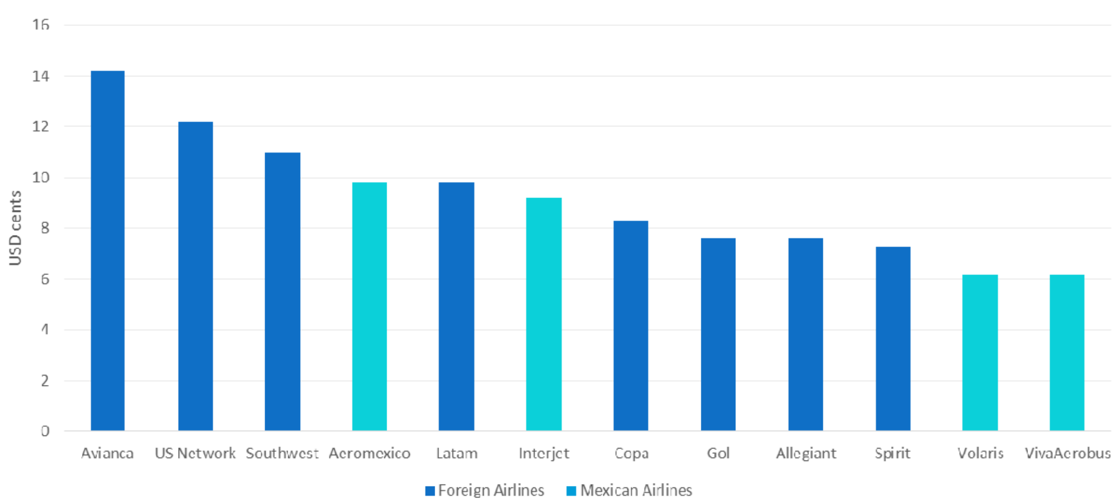


Figure 21 : Mexican airlines CASM comparison with Latin American and US airlines

2.6 Consultant Credentials

Arup is an independent firm of 11,000 designers, planners, engineers, consultants and technical specialists offering a broad range of professional services. Founded in the UK in 1946, Arup now has over 92 offices across Europe, North America, Africa, Australasia and South East Asia. We employ more than 12,000 people globally.

Arup in Aviation

We have been involved in aviation development for more than 50 years, with experience gained through a wide range of assignments at more than 100 airports worldwide. We have advised the majority of the world's leading airports and are recognized globally as a leader in airport masterplanning, delivering airport terminal and support facility designs, and specialist aviation services.

We support funders, owners, operators and users to develop safe, secure and sustainable solutions that deliver customer service excellence on a sound commercial basis. We add value to our clients' business through close collaboration with the client team and stakeholders, and drawing on in-depth knowledge to deliver robust, resilient and efficient solutions.

Transaction Advice

Our dedicated transaction advisory team specializes in the provision of business and corporate finance advice in relation to the privatization, acquisition and sale of airports.

We undertake business feasibility, planning, and due diligence studies on behalf of governments, airport owners and financial institutions.

As an integrated aviation strategy service provider, we seek to combine the primary airport business model workstreams of traffic forecasting, commercial and operational strategy, and infrastructure appraisal and asset management, to deliver holistic advice to our clients. In collaboration with our technical experts in the design, operation and management of airports, we offer a wide appreciation of the financial, commercial and strategic drivers to bring real value for potential vendors and buyers of airport assets.

Our airport transaction advisory experience include:

- **Commercial and technical due diligence**
    - Traffic forecasting
    - Commercial strategy
    - Operational strategy
    - Capital investment strategy
- **Corporate finance**
    - Commercial structuring and negotiation
    - Financial and funding models
    - Deal valuation, financial business case/investment case

    - Fundraising/assisting funding competitions
- **Strategy and economics**
    - Market analysis
    - Policy and regulatory advice
    - Feasibility studies, pricing and incentive regimes
    - Cost benefit analysis

A selected list of our projects experience in this area transaction advice includes: Cusco Airport PPP; Greek Regional Privatization; Brazilian Airports Privatization; Kansai and Itami Airports, Japan; Mexico City Airport; Chicago Midway PPP, USA; Luanda Airport, Angola; Abertis Airports Sale; Myanmar Airport PPP; London Stansted Airport, UK; ANA Airport Privatization, Japan; Istanbul New Airport, Turkey; Luis Muñoz Marín International Airport, San Juan, Puerto Rico; Lekki-Epe International Airport, Nigeria; Edinburgh Airport, Scotland; TAV Group, Turkey; AENA Privatization and Hochtief Airports Sale.

RDC Aviation Economics

RDC Aviation Economics is a UK-based consultancy. The company was formed in 1999 and has provided specialist aviation advice to over 150 clients. RDC provides a range of services to airport investors, operators and management companies to support their long-term strategic decisions. Our core competencies are:

- Market assessment, segmentation and competitive situation analysis
- Short-term, bottom-up demand forecasting, identification of target routes and airlines
- Long-term macroeconomic forecasting of passengers and aeronautical revenue
- Passenger segmentation to feed planning and capacity analysis including peak hour projections and production of planning day schedules
- Analysis of key traffic drivers
- Aeronautical revenue benchmarking and tariff analysis

In 2013, RDC acquired Aviation Economics, a consultancy with over 17 years' experience advising aviation industry participants including aircraft manufacturers, airlines, airports, civil aviation authorities, governments, investment banks and private equity investors.

The consultancy division of RDC benefits from the company's in-house products including the RDCApex and airportcharges.com software products, which are used by airlines, airports and investment/consultancy firms such as British Airways, Onur Air, Singapore Changi Airport, Heathrow Airport, HSBC, Citigroup, Deloitte, IATA, Boston Consulting Group and Intervistas.

The combined RDC Aviation Economics team has in the past 14 years worked on airport transactions worldwide with a combined value in excess of US$140bn. Detailed below are some examples of these:

- Kansai International Airport and Itami Airport in Japan
- New Istanbul Grand Airport
- Athens International Airport Masterplan
- Antalya Airport
- Newcastle Airport
- Edinburgh Airport
- ANA Airports in Portugal
- Erçan Airport in Northern Cyprus
- São Paulo-Guarulhos Airport and Brasilia Airport in Brazil
- Rio de Janeiro and Belo Horizonte airports in Brazil
- London’s Stansted and Gatwick and London City airports
- Moscow Domodedovo and Sheremetyevo airports
- Chicago Midway Airport
- Birmingham Airport
- Zagreb Airport
- Barcelona and Madrid airports
- Rome Airport
- Sydney Airport
- Brussels Airport
- Vienna Airport
- Heathrow Hub Scheme for new London capacity

3 The Competitive Framework

3.1 Mexico City Area

There are five airports within 130 miles of Mexico City – Mexico City Airport (MEX), Toluca (TLC), Puebla (PBC), Cuernavaca and Queretaro (QRO) (the latter being the furthest away).

Figure 22 : Mexico City Airport System

In terms of distance to the centre of Mexico City itself, Mexico City Airport is only 8 miles distant – 30 miles closer than the next nearest (Toluca Airport at 38 miles). NAICM would be at approximately 15 miles from the city centre. MEX also benefits from good links into the wider bus network serving Mexico, though Toluca is better located to higher-income and some business centre areas than MEX.

MEX remains the primary airport within the group of five, accounting for 95% of domestic and 97% of international seat capacity in 2015.

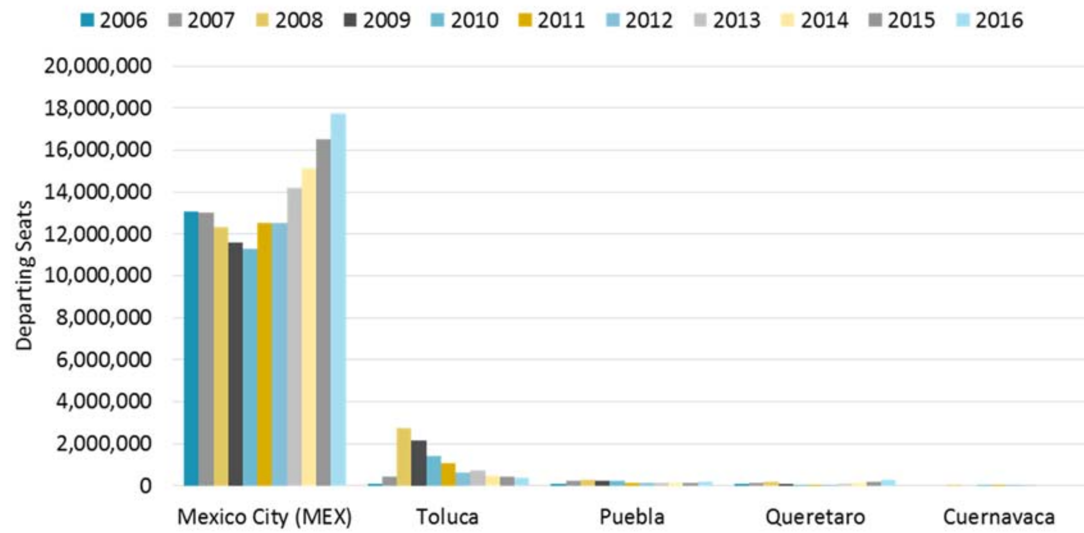


Figure 23 : Growth in seat capacity over last decade at Mexico City system airports

The historical trend in domestic share is indicative of MEX losing share to TLC as low cost carriers (LCCs) developed services at TLC and also through the collapse of Mexicana. However, since 2008/2009 MEX has been growing strongly while TLC has lost 71% of its traffic and the other three airports in the system have grown by less than 20,000 seats combined. Currently Cuernavaca has no scheduled services.

Since 2010, MEX has shown very good resilience following the collapse of Mexicana, regaining share within the system as LCCs have taken the opportunity to establish a presence at the principal regional air carrier airport.

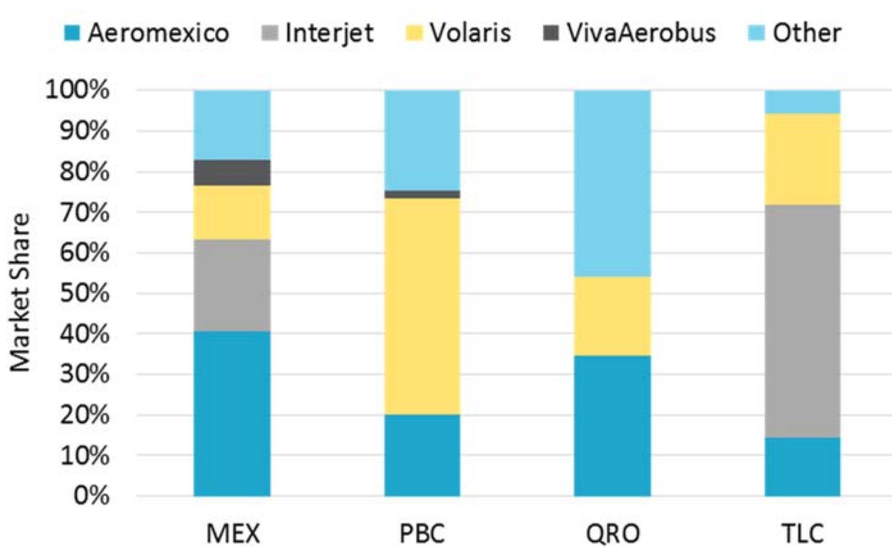


Figure 24 : Market Share of largest four Mexican airlines at Mexico City system airports (2016)

3.2 Mexico

Mexico City Airport sits within the Mexican market as the largest airport and the primary gateway into the country for long-haul flights, with the exception of Cancun which sees a high proportion of inbound leisure flights, especially from Europe.

The airport has shown a strong resilience through the financial crisis and continued to grow while nearby airports has seen a consistent decrease in traffic such as Toluca, despite being closer to business areas and high income residences. Toluca airport lost 45% of its routes available from 20 down to 11 destinations while Mexico City airport opened 13 new routes since 2010, with a clear increase of Foreign Direct Investment which grew by 15% since 2010, the connectivity offered by Mexico towards the international has been a major factor in its sustainable growth.

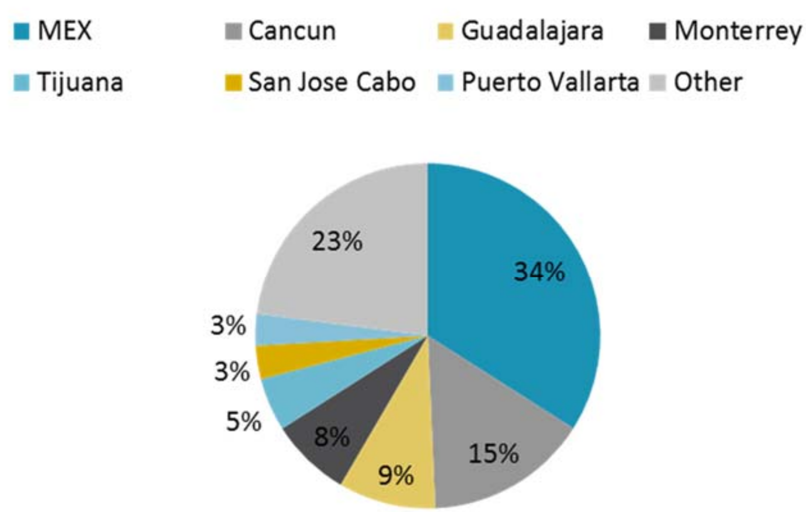


Figure 25 : Market Share of departing seats from Mexican airports by airport (2016)

MEX also has a strong growth rate for an airport of its size, its 10-year CAGR of 3.3% (which includes the demise of Mexicana) is higher than that of many other airports in the country. Cancun's strong growth rate of 8.4% is notable but of little threat to Mexico City due to the distance between the cities and the difference in the markets that the two airports operate in.

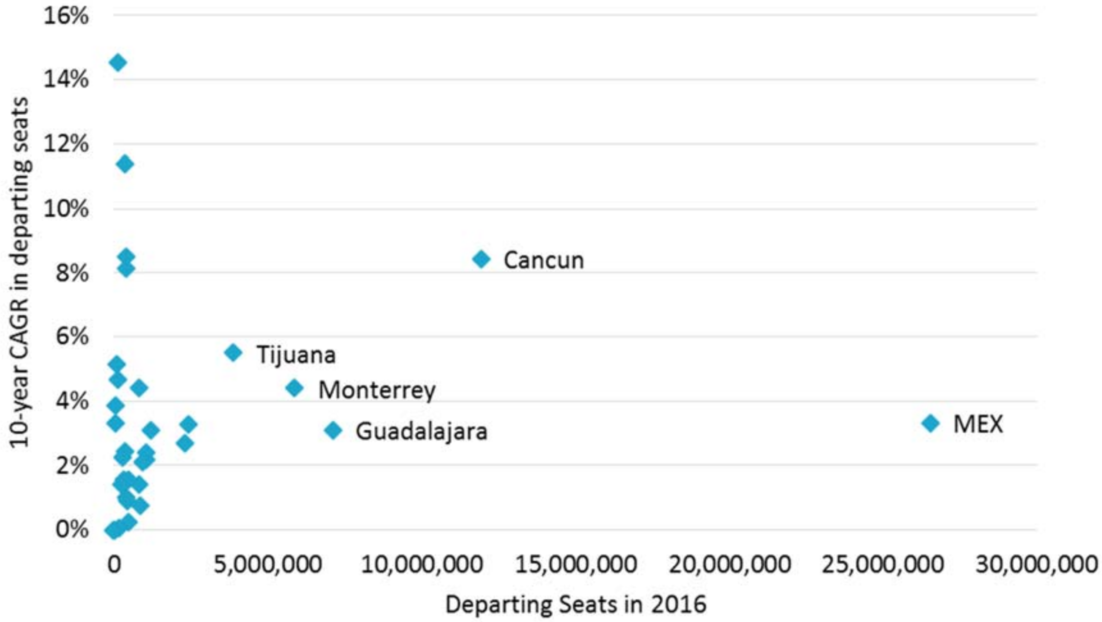


Figure 26 : Growth rates at airports in Mexico

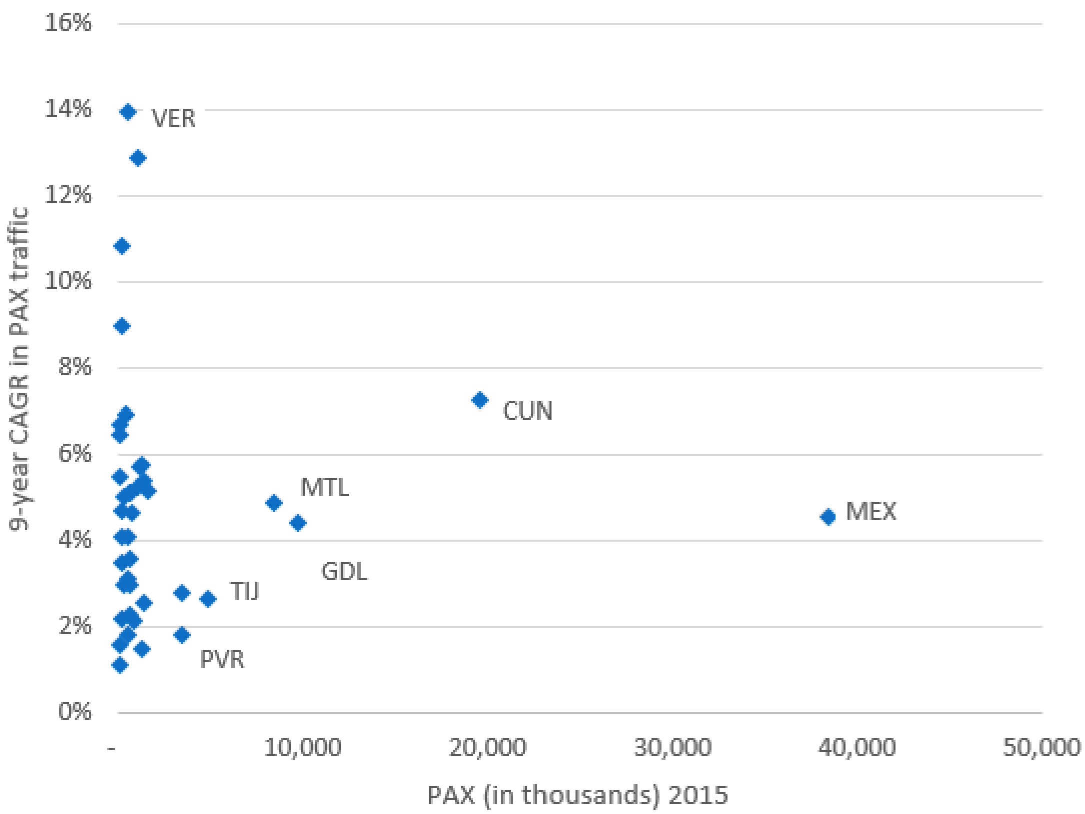


Figure 27 : CAGR growth to PAX

The biggest development in Mexican aviation over the last few years has been the rise of low cost airlines, in particular InterJet, Volaris and VivaAerobus.

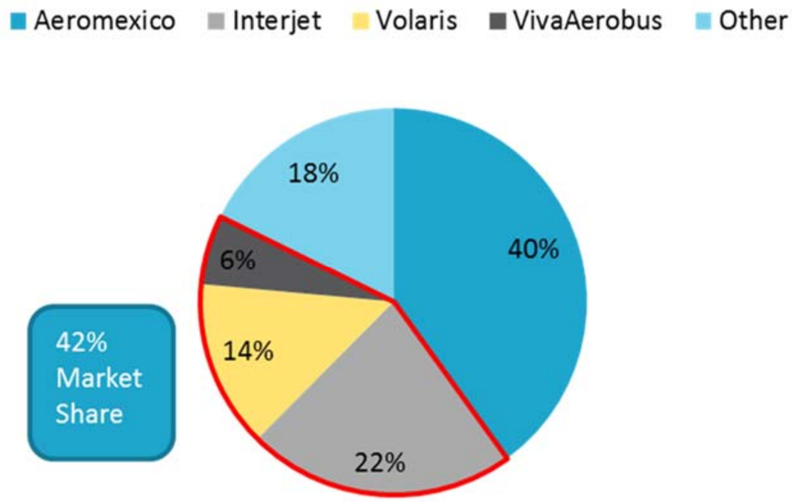
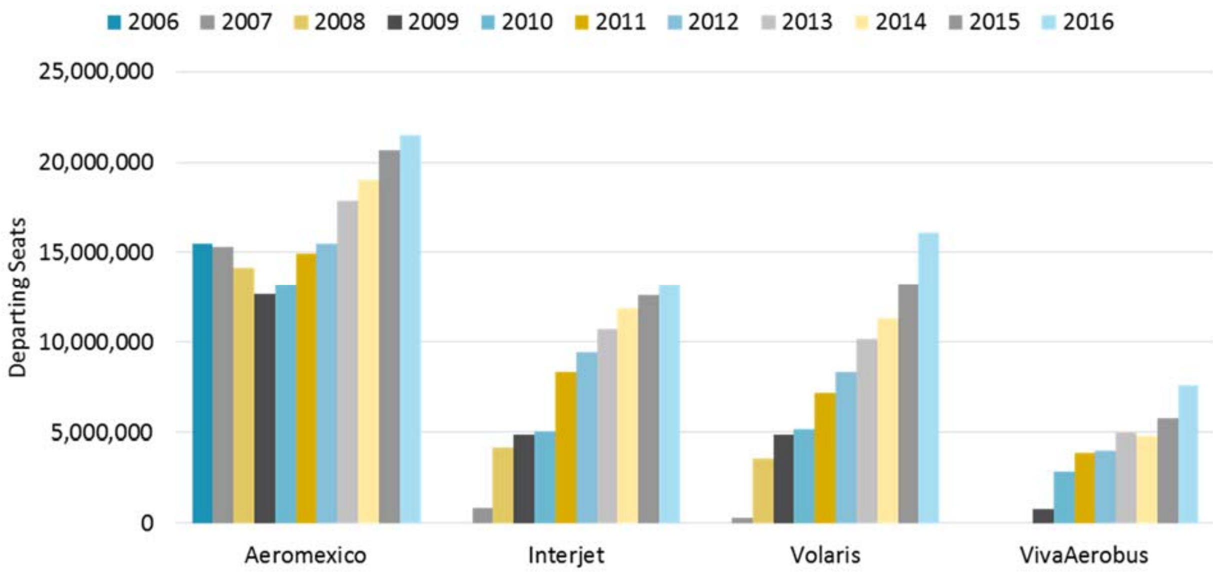


Figure 28 : Capacity at MEX by airline, highlighting market share of top 3 LCCs (2016)

These three Low Cost airlines are all relatively recent start-ups, with Interjet and Volaris first flying scheduled Mexican operations in 2007, while VivaAerobus launched in 2009.



Further growth is also expected over the next decade, as the three airlines have over 120 aircraft (including options) which would more than double their combined fleet – although some fleet retirement/replacement is expected alongside the growth. It is worth noting that Aeroméxico would still be the largest airline after aircraft orders are taken into account, but the combined fleets of the three airlines would be significantly larger than the Mexican flag carrier.

3.3 Latin America

Mexico is the second largest of the Latin American countries in terms of commercial aviation, with more than double the airline seat capacity of Colombia, the third largest.

Brazil remains the largest with over 120,000,000 annual departing seats, however it has experienced negative growth over the last 5 years – a time in which the Mexico market has been expanding rapidly.

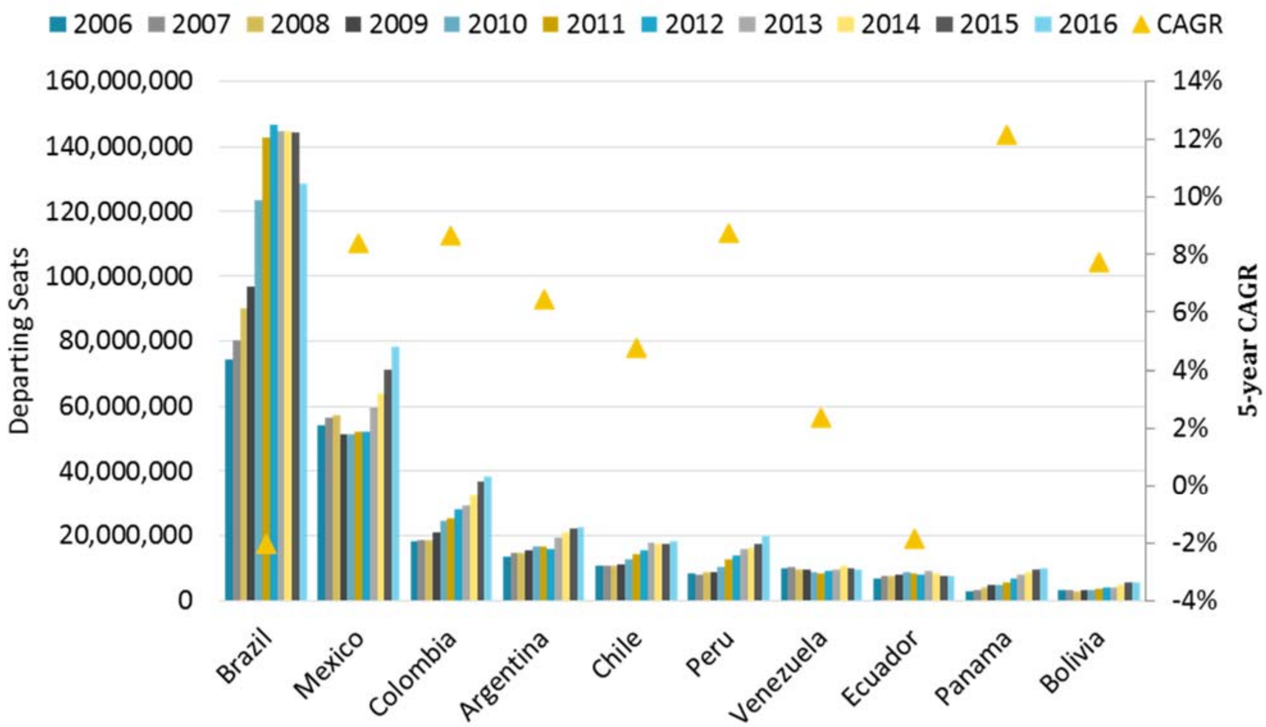


Figure 29 : Growth in departing seats at Top-10 Latin American countries

4 AICM Tariff Analysis

The relative cost of MEX compared to its regional and global peers, as determined by its airport charges, is critical in determining the overall competitiveness of the airport in growing its traffic demand.

Reflecting this we have undertaken a benchmarking analysis of published aeronautical tariff structures and against a series of regional and global benchmark airports. This analysis is designed to identify common charging regimes; if there are opportunities to improve the charging structure; and the overall level of competitiveness on a local, regional and international basis.

To benchmark AICM's current tariff (in terms of both structure and amounts), a range of comparable North, Central and Southern American airports have been identified based on their size, airline mix and passenger profile. In addition, other global hub airports which are currently larger than AICM (such as London Heathrow LHR, Paris Charles de Gaulle CDG, Frankfurt FRA, Istanbul IST and others) have been reviewed to see how the tariff could develop in the longer term.

This analysis is designed to assess the competitiveness of the current tariff and its potential impacts on demand (if any). The results of this analysis are summarized in this section of the report. It shows that while TUA may be at the higher end of the scale to Mexican/Regional peers, it is still within the overall range. Furthermore, as was experienced historically, traffic demand is less elastic to TUA.

In fact, when comparing total airline charges (TUA including landing, parking etc.), MEX charges are in the low-to-mid range of regional and global peers. Thus there is less pressure of the airport charges itself on the overall total ticket price to the passengers.

4.1 Understanding MEX's Current Tariff Structure

MEX's current charge structure includes commonly occurring charging elements (such as weight-related landing and per passenger TUA). Charges are typically in MXN, but some charges (such as the TUA) are stated in USD (though converted to MXN before invoicing).

The airport includes some charges for infrastructure related activities (such as use of air bridges and shuttle buses for remote parking).

However, compared to some of the other benchmarked airports, there could be scope to introduce other charge types such as noise/environmental factors and gate/remote parking charges.

In addition, no government taxes are levied on passengers at Mexican airports – whilst these are not revenue streams for the airport, they are accounted for in ticket prices and therefore their inclusion (and potential increase) needs to be considered as part of assessing the impact of increased airport charges on the overall ticket price when benchmarking with other airports.

	Charge Type	Calculation/Value	Currency
Landing Charges	Normal Time - Domestic Operations	Aircraft MTOW x 13.34	MXN
	Normal Time - International Operations	Aircraft MTOW x 34.44	MXN
	Critical Time - Domestic Operations	Aircraft MTOW x 16.98	MXN
	Critical Time - International Operations	Aircraft MTOW x 43.9	MXN
	Critical Times : 9:00-10:59 , 13:00 - 14:59 , 19:00-21:59		

	Charge Type	Calculation/Value	Currency
Passenger Charges	National TUA	Departing Pax x 22.37	USD
	International TUA	Departing Pax x 34.78	USD
	Security Screening of Passengers & Carry-on Luggage	Departing Pax x 14.4	MXN
	Passenger/Carry-on luggage inspetion - Domestic	Departing Pax x 2.7	MXN
	Passenger/Carry-on luggage inspetion - International	Departing Pax x 3.41	MXN

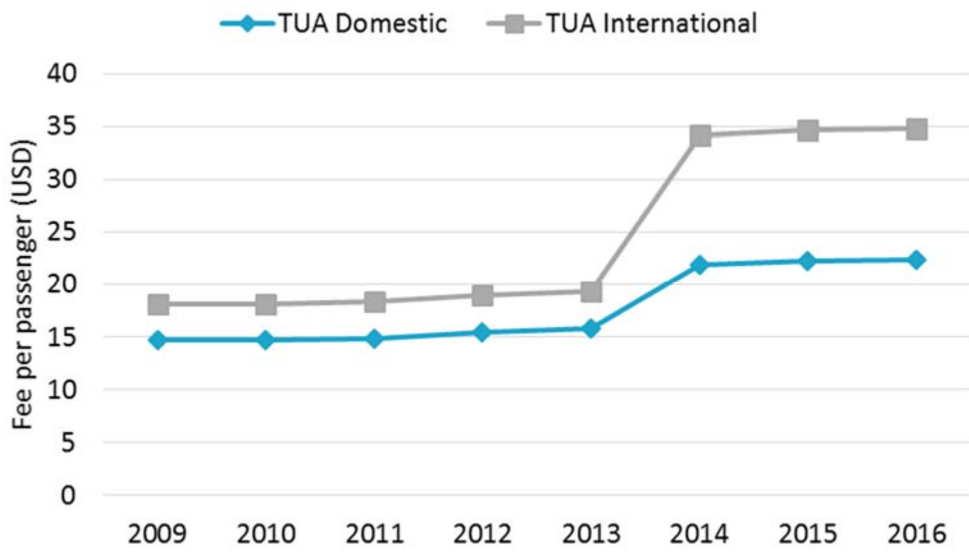
	Charge Type	Calculation/Value	Currency
Infrastructure Charges	Shuttle Buses (30 minutes or less)	582	MXN
	. . .	. . .	
	Shuttle Buses (166 - 180 minutes)	2,328	MXN
	Jet Bridge - Domestic (60 minutes or less)	874	MXN
	. . .	. . .	
	Jet Bridge - Domestic (166 - 180 minutes)	2,634	MXN
	Jet Bridge - International (60 minutes or less)	1,554	MXN
	. . .	. . .	
	Jet Bridge - International (166 - 180 minutes)	4,658	MXN

	Charge Type	Calculation/Value	Currency
Terminal Charges Operational Services	Off Peak Time - Domestic Operations	(Departure Time - Arrival Time) x Aircraft MTOW x 9.18	MXN
	Off Peak Time - International Operations	(Departure Time - Arrival Time) x Aircraft MTOW x 11.7	MXN
	Critical Time - Domestic Operations	(Departure Time - Arrival Time) x Aircraft MTOW x 18.73	MXN
	Critical Time - International Operations	(Departure Time - Arrival Time) x Aircraft MTOW x 23.86	MXN

Figure 30 : MEX Aeronautical Charging Structure (source: Airportcharges.com)

4.2 MEX's Tariff Evolution

MEX's TUA for domestic and international have been relatively flat in nominal terms until 2013. As part of funding for the new airport, from 2014, the TUA increased at an average of 9% p.a. and 18% p.a. for domestic and international respectively. Overall real term growth from 2009 came to a CAGR of 2.5% p.a. for domestic and 6% p.a. for international.



Evolution of TUA in nominal and real terms (Source: Airportcharges.com, Global Insight)

	2009	2010	2011	2012	2013	2014	2015	2016	2009-2016 CAGR
International TUA (nominal)	$18.16	$18.13	$18.34	$18.99	$19.40	$34.15	$34.72	$34.78	9.7%
International TUA (real, 2016 prices)	$23.19	$22.23	$21.75	$21.63	$21.29	$36.03	$35.66	$34.78	6.0%
National TUA (nominal)	$14.76	$14.73	$14.90	$15.43	$15.76	$21.96	$22.33	$22.37	6.1%
National TUA (real, 2016 prices)	$18.85	$18.06	$17.67	$17.58	$17.29	$23.17	$22.93	$22.37	2.5%

Figure 31 : MEX TUA fees evolution

Other charging elements have, on the whole, remained flat in nominal terms since 2009. There should be scope to increase the higher yielding charges (such as landing charges) to reflect the value of the slot scarcity experienced at MEX currently.

Evolution of other charges in nominal terms (Source: Airportcharges.com)

	2009	2010	2011	2012	2013	2014	2015	2016	2009-2016 CAGR
Landing Off Peak Time - Domestic Operations	12.85	13.34	13.34	13.34	13.34	13.34	13.34	13.34	0.5%
Landing Off Peak Time - International Operations	33.18	34.44	34.44	34.44	34.44	34.44	34.44	34.44	0.5%
Landing Peak Time - Domestic Operations	16.36	16.98	16.98	16.98	16.98	16.98	16.98	16.98	0.5%
Landing Peak Time - International Operations	42.29	43.90	43.90	43.90	43.90	43.90	43.90	43.90	0.5%
Security Screening of Passengers - Domestic	2.70	2.70	2.70	2.70	2.70	2.70	2.70	2.70	0.0%
Security Screening of Passengers - International	3.41	3.41	3.41	3.41	3.41	3.41	3.41	3.41	0.0%
Checked Baggage Inspection - Domestic	8.30	8.30	8.30	8.30	8.30	14.40	14.40	14.40	8.2%
Checked Baggage Inspection - International	14.53	14.53	14.53	14.53	14.53	14.40	14.40	14.40	-0.1%
Shuttle Buses (30 minutes or less)	573	573	573	573	573	573	582	582	0.2%
Jet Bridge - Domestic (60 minutes or less)	704	704	750	861	874	874	874	874	3.1%
Jet Bridge - International (60 minutes or less)	1,254	1,254	1,321	1,530	1,554	1,554	1,554	1,554	3.1%
Operation Services Off Peak Time - Domestic Operations	8.84	9.18	9.18	9.18	9.18	9.18	9.18	9.18	0.5%
peration Services Off Peak Time - International Operatior	18.04	18.73	18.73	18.73	11.70	11.70	11.70	11.70	-6.0%
Operation Services Peak Time - Domestic Operations	11.27	11.70	11.70	11.70	18.73	18.73	18.73	18.73	7.5%
Operation Services Peak Time - International Operations	22.98	23.86	23.86	23.86	23.86	23.86	23.86	23.86	0.5%

Figure 32 : MEX Other aeronautical charges evolution

4.3 Airport Charges Benchmarking

A range of local, regional and international airports were chosen to benchmark the current AICM tariff. European and US airports highlight the competitiveness and potential future direction of charges due to their larger size and more mature nature of their markets/operations.

4.4 Benchmarking Passenger Charges

Large variations exist in airport tariff structures, though the most commonly occurring fees exist in Passenger Service Charges (PSCs/TUAs). In general, this is one charge per departing passenger, but can sometimes be split (especially in Europe) into a PSC, a security charge and a Persons with Reduced Mobility (PRM) charge. However split, these generally cover the same cost items of processing passengers and related security processes. In terms of comparison with US airports, the airports generally combine their passenger charges into terminal/gate rental fees. Thus the benchmark shown here of US airports may be lower than actual charges.

With the increase in TUA at MEX in 2014, benchmark of international passenger fees among Latin American peers shows MEX charges to be one of the regional highest behind Monterrey, Bogota and Culiacán Airport.

Figure 33 : Latin American Peers Passenger charges benchmark

MEX also has one of the highest passenger fee charges compared to global peers, only behind London Heathrow and Chicago O'Hare. Comparing the Latin American peers, most global airports have some other element of passenger fees such as PRM, security and for Hong Kong Airport, a dedicated Airport Construction Fee used to pre-fund the construction of its third runway.

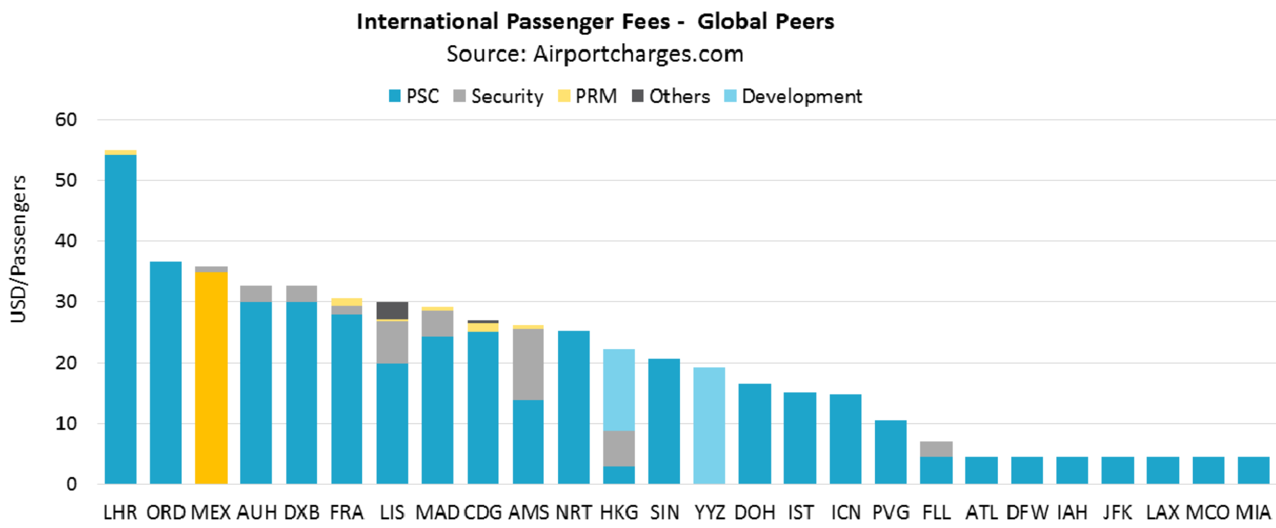


Figure 34 : Global Peers Passenger charges benchmark

4.5 Benchmarking Total Airport Charges

Although MEX has one of the high passenger fees in the region, when benchmarked in terms of total airport charges (turnaround cost) including government fees, MEX shows as being within the middle range of Latin American peers.

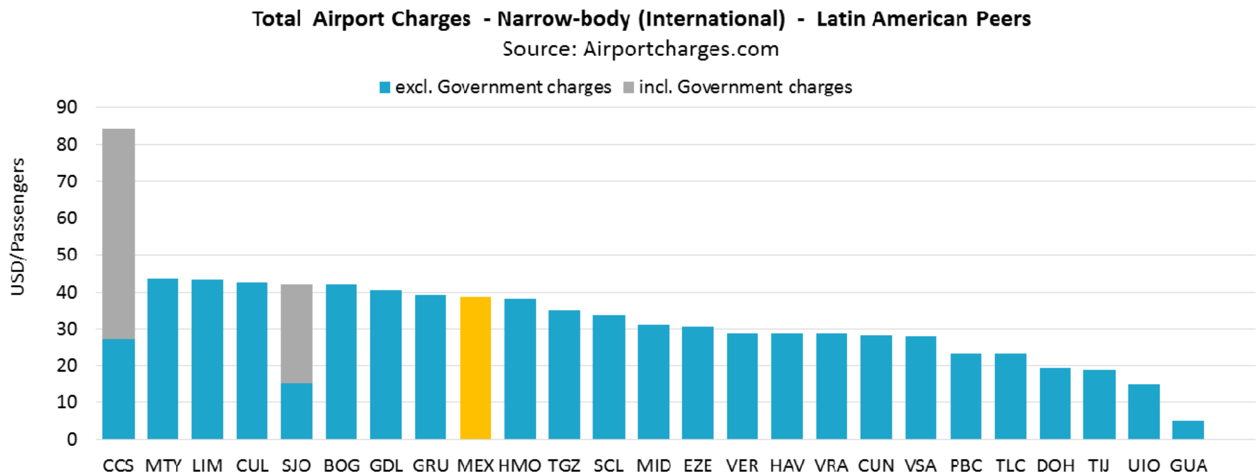


Figure 35 : Latin American Peers Narrow-body turnaround charges per pax

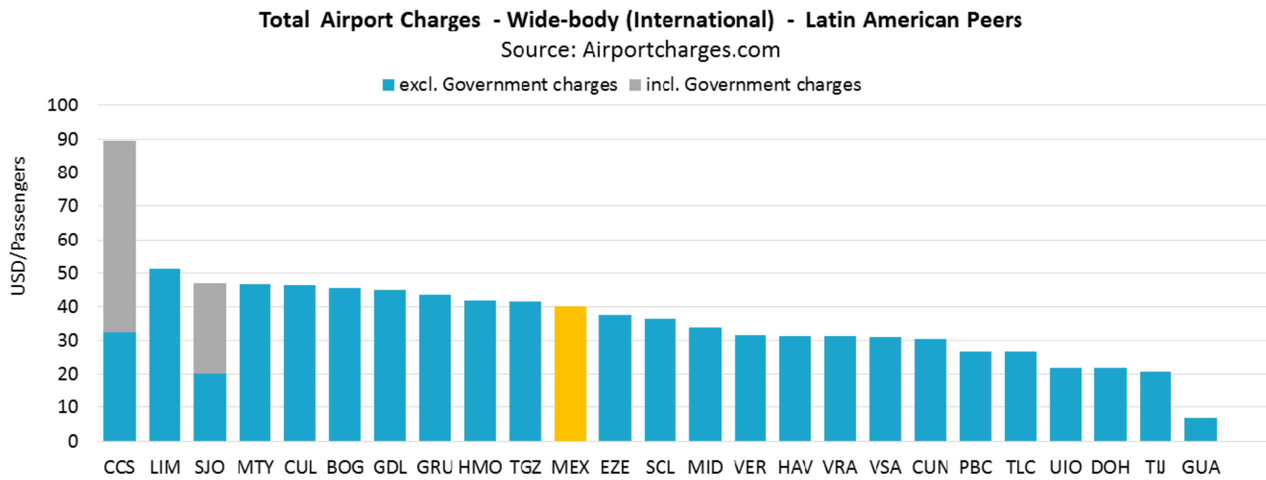


Figure 36 : Latin American Peers Wide-body turnaround charges per pax

On a global level, MEX total airport charges per passenger is lower than the majority of peers when government charges are included. MEX is particularly competitive on wide-body turnaround charges compared to global peers and competitive for narrow-body charges among North American airlines.

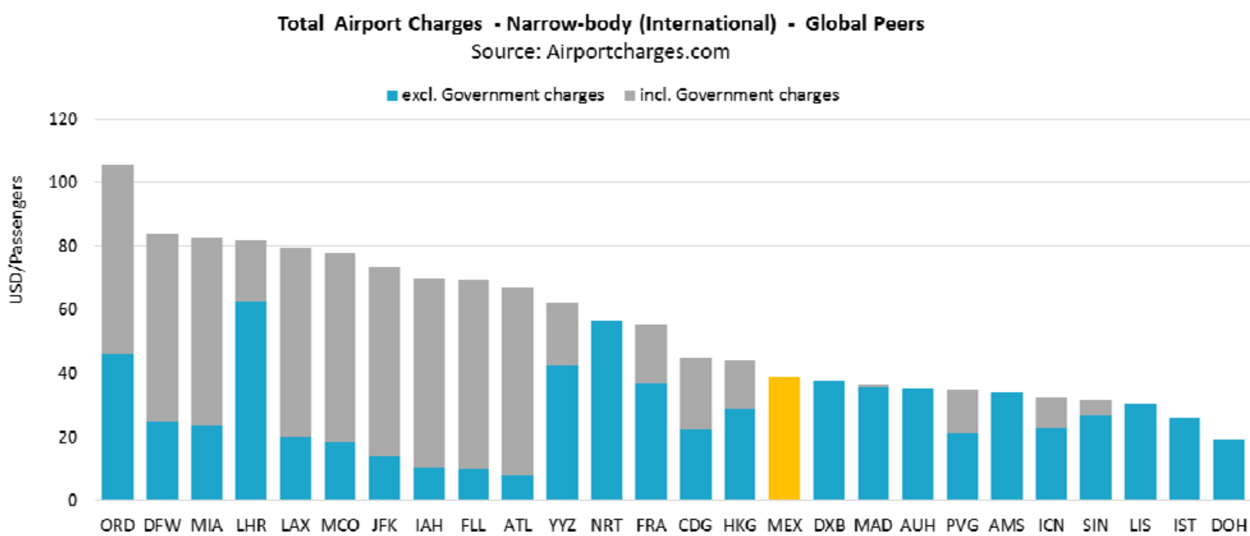


Figure 37 : Global Peers Narrow-body turnaround charges per pax

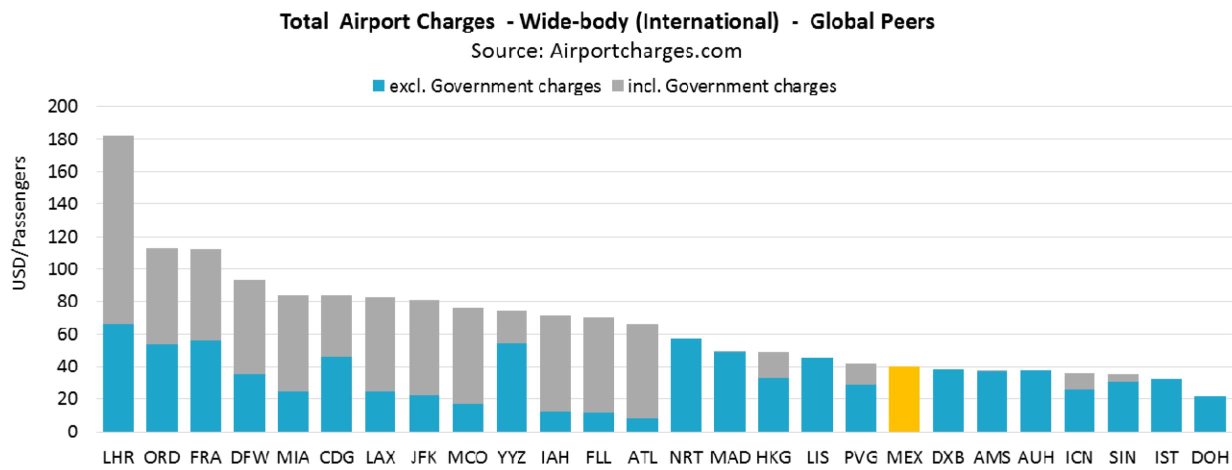


Figure 38 : Global Peers Wide-body turnaround charges per pax

4.6 Benchmark Of Transfer Fees

MEX is one of handful hub airports (>30m pax) that do not charge transfer fee. Being a major hub for Latin/Central and North America connection provides the scope for the airport to introduce fees for transfer passengers. Transfer passengers are currently exempted of paying TUA at MEX. Most major European, Asian hubs impose some form of specific fee on transfer passengers. Only a handful of airports have been identified to not impose any fee for transfer passengers (Sydney, Taipei, Mumbai). Transfer passengers used to be exempted of charges at Dubai Airport. But from June 2016, Dubai has started to impose fee (Passenger Facility Charge) of DH35 (USD9.50) for all passengers including transfer passengers. According to the airport, this additional revenue would help to fund Dubai airports' infrastructure and support expansion. All the major hubs in Europe impose some form of transfer fees with Heathrow Airport charging the highest at £31 for long haul transfer. Most regional airports such as Lima (LIM) impose similar PSC/TUA (non-exempted).

A transfer fee was introduced for Brazilian Airports in 2013 to commensurate with the overall airport privatization exercise. São Paulo currently charge BRL9 per transfer passenger.

	Airport	2014/15 Passengers	Type of Transfer Fee		Airport	2014/15 Passengers	Type of Transfer Fee
1	Atlanta	101m	Same as local	26	Las Vegas	45m	Same as local
2	Beijing	90m	Same as local	27	Charlotte	45m	Same as local
3	Dubai	78m	Same as local	28	Miami	44m	Specific transfer fee
4	Chicago	77m	Same as local	29	Phoenix	44m	Same as local
5	Haneda	75m	Specific transfer fee	30	Houston	43m	Same as local
6	Heathrow	75m	Specific transfer fee	31	Seattle	42m	Same as local
7	Los Angeles	75m	Same as local	32	Chengdu	42m	Same as local
8	Hong Kong	68m	Same as local	33	Toronto	41m	Specific transfer fee
9	Paris	66m	Specific transfer fee	34	Munich	41m	Specific transfer fee
10	Dallas	64m	Same as local	35	Mumbai	41m	No charges
11	Istanbul	62m	Specific transfer fee	36	Fiumicino	40m	Specific transfer fee
12	Frankfurt	61m	Specific transfer fee	37	Gatwick	40m	Same as local
13	Shanghai	60m	Same as local	38	Sydney	40m	No charges
14	Amsterdam	58m	Specific transfer fee	39	Shenzhen	40m	Same as local
15	New York	57m	Same as local	40	Barcelona	40m	Specific transfer fee
16	Singapore	55m	Specific transfer fee	41	Sao Paulo	39m	Specific transfer fee
17	Guangzhou	55m	Same as local	42	Shanghai	39m	Same as local
18	Jakarta	54m	Same as local	43	Orlando	39m	Same as local
19	Denver	54m	Same as local	44	Taipei	38m	No charges
20	Bangkok	53m	Specific transfer fee	45	Mexico City	38m	No charges
21	San Francisco	50m	Same as local	46	Kunming	38m	Same as local
22	Incheon	49m	Specific transfer fee	47	Newark	37m	Same as local
23	Kuala Lumpur	49m	Same as local	48	Narita City	37m	Specific transfer fee
24	Madrid	47m	Specific transfer fee	49	Manila	37m	Same as local
25	New Delhi	46m	Same as local	50	Minneapolis	37m	Same as local

Figure 39 : Airports charging specific transfer fee (source: Airportcharges.com)

Based on the charging example of these airports, being major hubs for their respective continents, there is scope for MEX to impose fees on transfer passengers. In a capacity constrained airport such as MEX, this could indirectly result in the development of more O/D routes and passengers at the expense of transfer passengers.

4.7 Benchmarking Of Congested Airports

When compared to other highly congested airports (excluding government charges), MEX charges are around mid level. Capacity constrained airports are able to demand a premium on their airport charges, as can be seen in a benchmark of similarly constrained airports. MEX charges are low for a capacity constrained airport, especially if government charges are included (not included below). LHR is an example of a highly constrained airport, and operates with charges almost twice as high as MEX.

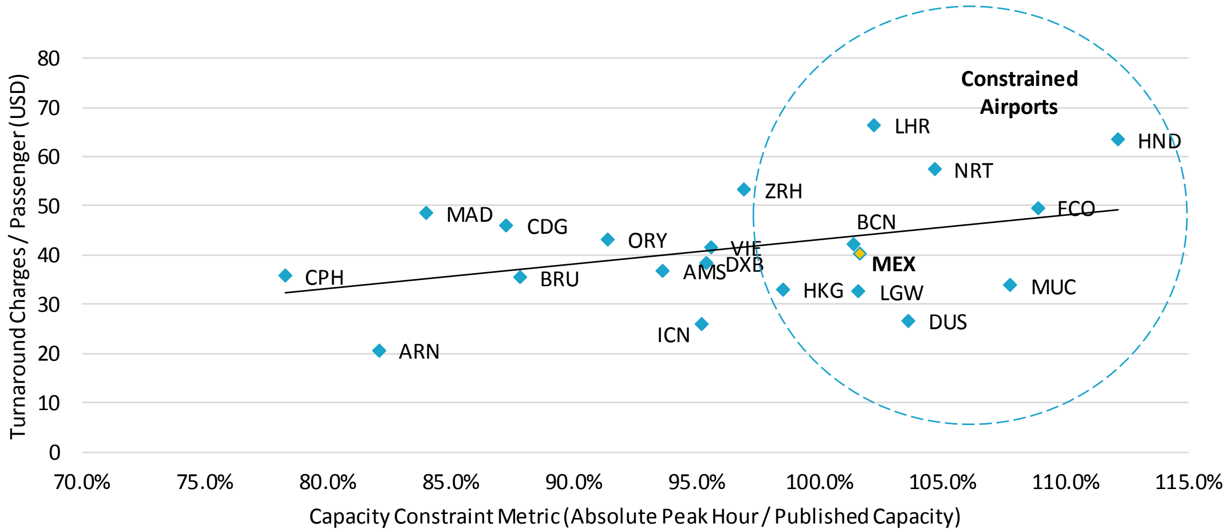


Figure 40 : Turnaround charges (excl. government charges) compared with constraint level at capacity constrained airports

There are different ways that an airport charges could be structured in order to maximize the efficient use of the limited runway slots. Comparing with other peak constrained airports, it is apparent that AICM landing charges are low.

Peak Constrained Airports	Type of runway charging structure	Peak Runway & Turnaround Charge for Narrow-body (excl. government charges)	
Mexico City	Peak (7 hours) and Off peak charges Per MTOW	Runway : $189	Turnaround: $4,951
Heathrow (Price cap Regulated)	Fixed landing charge per ATM by 6 aircraft noise category Day/Night Period	Runway : $2,469	Turnaround : $9,812
London City Airport	Fixed landing charge per ATM Peak / Off-Peak charging	Runway : $1,573	Turnaround : $8,570
Gatwick Airport (Commitment Regulated)	Separate landing and take-off charges Fixed charge per ATM based on aircraft noise category Day/Night charging/Summer/Winter/Peak month charging	Runway : $2,154	Turnaround : $4,684
Narita	Minimum landing fee + per MTOW Aircraft band based on weight and noise	Runway : $1,349	Turnaround : $7,227
Rome Fiumicino (Price Cap Regulated)	Peak and Off-Peak charges Separate landing and take-off charges Higher per MTOW charge for smaller aircraft	Runway : $973	Turnaround : $6,223
Munich (Cost Based Regulated)	Separate landing and take-off charges Day and Night charges Noise surcharge	Runway : $456	Turnaround :$4,051
Dusseldorf (Cost Based Regulated)	Fixed landing charge by aircraft weight band	Runway : $444	Turnaround : $3,428

Figure 41 : Different charging structure for congested airports

4.8 Airport Charges As Component Of Airline Cost

A selection of domestic and international routes currently operating from MEX have been chosen for analysis in terms of estimating airline route cost to fly from MEX at break-even load factors (assumed at 75%) . The analysis use RDC's proprietary route economic software RDCApex.com. Developed over the last 15 years, RDCApex.com is a detailed airline-aircraft operating economics tool, enabling detailed route profitability/operating costs analysis to be conducted. The software is being constantly updated with the latest costs, covering items such as lease rates, insurance, variable passenger elements (such as catering and GDS distribution), handling rates and aircraft-engine specific fuel burn (and therefore determining fuel costs). In addition, the most current airport charges are sourced, enabling specific weight and passenger based costs to be determined.

The analysis shows that based on the selected route cost analysis, on average, MEX charges represent 12% of airline route cost for domestic flights and 17% for international flights. MEX charges proportion are higher for short haul flights compared to long haul flights and for LCC compared to FSC.

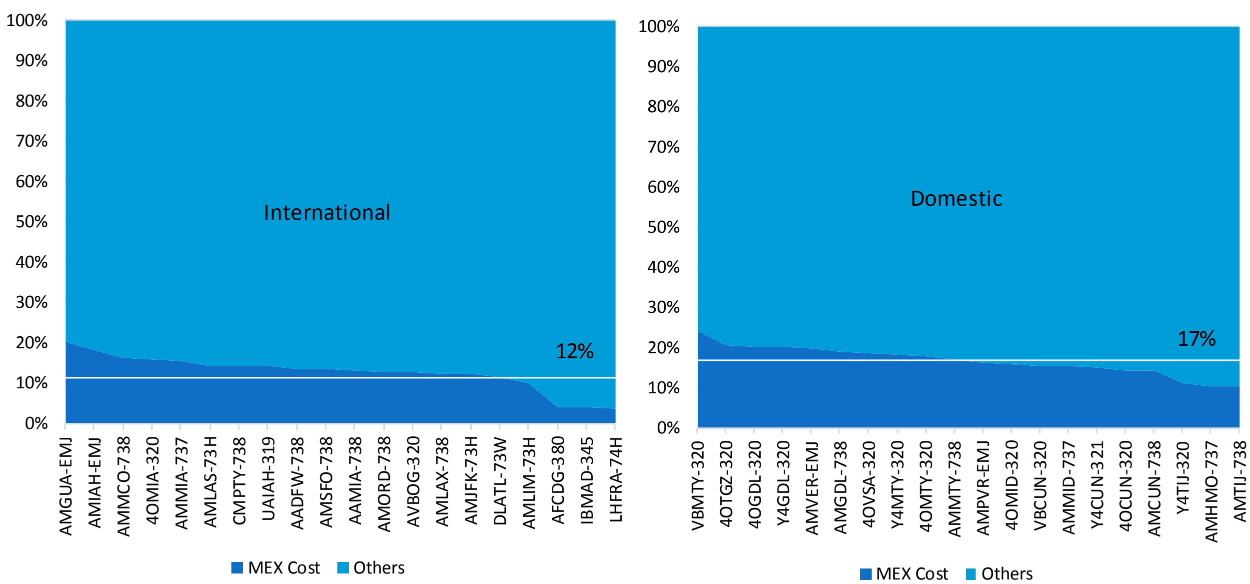


Figure 42 : Share of MEX airport cost on airlines route cost

4.9 Impact Of TUA Increase On Fares

To understand the potential impact of increase in airport charges, we have estimated the likely change in air fare as analyzed above with respect to increase in airport charges. Assuming the full cost of the MEX airport charges increase is passed through to passengers (as an increased taxes/charges element of the air fare), an example 10% increase in MEX airport charges would result on average around 1-2% increase in air fare.

Typically, price elasticities come into effect when they represent a change against an existing fare, with an elasticity of -1.5 resulting in a suppression of demand of 1.5% if fares increased by 1% (for example).

Typical price elasticity range between -0.6x for business and -1.4x for leisure based on estimate and literature studies such as UK CAA and Gillen et al.

Assuming a price elasticity assumption of 1.2x, an example increase in MEX airport charges of 10% could translate into 1-2% increase in fares. This would then theoretically would impact demand resulting in passenger reduction by -1.2% to -2.4% .

While an airport charge increase should ideally reflect a cost-based approach of operating an airport, at the current congested Mexico City Airport, a higher level of charges could help in moderating the level of demand for the next couple of years and better reflect the value of slots at Mexico City Airport. However, from historical experience, in 2014, even though TUA had increased by 39% and 79% for domestic and international respectively, passenger traffic still expanded by 8% and 9% respectively.

5 AICM Traffic Projections

The unconstrained traffic forecast has been developed based on separate analysis of drivers for the short term, medium term and long term. The short term forecast (2016-17) is based on YTD actual traffic at the airport up to June 2016 and airlines capacity schedules for the remainder of the year by individual routes, taking into account the constraint at the existing airport.

The medium term forecast (up to 2025) is based on an unconstrained growth outlook on a destination country basis, taking into account the historical growth performance, country growth outlook and assessment of unserved demand. The medium term forecast is also driven from the airline supply side in terms of the number and type of aircraft the Mexican airlines have on delivery, and a view on where the airlines are likely to expand from MEX in the next 10 years.

We then analyze the transition forecast growth dynamics between the current constrained situation and the return to medium term unconstrained traffic potential when the NAICM opens fully in 2021 (between 2021 and 2025).

The long term unconstrained forecast (from 2026 onwards) uses a top-down, demand side macroeconomic model that includes the use of GDP multipliers applied to continental-level traffic volumes.

Aside from the long term unconstrained forecast, we also analyzed the long term constrained forecast based on the potential maximum limit of traffic growth at existing MEX capacity if NAICM does not materialize.

5.1 Short Term Forecast

The historical traffic for 2015 and YTD Jan-Jun 2016 was used as the starting traffic base. The short term forecast is based on forecast of airlines route schedules through to the end of 2017. The forward schedule is obtained from the OAG and RDCApex.com databases and adjusted taking into account any year round impact of new/dropped routes throughout the year.

In 2015, MEX grew its traffic by 12.2% to 38.4m passengers. Domestic traffic grew by 13% while international traffic grew by 11%.

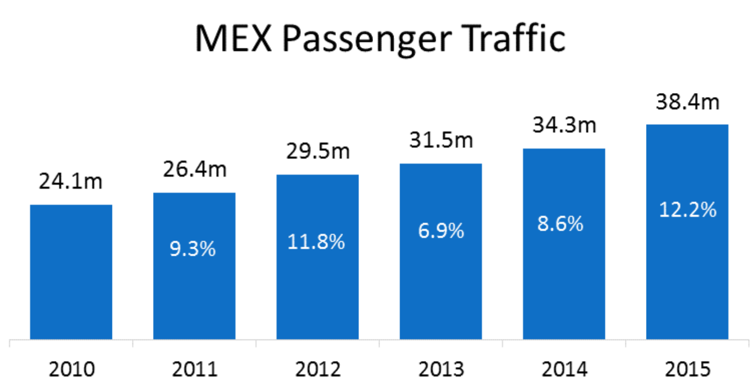


Figure 43 : MEX Passenger Traffic

The majority of the traffic growth in 2015 were driven by the main Mexican airlines with VivaAerobus and Volaris registering the highest growth of 24% and 22% respectively. In terms of absolute increase, Interjet and Aeroméxico grew the passengers by 1.6m and 1.3m respectively.

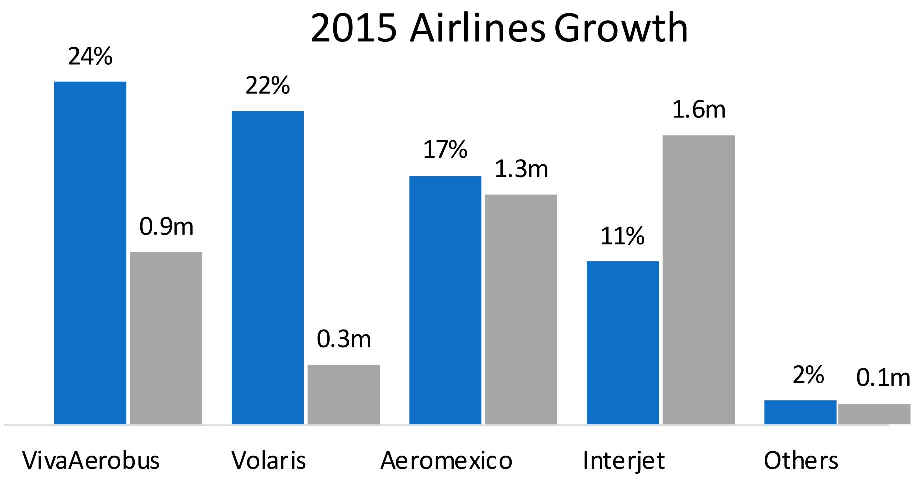


Figure 44 : 2015 Growth By Airlines in Percentage and Absolute Increase

For 2016 , the YTD performance up to June 2016 have seen the airport growing traffic by 7.8% contributed by 6.6% growth in domestic passengers and 10.4% growth in international passengers.

For the full year of 2016, we estimate traffic to grow to 7.2% with 6.5% growth coming from domestic markets and 8.6% growth coming from international markets. This result in MEX passengers to increase to 41.2m passengers for 2016

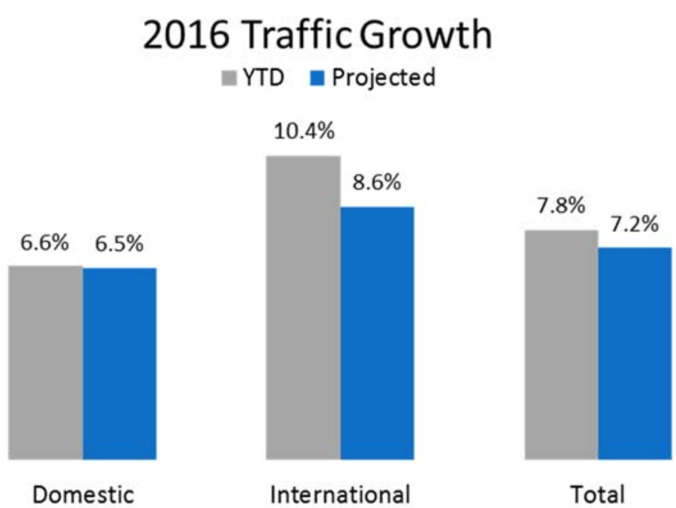


Figure 45 : 2016 Traffic Growth

Majority of growth expected to come from a mix of full service (FSC) and low cost (LCC) carriers, led by VivaAerobus, Volaris and Aeroméxico. VivaAerobus growth for 2016 expected to be the highest at 43%, increasing passengers by 0.8m, albeit from a lower traffic base.

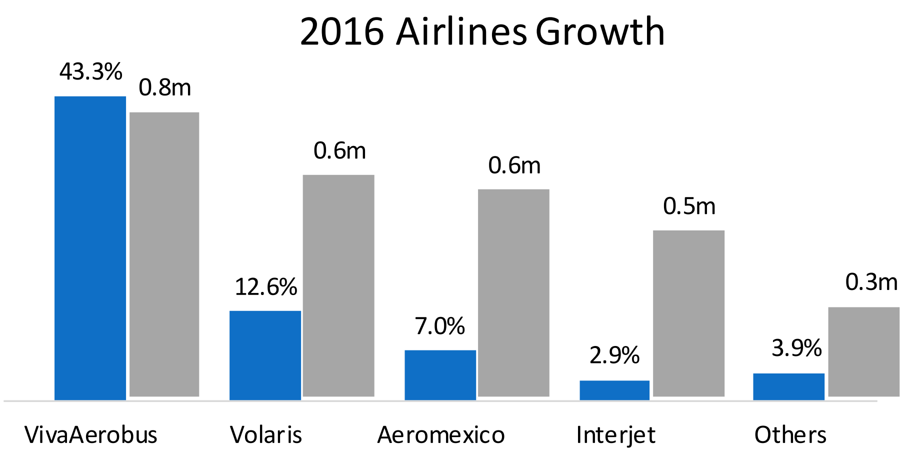


Figure 46 : 2016 Growth By Airlines in Percentage and Absolute Increase

Aeroméxico is estimated to have 41% share of traffic for 2016, with the remaining four Mexican airlines capturing another 43% of market share.

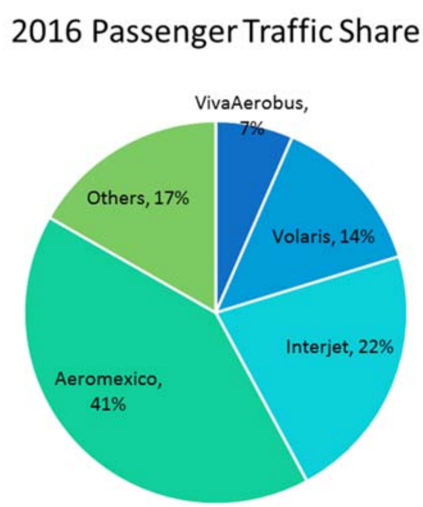


Figure 47 : 2016 MEX Passengers By Airline

5.2 Medium Term Forecast Development

The medium term forecast to 2025 is based on growth outlook on a route and country basis, taking into account the historical growth performance, country growth outlook and assessment of unserved demand.

A key driver behind traffic development in the medium-term will be from the airline supply side in terms of the number and type of aircraft the Mexican airlines have ordered and confirmed for delivery. This assumes Mexico City Airport as unconstrained and can therefore accommodate future growth from the main airline customers in the short to medium term.

Domestic growth projected to grow at a lower rate of 2.6% p.a. up to 2025, but still remains the most substantial traffic growth component. This is followed by the North American market estimated to grow by 6.5%p.a. helped by the recent development on US-Mexico air liberalization. The recent Open Skies agreement opens up further opportunities for airlines from both Mexico and United States to commercially develop more trans-border services and there is already evidence of an increase in traffic to/from the USA.

The continued liberalization and leisure/VFR growth in the medium to long term coupled with the expansion of LCC which drive fares down will be predicted to drive demand higher for the Latin American market, growing at 9.5% p.a. CAGR to 2025.

Asia is forecast to grow at a relatively high rate of 20% p.a. but from a small base. Future demand is likely to come from Far East/Chinese carriers as well as Middle East airlines where currently none of the "big three" airlines (Emirates, Qatar and Etihad) are present, mostly due to the slot constraints at MEX. As a comparison, these Middle East airlines operate from the other main Latin American airports of Guarulhos, Rio de Janeiro and Buenos Aires.

The forecasts show that European traffic will grow at a relatively modest rate of 3.8% p.a. By 2025, the unconstrained traffic for Mexico City Airport would be around 60m passengers (4.3% CAGR 2016-2025).

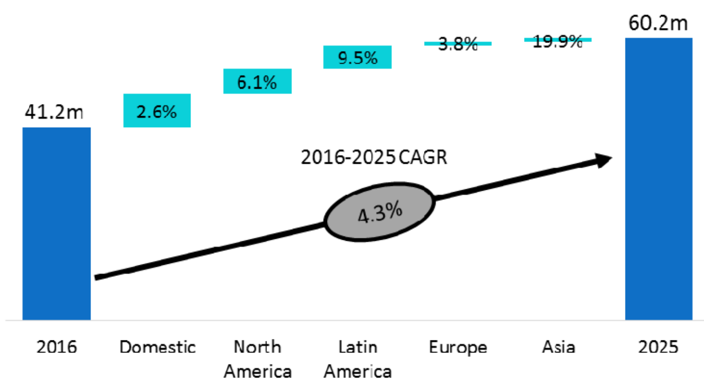


Figure 48 : MEX 2025 Passenger Growth Forecast

5.3 Current Airport Constraint Level

The current airport is operating well above its declared capacity limit, with slots for expansion being highly restricted. The official capacity limit is now 61 slots per clock hour between 7:00am to 10:59

pm4. However, a typical busy day frequently registers passenger ATMs (Air transport movements) at over 70 movements per hour as airlines in some instance operate outside their scheduled slots.

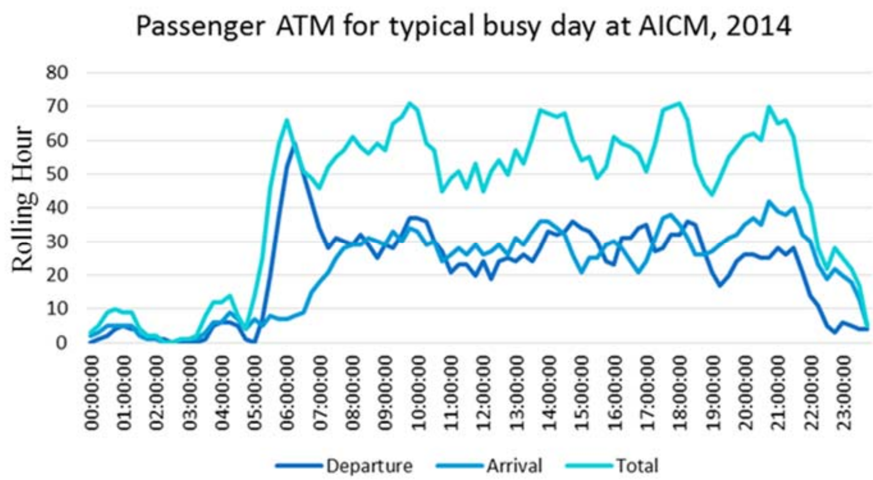


Figure 49 : Rolling Hour ATM Daily Movements

In 2016 the total number of passenger movements (ATM) is expected to rise to 396,000 from 380,000 in 2015 (4% growth). Based on a theoretical maximum limit of 70 movements per hour and an indicative forward schedule for 2017, our estimations are that airlines will incrementally increase flights and frequency in the shoulder months and at off-peak times to a limit of 405,000 passenger ATMs (2.4% growth). As shown in the figure below, the level of average daily ATM throughout the year has flatten in recent years. This passenger ATM level is assumed to be the absolute maximum limit in our constraint forecast.

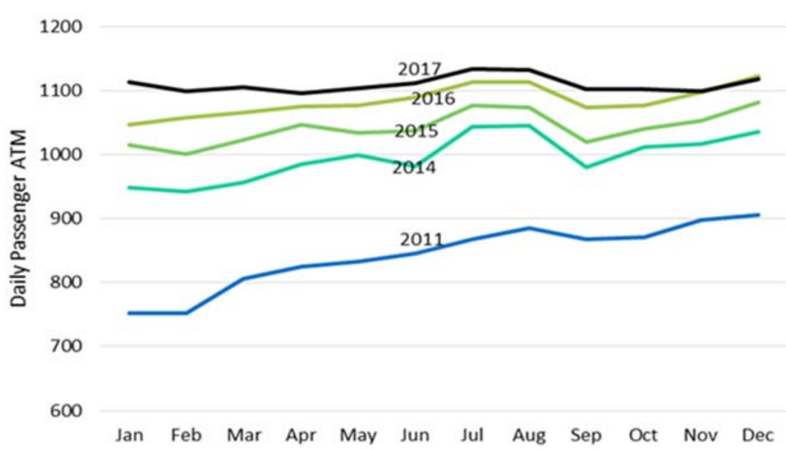


Figure 50 : Average Daily Passenger ATM Historical and Forecast

[4] Mexican Ministry of Transportation and Communications (SCT), Directorate General of Civil Aviation (DGAC).

Even with the constrained movements, airlines will still be able to deliver some growth in the immediate future, through increases in load factors and using larger aircraft. In the long term passenger numbers could be expected to increase through the switching of regional flights using small narrow-body aircraft for more lucrative long-haul flights on larger wide-body aircraft. This behaviour has been observed at London Heathrow as well as Gatwick in the last decade.

Frequency increases are more likely on international services and by non-Mexican carriers, whereas increase in the number of passengers per aircraft is greater on domestic services, due to the high frequencies already in operation.

	2015	2016	2017	2018	2019	2020
Passengers(m)	**38.4**	**41.2**	**42.8**	**43.6**	**44.2**	**44.8**
Domestic	25.7	27.3	28.3	28.8	29.2	29.4
International	12.8	13.9	14.4	14.8	15.0	15.4
Passenger ATM('000)	**380**	**396**	**405**	**405**	**405**	**405**
Domestic	275	283	289	289	289	288
International	105	113	116	116	116	118
Pax/ATM	**101**	**104**	**106**	**108**	**109**	**111**
Domestic	93	97	98	100	101	102
International	121	123	124	127	129	131

Figure 51 : MEX Constrained Airport Forecast 2020

5.4 Transition From Constrained To Unconstrained Forecast

NAICM is expected to fully operational in the fourth quarter of 2020. Transition of traffic from constrained AICM to unconstrained NAICM would likely be overnight, which is common practise for major new airport schemes such as this. The proximity of the two airports means that, for safety reasons, airspace cannot be shared between the two airports, and therefore flights will take off from the current AICM and arrive back into NAICM over a 24-hour period. It would also enable the new airport to retain the internationally-known IATA and ICAO codes (MEX and MMMX) that are associated with Mexico City’s main airport.

This procedure also suggests that, on opening, the new airport will at worst see a through-put at the same levels as AICM has in prior year volumes, plus it is very likely additional growth will be generated in the first year from schedule optimisation and the release of new capacity into the system. Traffic switching from secondary Mexico City airports may be more likely to be linked to IATA seasons and therefore full year volumes would not be seen until the following year.

Overnight transitions from old to new facilities have been achieved before; Hong Kong Kai Tak closed on the 6th July 1998, with Hong Kong Chek Lap Kok accepting its first flight on the 7th July and more recently, Durban’s King Shaka International Airport accepting its first flight on 1st May 2010 with the old Durban International Airport closing the previous night.

The closure of the old airport will be key in ensuring that maximum benefit is gained in the first year of operation of the new airport – in closing the old airport, airlines will have no option but to switch their current operations to the new facility. However, any growth which has occurred at overspill airports is likely to have more flexibility in when it is moved over.

If the new airport were to open on 1st January, the old airport were to close at the same time, all traffic at AICM at that time would be assumed to shift to NAICM on that date. Growth in that first year from these airlines/routes would be expected to be higher than normal to account for optimisation of schedules (enabling more efficient transfer/hubbing operations) as well as facilitating growth from airlines which may not have developed at alternate secondary Mexico City airports (as they may not be suited to their operations). In addition, traffic growth which would overspill to TLC, PBC etc is assumed to relocate back to the new airport.

Benchmark airports shows that moving from constrained to unconstrained results in 8-10% additional growth than under a constrained environment. Two examples of comparably sized airports receiving additional infrastructure to relieve capacity constraints – Jakarta and Singapore Changi airports. At both airports, the constraints were terminal related, but this still impacted the airports' growth opportunities.

At Jakarta, the provision of terminal 3 in 2008 took the designed capacity from 27mppa (with the airport operating for several years over this capacity level) to 49mppa. After three years of the airport handling 31/32mppa, an average growth rate of 15.8% CAGR was seen between 2008 and 2012 (compared to 5.4% CAGR growth between 2004 and 2008). While some of the flattening in demand occurred around the global economic downturn, it was not considered material.

Similarly, at Singapore, terminal 3 officially opened in mid-2008, providing infrastructure for an additional 22mppa. In the period 2005-2009, growth averaged at 3.4% CAGR – in the following four years, growth was almost four-times as high, with a CAGR of 11.5%.

Whereas in preceding years , pax growth was higher than ATM growth, implying an increase in pax/ATM, In both instances, an uplift in the number of ATMs was observed, matching the growth in passenger traffic once the new capacity are introduced. In terms of growth rates experienced at benchmark airports, the first few years of new capacity being provided sees a jump in traffic volumes compared to the previous few years, at a range of between 8%-19%.

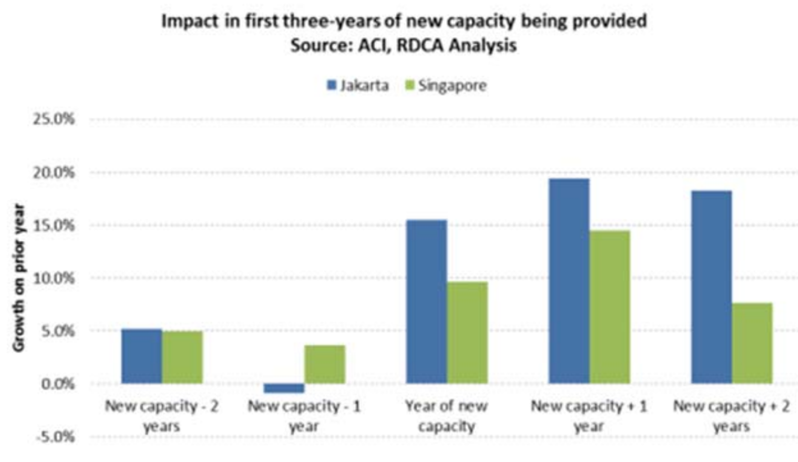


Figure 52 : Impact of New Capacity for Jakarta and Singapore

We are therefore projecting that NAICM will see similar levels of growth after the new airport is open fully in 2021 with high single digit growth in the first 2 years growing at a high single digit before traffic revert to unconstrained long-term forecast by 2024.

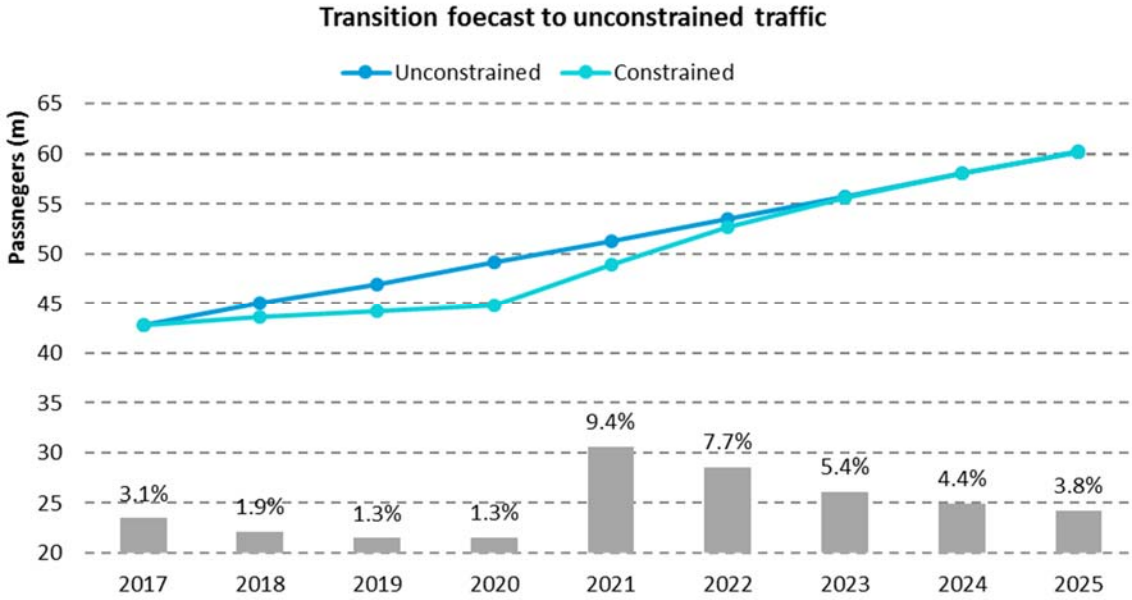


Figure 53 : MEX Traffic Transition from Constrained to Unconstrained and growth

5.5 Long Term Forecast Development

From the end of the short to medium term forecasting period, a top-down, demand side macroeconomic model is employed to forecast traffic in the long-term.

There is a direct correlation between general economic development and passengers, with an increase in overall economic output being matched with an increase in demand for air travel. This is due to an increase in overall disposable income levels (for leisure travel taking inflationary increases into account), as well as an increase in business orientated traffic (with the assumption that an increase in economic output is due in part to an increase in business productivity/creation, leading to an increase in business related travel demand).

The long-term forecast model employed for this takes into account the forecast GDP for each continent as a starting point against which to grow forecast traffic in long-term. Across a global basis, there is a strong relationship between increased economic output and greater air travel demand and there is no reason to suspect that this relationship will not hold for North, Central and South America in the future.

Traffic has been summed on a continental basis and long-term GDP forecasts for each continent derived. These GDP forecasts have been weighted according the weighting percentage of inbound and outbound traffic to each country market, based on estimate of relative difference of the GDP per capita.

Long-term GDP multipliers have then been used to grow traffic according to:

- Historic trend performance on a continental basis
- Analysis of GDP multipliers for mature markets
- A view on how the absolute growth created by the use of these multipliers
- How trips per head of passenger in Mexico City Airport would change over time (local demand)

The following GDP multipliers have been used by period:

Period	GDP Multiplier
2026-2045	1.0x
2046-2070	0.8x

There is a strong relationship between GDP and passenger traffic at Mexico City Airport between 1967 and 2011 – the relationship between GDP (Indexed to 1967 = 100) and total passenger traffic gives a best line fit R2=0.985 and a GDP multiplier of 1.5x GDP over this 44-year period.

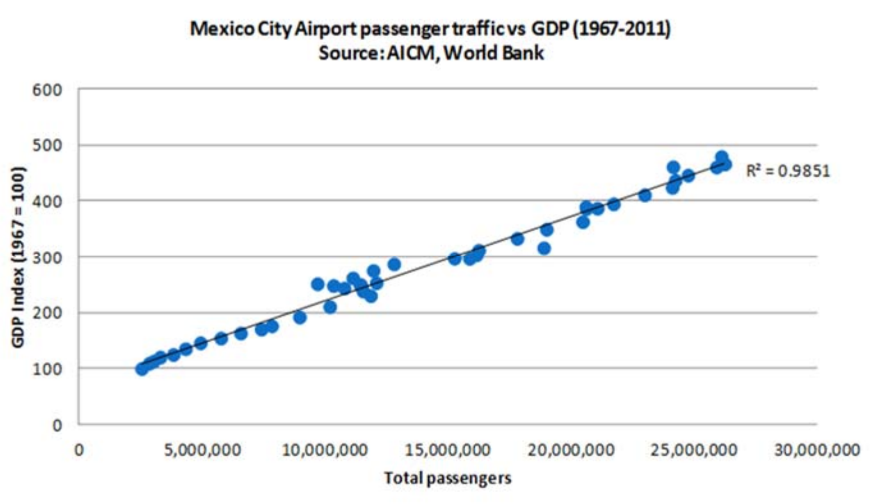


Figure 54 : Mexico City Airport Passenger Traffic vs GDP (1967-2011)

When applying the regression analysis calculations against reported passenger traffic, again there is a very good correlation between the two except during the period 1985-1991, when passenger traffic was lower than expected. The downturn in traffic in 1985 may have been linked to the earthquake in Mexico City that year, affecting passenger demand for air travel for several years afterwards.

Traffic then recovered back to expected levels by 1991 and subsequently overshot the projected volume in 1994. This was a consequence of the opening of the new international terminal, which brought a chunk of new capacity into the market. The downturn in the Mexican economy in 1994 saw traffic fall in 1995, before recovering to trend.

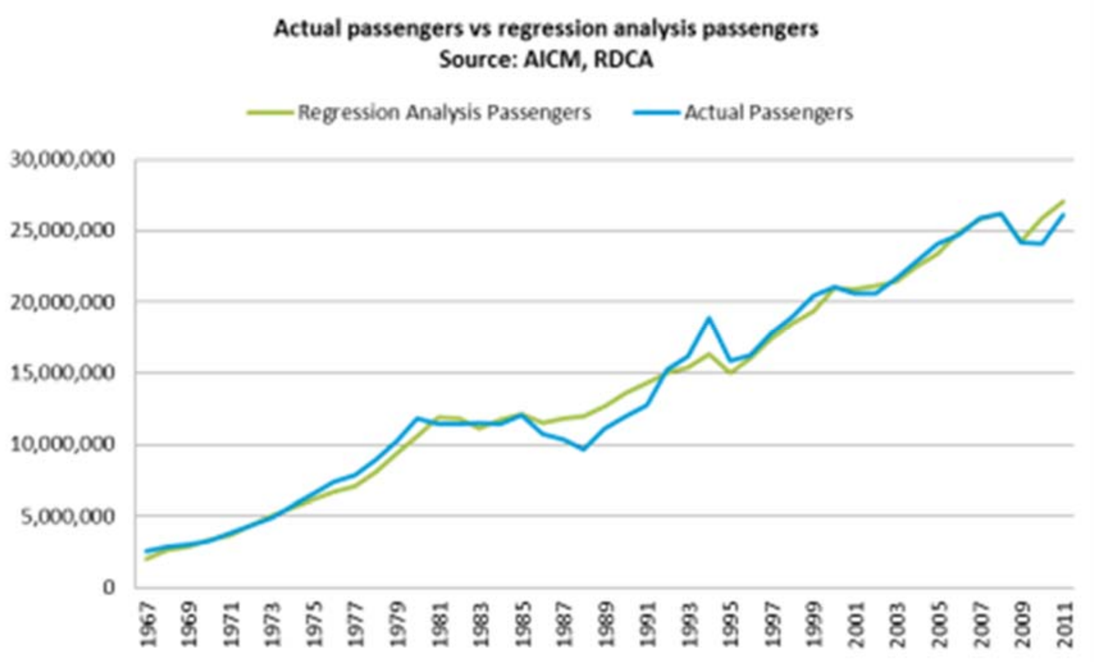


Figure 55 : Actual Passengers vs Regression Analysis of Passengers

5.6 Benchmark Of GDP Multipliers

In mature aviation markets, GDP multipliers ultimately fall to a lower long-term organic growth rate. This represents saturation of the market with a range of services to suit all likely business and leisure demand.

The US market is considered to be a suitable benchmark for long-term air traffic growth – deregulation and the emergence of low cost carriers occurred much earlier than in other global regions and the aviation market is considered mature in this context (bar any unforeseen developments in operating models or aircraft technology developments).

The development of US traffic has been split into two phases – pre 9/11 (phase 1) and post 9/11 & pre-recession (phase 2).

The main difference between the phases is the price of oil, which during phase one was low and grew at a sustainable level (CAGR 4.9% - 1993 to 2000). Over this period, domestic traffic had a GDP multiplier of 1.2x, while international traffic had a GDP multiplier of 1.6x.

Post the 9/11 recovery (2004 to 2007) oil prices increased dramatically (CAGR 16%). At the same time, the domestic GDP multiplier fell to 0.9x (75% of the pre-9/11 level), though the international multiplier remained strong. The readjustment in domestic traffic growth can be accounted for by the increase in oil prices over this period, with higher airline operating costs suppressing demand.

Post 2008, the US market has been impacted by a) the recession and b) significant airline consolidation, as well as airlines entering administration, which have blurred the ‘normal’ picture of traffic development.

GDP multipliers in the mature US market have been falling for domestic traffic (1.2x GDP to 0.9x GDP) while international multipliers have remained relatively flat. A similar picture could be expected for Mexico in the long-term: i.e. average multipliers reducing over time, especially for domestic traffic.

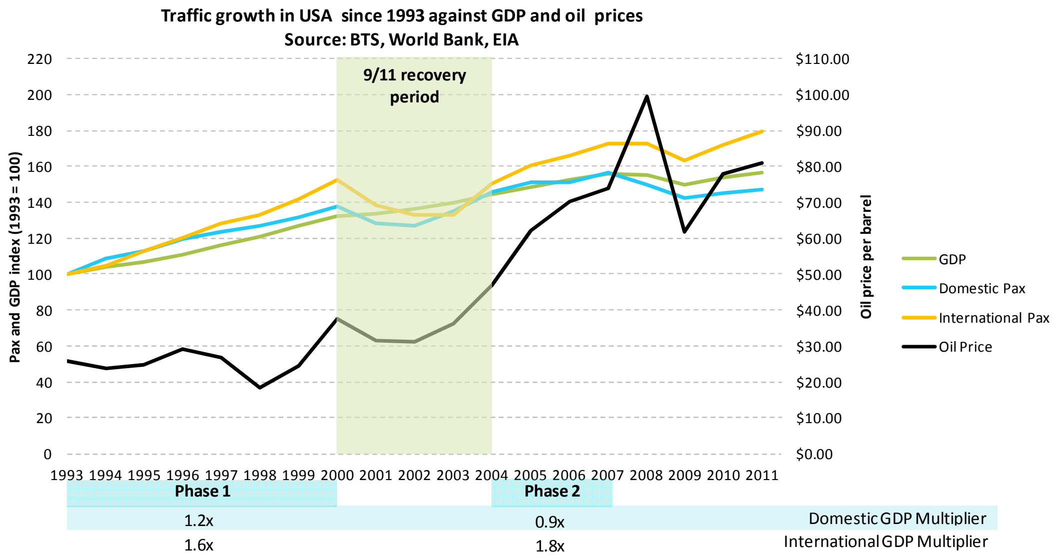


Figure 56 : Historical Profile of Traffic Growth for USA

A comprehensive review of available literature shows that GDP multipliers of 1.0x to 2.0x on a country wide level are generally observed.

Over time, advancements in high-speed internet/telephonic facilities (enabling improved video/teleconferencing) and improved surface transport infrastructure may reduce the longer-term growth rates as passengers look for alternatives to flying. However, despite these types of advancements occurring in mature aviation markets (such as the US and Europe), there is still strong demand for air travel and development of high speed rail, for example, has not destroyed aviation markets, but have slowed down the previous growth rates.

Therefore, longer-term GDP multipliers are slightly lower to account for these types of developments impacting on general growth rates at NAICM.

Long-term GDP forecasts are based on global regions as shown below.

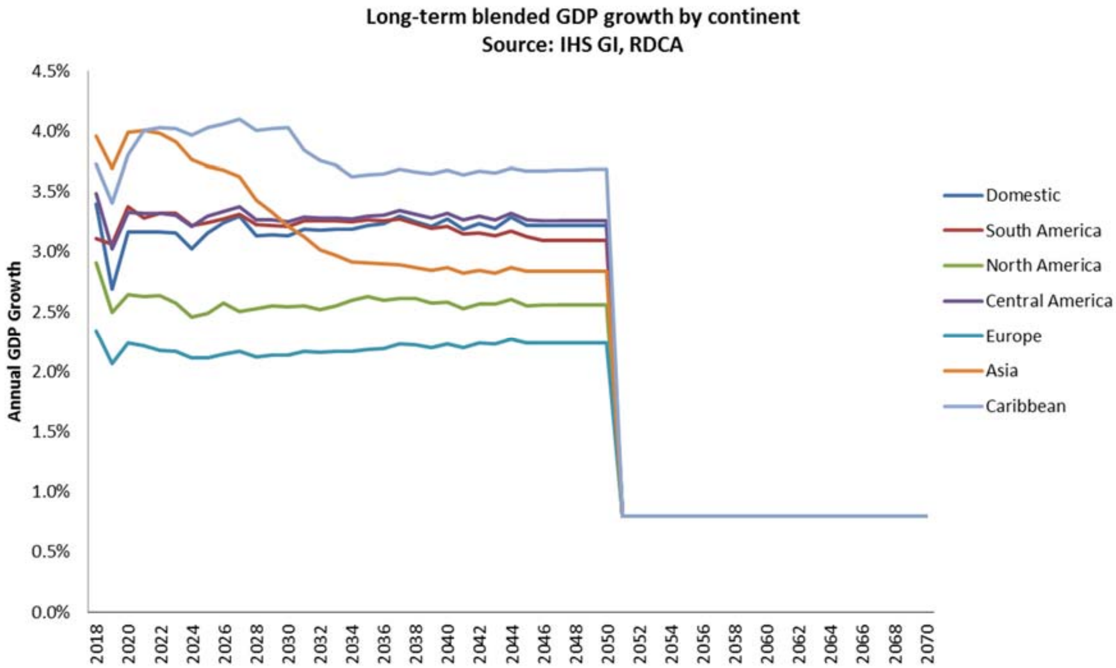


Figure 57 : Long Term GDP Projections

GDP demand forecasts have been created from a blended rate of countries served from Mexico City and according to the inbound/outbound split of traffic. For example, if 60% of the demand for services from Mexico to the UK originates in Mexico, 60% of the GDP growth comes from Mexico's GDP forecast, the remaining 40% from the UK's GDP forecast. GDP is forecast by country and then weighted averaged according to the continent in which the country sits.

Long-term, GDP forecasts are expected to level out at between 2.2% (Europe) and 3,7% (Caribbean) per annum, with other continental GDP growths sitting within this range.

From 2050 onwards, a flat rate GDP growth rate of 0.8% has been used to reflect population-linked growth only.

5.7 Long Term Unconstrained Forecast

The long term forecast would see MEX passengers grow to 117m by 2050 underpinned by the general improvement in demographic income from a large population base, further air liberalisation and increase in migration traffic and modal shift.

While the short and medium term forecast reflects the continuation of the traffic growth momentum that is presently being experienced at MEX, the long term forecast sees a more moderate growth with traffic growing at 2.7% p.a. between 2025 and 2050. International traffic growth projected to grow 2.9% p.a. during the same period. Domestic traffic expected to grow at slower CAGR of 2.6% p.a. but remains largest traffic component. The overall traffic growth between 2015 and 2050 is projected at CAGR of 3.2%. Our long term forecasts imply traffic growth of 1.4x GDP between 2016 and 2025 and over the long term, at 1.0x GDP, reflecting market maturity.

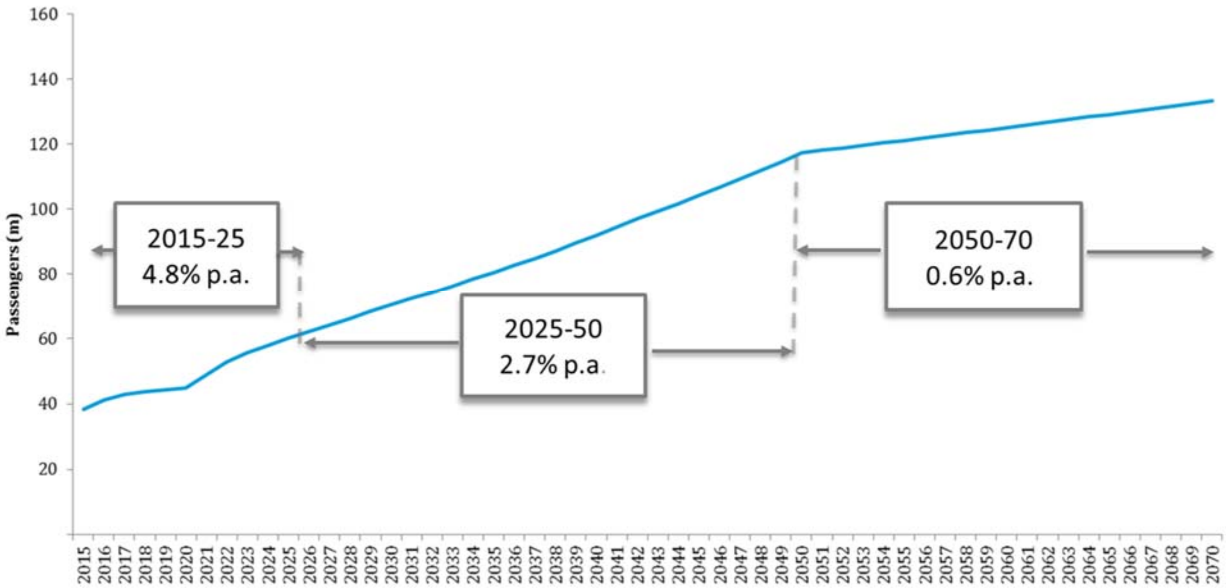


Figure 58 : MEX Long Term Forecast

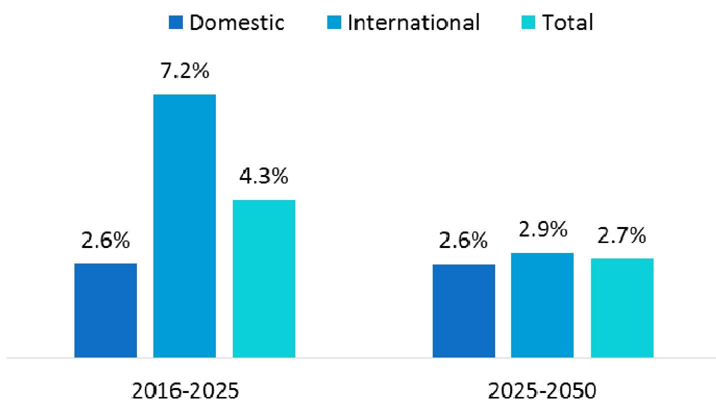


Figure 59 : MEX Long Term Growth Forecast

5.8 High And Low Unconstrained Forecast

A low and high case forecast have been produced based on the following assumptions.

Scenario Assumptions and Probability of outcome (assuming airport is fully operational by 2021)

Scenario	Assumption	Probability
Base	As per report	P50
Low	20% lower GDP forecast in the medium to long term across all countries. Infrastructure constraints still imposed short term. Lower demand in the short term might result in some short-term fleet orders being pushed back or options not being taken up.	P80
High	20% higher GDP forecast in the medium to long term across all countries. Infrastructure constraints still imposed short term but with small incremental runway productivity improvements in the medium term. However, increased demand in the short term starts to push runway limits to the max, likely resulting in greater delays until additional capacity is provided.	P20

Figure 60 : High and Low scenario assumptions, for example, P80 means 80% chance of traffic to exceed the forecast

Low scenario forecast would see traffic growing to 96m passengers by 2050, compared to base case of 118m and high case of 144m passengers. Base case forecast has a growth rate of 3.2% CAGR between 2015 and 2050, with a forecast +/- 0.6pp variance for low and high cases.

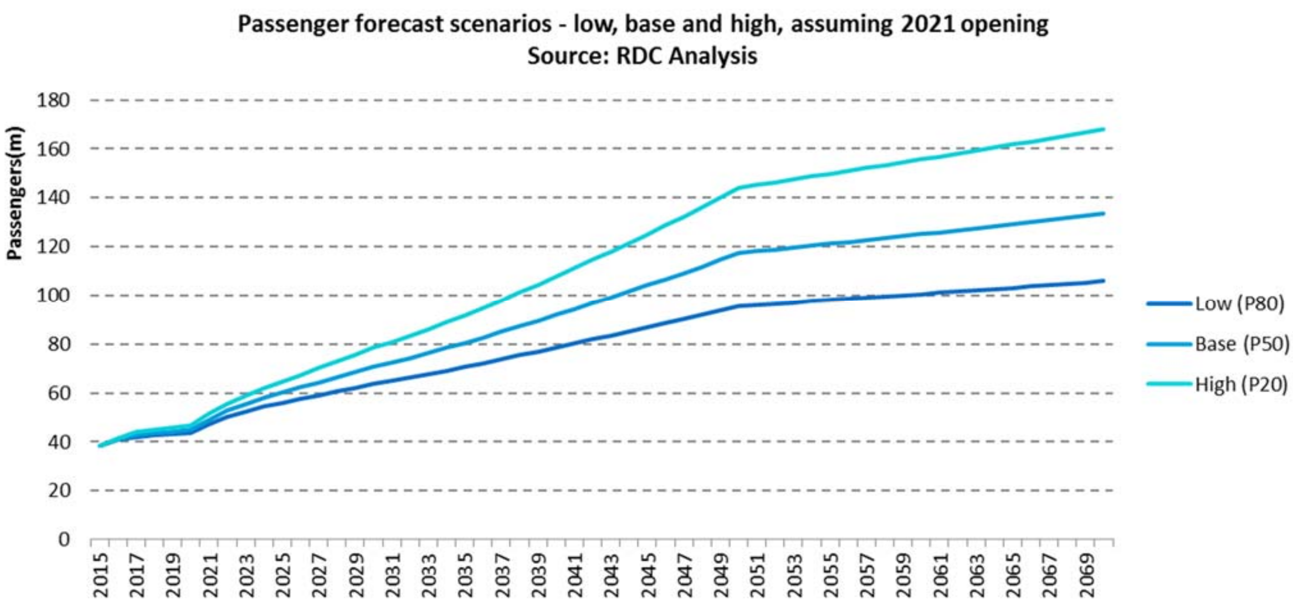


Figure 61 : High and Low Case Scenarios

Base, low and high case forecasts - total passengers (Source: RDC Analysis, passengers in million)

Scenario	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2030	2035	2040	2045	2050	2070
Low (P80)	38.433	41.060	41.884	42.692	43.267	43.850	47.250	50.223	52.496	54.418	56.065	63.591	70.643	78.586	86.832	95.565	105.842
Base (P50)	38.433	41.209	42.777	43.596	44.174	44.768	48.975	52.732	55.599	58.053	60.240	70.585	80.508	91.982	104.170	117.367	133.339
High (P20)	38.433	41.401	43.864	45.138	45.993	46.875	51.378	55.595	59.009	62.009	64.789	78.373	91.768	107.671	124.988	144.182	168.021

Scenario	Selected CAGRs			
	2015-25	2025-50	2015-50	2015-70
Low (P80)	3.8%	2.2%	2.6%	1.9%
Base (P50)	4.6%	2.7%	3.2%	2.3%
High (P20)	5.4%	3.3%	3.8%	2.7%

Figure 62 : High and Low Case Scenario Passengers and Growth Rate

5.9 Forecast Benchmark

Future long term forecast for MEX is reasonable when compared against travel propensity of other global megacities. The graphs below show selected global cities airport system trip propensity (city airport system passengers / population) against the respective city GDP per capita.

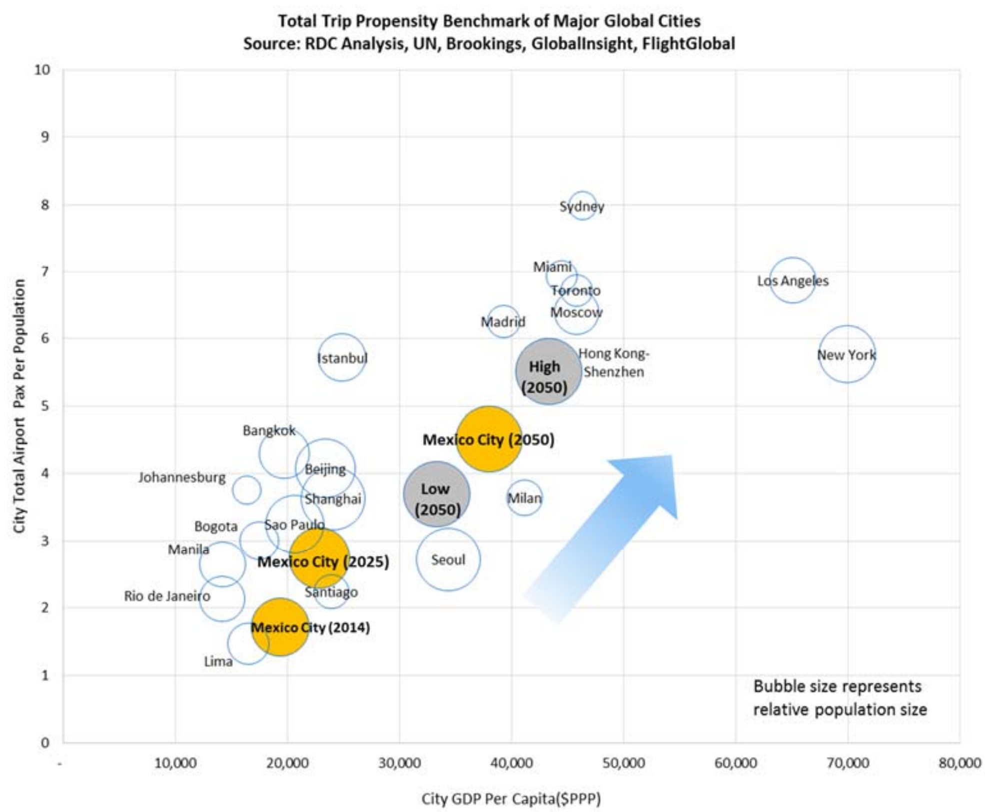


Figure 63 : Benchmark of major global cities air travel trip propensity

Looking at the total airport passenger basis, Mexico City airports throughput propensity currently is seen as below the regional peers such as Sao Paolo, Bogota and Rio de Janeiro. This underperformance is more likely due to the inherent infrastructure constraint experienced at MEX which inhibit the development of true traffic demand potential. We see an unconstrained forecast for MEX would bring the propensity higher in line with the regional peers. Over the long term, economic improvements reflected in increase GDP per capita for Mexico City metropolitan would grow the airports air travel propensity towards the global trend.

Benchmarking only for international traffic sees Mexico City's international traffic propensity to be within the range of peers. In the medium term, we expect the development of NAICM would act as a catalyst for further international connectivity using MEX as an inter-continental hub which would push Mexico City's international traffic higher. By 2050, our international traffic forecast sees the city's international airport trip propensity to be in line with the global trend, similar to the level currently experienced by the city of Seoul, South Korea.

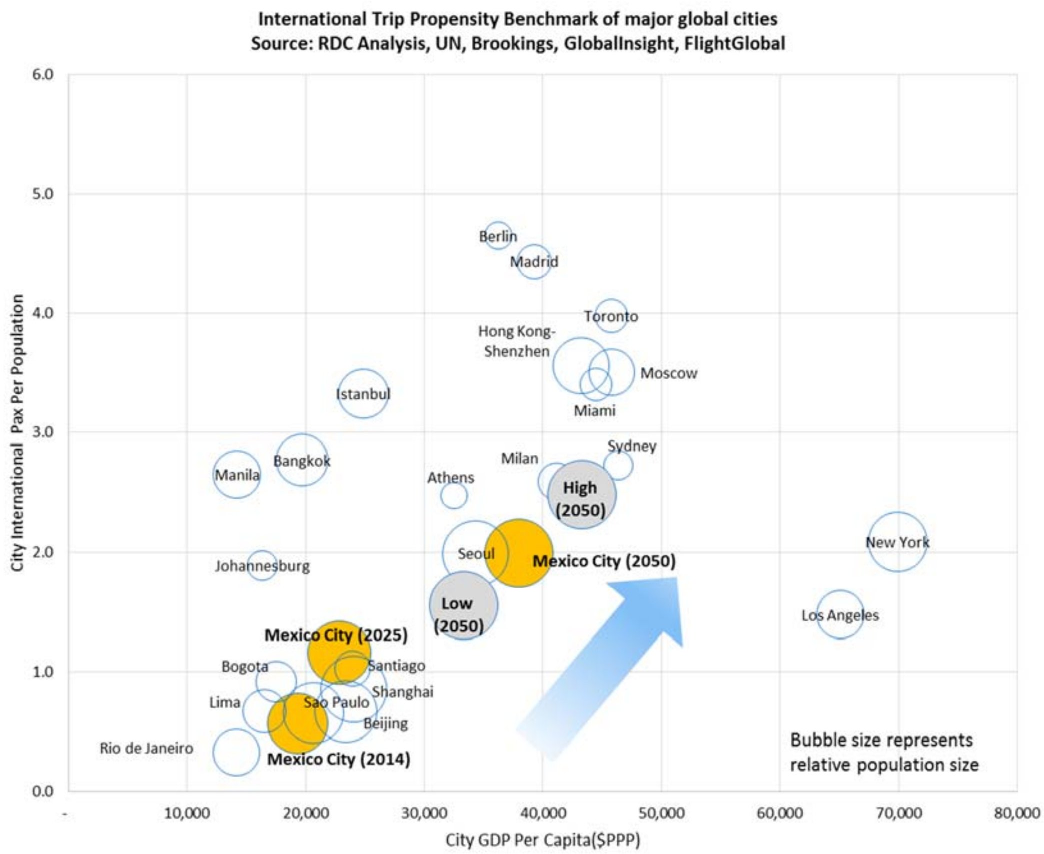


Figure 64 : Benchmark of major global cities air travel trip propensity

5.10 Fixed-Capacity Scenario Forecast (Finance Case)

In a constrained case scenario, we have forecast the level of traffic that could feasibly be observed at Mexico City given the existing capacity of the AICM up to 2070 and without considering the development of NAICM (hypothetically).

We have undertaken a benchmarking exercise of the major constrained airports to assess potential increase of Mexico City passengers/ATM in the long term. Heathrow and Gatwick are both extremely slot constrained and can be considered as the world's busiest dual-runways and single-runway airports respectively. In the past 9-10 years, the airports have had relatively static ATM growth but passengers continue to rise as a result of increase in passengers/ATM growth of 1%-1.7% p.a. Other slot constrained airports in United States and Latin American region see average passengers/ATM grew between 1%-1.7%.

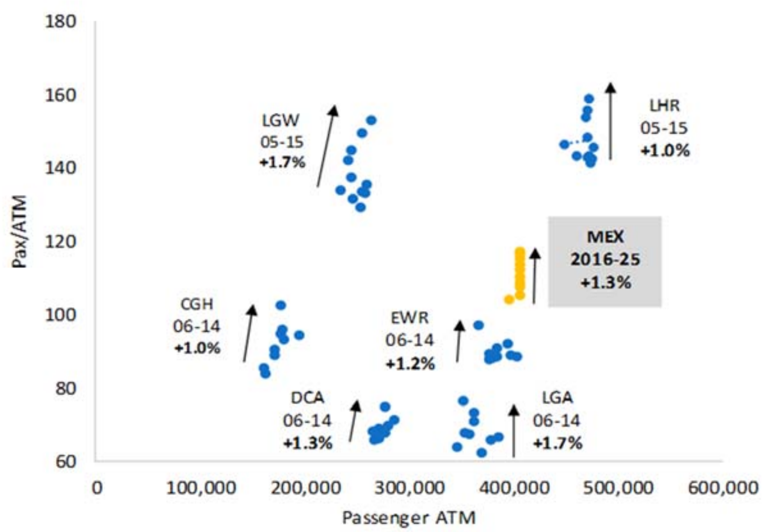


Figure 65 : Benchmark of Major Airports with Slot Constraint

We have assumed that with continued constraint at the current MEX airport, pax/ATM could grow at a moderate growth rate of 1.3% p.a. This could push potential passenger capacity at the current MEX airport to increase to 47m+ passengers in the next decade.

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2016-25
Passengers(m)	**38.4**	**41.2**	**42.8**	**43.6**	**44.2**	**44.8**	**45.4**	**46.1**	**46.7**	**47.1**	**47.4**	**1.6%**
Domestic	25.7	27.3	28.3	28.8	29.2	29.4	29.7	29.9	30.2	30.2	30.3	1.1%
International	12.8	13.9	14.4	14.8	15.0	15.4	15.8	16.2	16.5	16.8	17.1	2.4%
Passenger ATM('000)	**380**	**396**	**405**	**405**	**405**	**405**	**405**	**405**	**405**	**405**	**405**	**0.3%**
Domestic	275	283	289	289	289	288	286	285	283	282	281	-0.1%
International	105	113	116	116	116	118	119	120	122	123	125	1.1%
Pax/ATM	**101**	**104**	**106**	**108**	**109**	**111**	**112**	**114**	**115**	**116**	**117**	**1.3%**
Domestic	93	97	98	100	101	102	104	105	106	107	108	1.2%
International	121	123	124	127	129	131	133	134	136	137	138	1.2%

Figure 66 : MEX Constrained Traffic Forecast

However, this level of increase could be considered conservative as the current passengers/ATM level for Mexico City still lags behind the major Latin American airports with high pax/ATM such as Guarulhos and Rio de Janeiro.

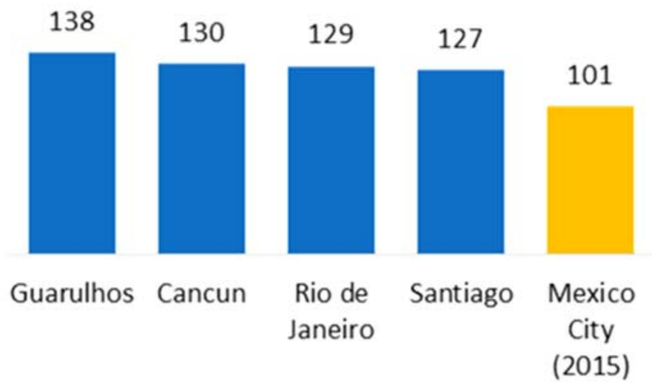


Figure 67 : Benchmark main Latin American Airports Pax/ATM

Assuming long term improvement in pax/ATM to a maximum of 135 in the long term would result in runway throughput of 50m+ compared to unconstrained forecast of 117m by 2050. There is potential upside scope for a change of traffic mix at the current airport to push for higher passengers/ATM growth. However, at the traffic levels we are forecasting, the capacity pressure would shift onto the capacity limit of the terminal processing area and not just the runway throughput. Furthermore, there would be very little operational resilience and would result in highly diminished service levels and passenger experience.

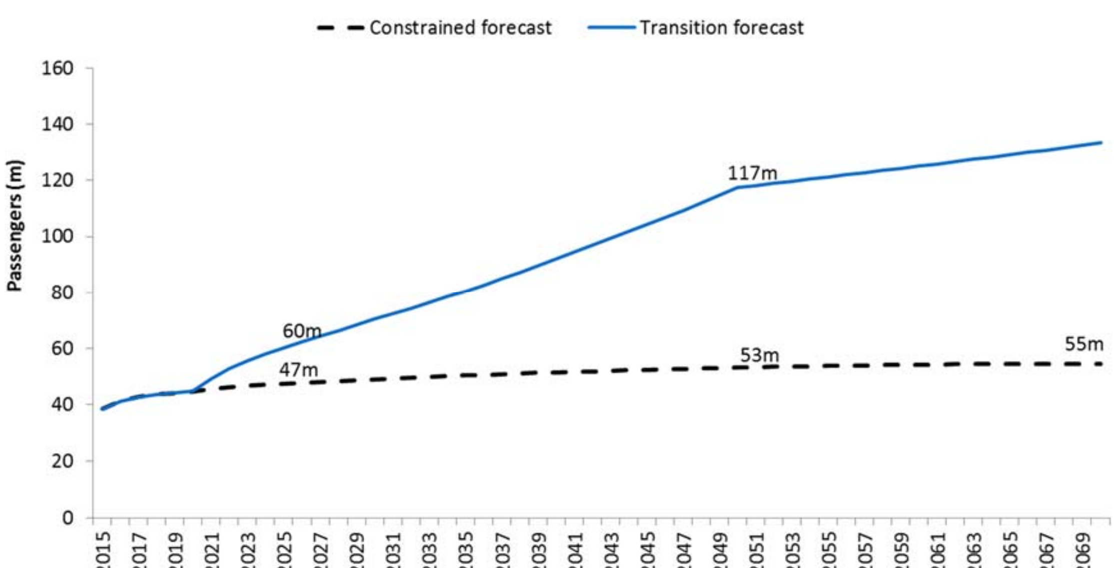


Figure 68 : MEX Long Term Constrained Forecast

6 AICM Capacity Analysis

6.1 Introduction

In this section of the report we seek to identify AICM's current capacity and how it might be maximised and optimized within the remaining life of the asset. Our analysis of current capacity is focused on the three key airport components; 1) Airfield, 2) Stands/Apron, and 3) Terminal Processing.

Our analysis of airfield capacity includes an assessment of the existing limitations imposed on the runway by environmental and technical constraints, to identify the existing runway/airfield capacity in terms of ATMs. Potential bottlenecks have been identified and possible mitigations measures proposed; bearing in mind mitigations may be operational changes or changes to regulations, not necessarily construction of additional facilities.

Our apron capacity assessment is based on identifying the number, type and size of the aircraft stands available (both contact /bridge served and remote). We have sought to determine how many aircraft stands are utilized in the peak hour in order to generate a PH pax per stand ratio to determine the apron capacity in terms of passengers and compare with other benchmarked airports.

Our analysis of the terminal building capacity has been undertaken using appropriate benchmarks from similar airports and industry standard processing rates for key passenger processing facilities including check-in desks, security, gates/hold-room area, immigration, and baggage reclaim devices.

The benchmarks and processing rates are used to determine the theoretical peak hour capacity of each processing facility. This has identified whether all facilities offer the same level of capacity or if certain processors represent a potential bottleneck. By comparing versus the peak hour pax forecasts we have determined where and when potential bottlenecks will occur and what improvements might be required to alleviate them.

Conclusions

The ultimate constraint on the capacity of AICM is the runway with a theoretical limit of 57mppa assuming an increase in capacity to 70 ATMs per hour and a fairly constant profile of demand throughout the operational period. Analysis suggests that the airport is already operating at this limit during peak periods and this is the main constraining factor on our projections up to the opening of NAICM.

Continued growth of movements will be constrained. Passenger growth at AICM will continue to grow through increased load factors and upgauging of aircraft. Resulting in a growth of both peak hour and annual ATM.

Stand capacity is sufficient to accommodate growth up to 57 mppa, assuming a significant increase in bus to gate operations.

Today terminal capacity is limited during the peak hour for certain passenger flows, notably security, but these shortfalls could be mitigated through the combination of the development of additional processor capacity, the implementation of new processes and technology to improve operational efficiency and a reduction in the level of service.

6.2 Airfield Capacity Assessment

6.2.1 Existing Airfield : Capacity Constraints

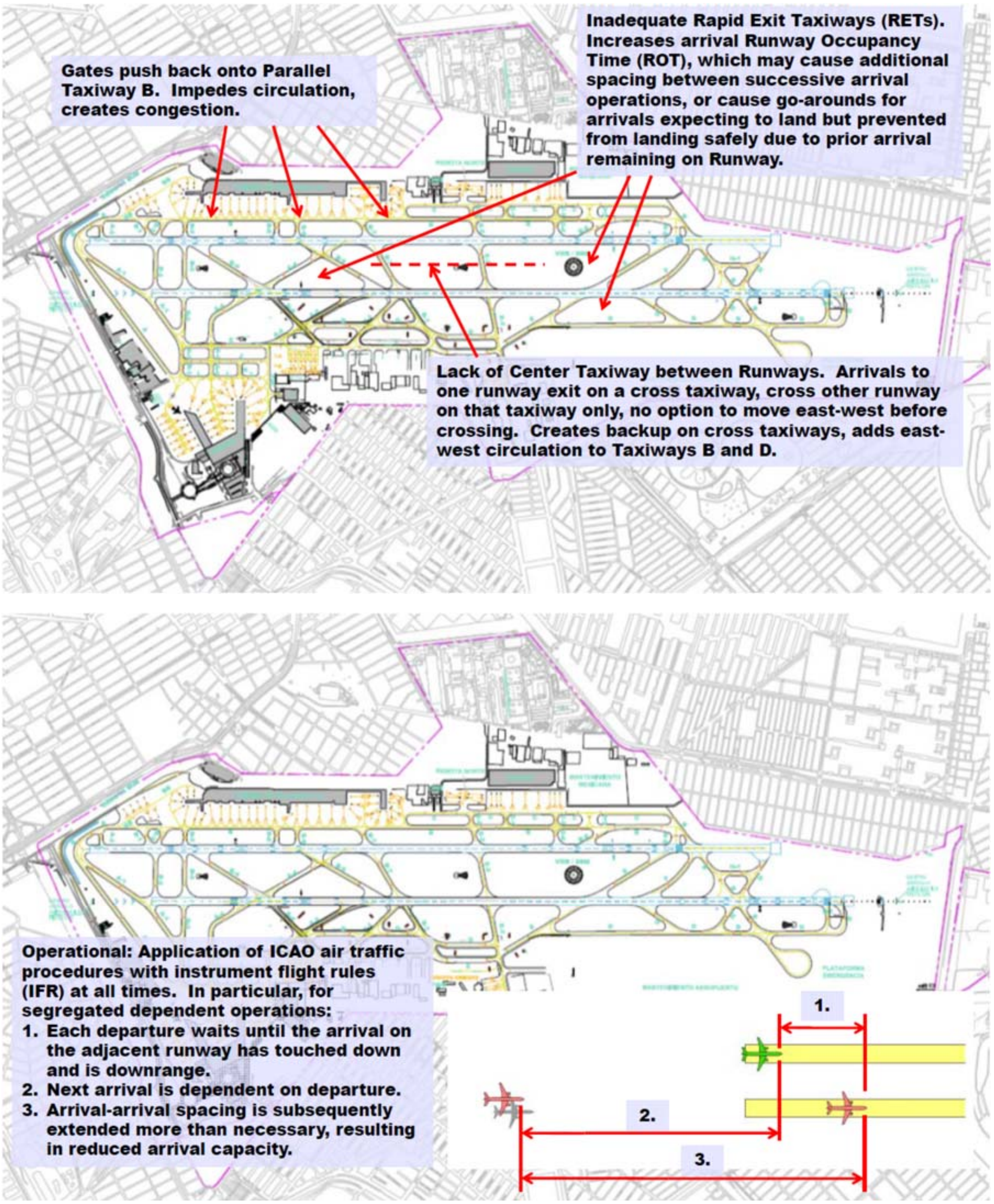


Figure 69 : Existing Airfield Capacity Constraints

6.2.2 Existing Airfield : Capacity Opportunities

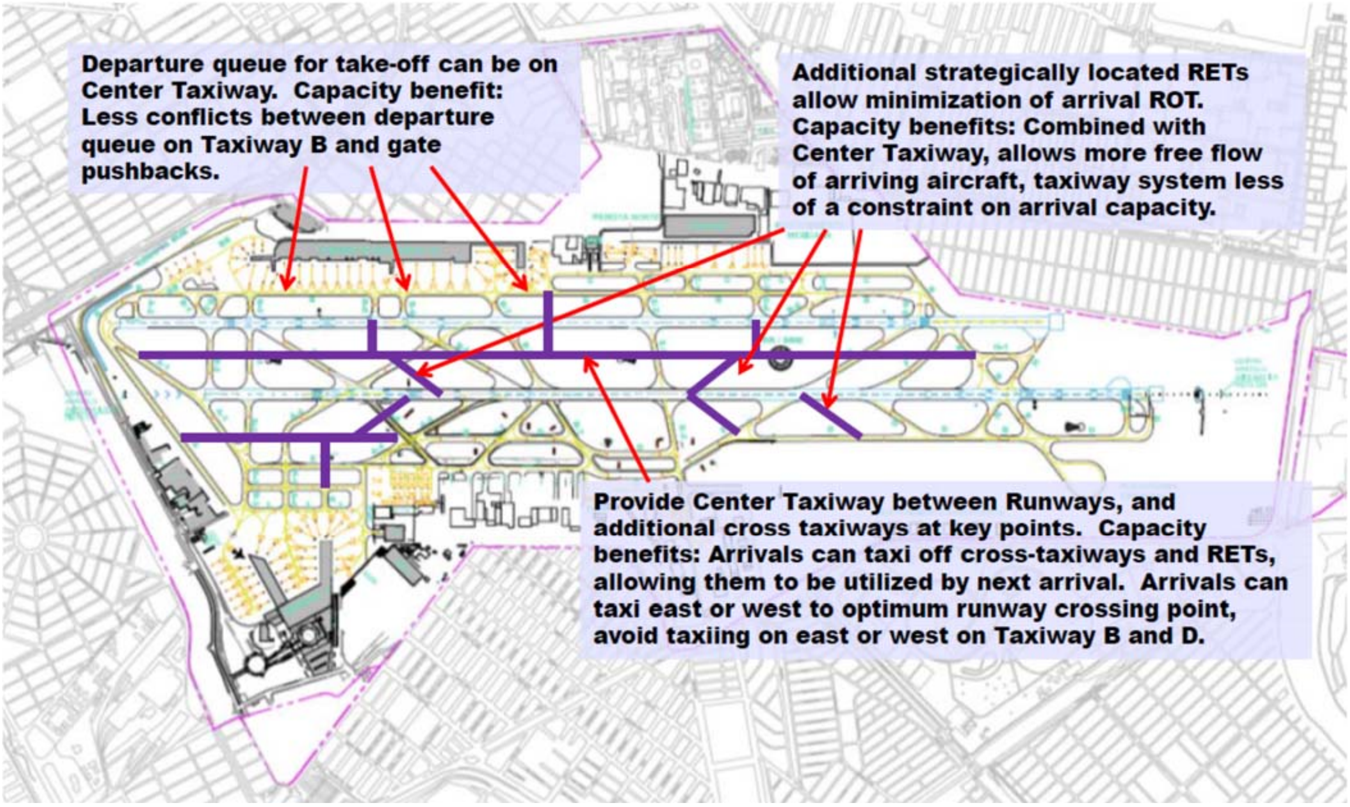


Figure 70 : Existing Airfield Capacity Opportunities

6.2.3 Estimated Airfield Capacity: Existing & Adjusted with Improvements

Runway Allocations	VMC	IMC	Average
Arrivals only capacity (Rnwy 1)	27	21	27
Arrivals capacity (Rnwy 1) (inc. TNGs)	27	21	27
Mixed Departures Capacity (Rnwy 1) (inc. TNGs)	0	0	0
Arrivals only capacity (Rnwy 2)	0	0	0
Arrivals capacity (Rnwy 2) (inc. TNGs)	0	0	0
Mixed Departures Capacity (Rnwy 2) (inc. TNGs)	0	0	0
Departures only capacity (Rnwy 2)	35	27	35
Total Arrivals & Departures Capacity	63	48	62
Arrivals Percentage	43%	44%	43%

Figure 71 : Existing Airfield Capacity (ATMs per Hour)

Runway Allocations	VMC	IMC	Average
Arrivals only capacity (Rnwy 1)	34	26	34
Arrivals capacity (Rnwy 1) (inc. TNGs)	34	26	34
Mixed Departures Capacity (Rnwy 1) (inc. TNGs)	0	0	0
Arrivals only capacity (Rnwy 2)	0	0	0
Arrivals capacity (Rnwy 2) (inc. TNGs)	0	0	0
Mixed Departures Capacity (Rnwy 2) (inc. TNGs)	0	0	0
Departures only capacity (Rnwy 2)	36	28	36
Total Arrivals & Departures Capacity	71	54	70
Arrivals Percentage	48%	49%	48%

Figure 72 : Adjusted Airfield Capacity with Improvements (ATMs per Hour)

Peak Hour Capacity

Assuming an average of 135 passengers per ATM (per constrained traffic projections in section 5.10), the estimated peak hour passenger capacity of the airfield is as follows:

- **Existing (62 ATM):** 35 departures/hr x 135 pax = 4,725 departing pax/hr + 27 arrivals/hr x 135 pax = 3,645 arriving pax/hr
- **Adjusted (70 ATM):** 36 departures/hr x 135 pax = 4,860 departing pax/hr + 34 arrivals/hr x 135 pax = 4,590 arriving pax/hr

Using the IATA Approach to Per Annum Runway Capacity

The theoretical annual maximum assumes a 16.5 hour operating day (06:00 to 22:30), and a 365 day annual operation.

- **Theoretical** annual maximum airfield capacities for AICM could be as follows for estimates of hourly airfield capacity:
- **Existing:** 62 ATMs/hour x 16.5 hours x 365 days = **373,395 ATMs/year**
- **Adjusted:** 70 ATMs/hour x 16.5 hours x 365 days = **421,575 ATMs/year**

Utilizing our AICM traffic forecast, it is possible to convert the estimated peak hour and annual airfield capacity into the corresponding peak hour and annual passenger capacity of the airfield. Assuming an average of 135 passengers per ATM, the estimated passenger capacity of the airfield is as follows:

- **Theoretical** maximum airfield capacities by passengers:
- **Existing:** 8,370 peak hour passengers / **50 million annual passengers**
- **Adjusted:** 9,450 peak hour passengers / **57 million annual passengers**

It should be noted that achieving the theoretical maximum annual airfield capacity requires sustained peak hour airfield operations for the entire day. This may not be operational realistic, even on a fair weather day.

6.2.4 Benchmark of AICM Annual ATMs and Passengers

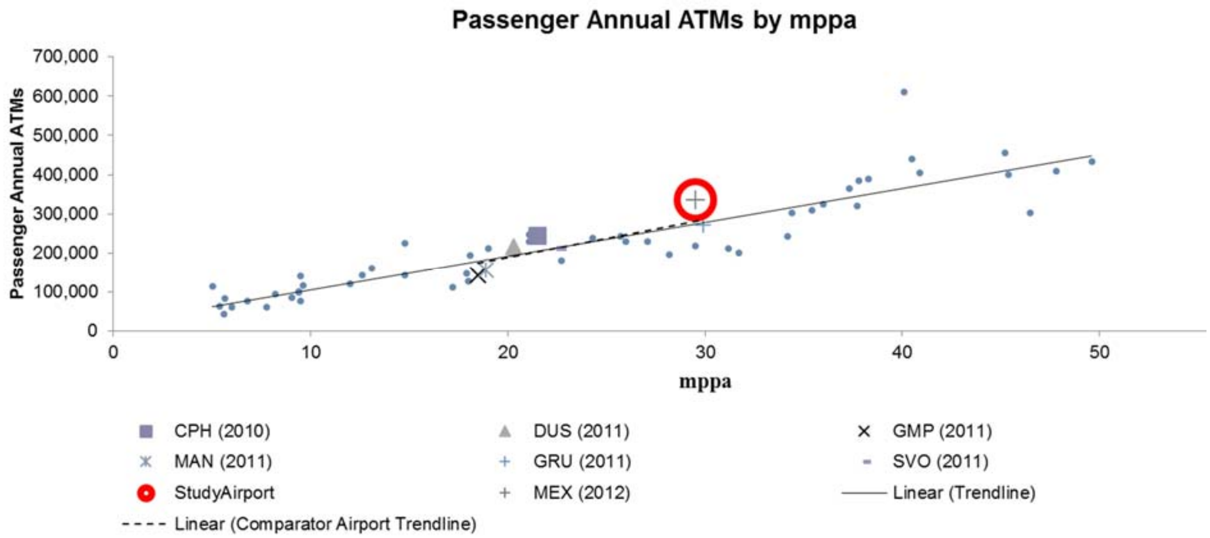


Figure 73: Annual Passenger ATMs by mppa

2012 AICM (MEX) annual ATMs and passengers were plotted against the same data for several airports with comparable airfield configurations (two closely spaced parallel runways). The comparator group included Copenhagen (CPH), Dusseldorf (DUS), Seoul-Gimpo (GMP), Manchester (MAN), San Paulo (GRU), and Moscow (SVO).

As shown above, AICM lies above both the trend line for the comparator group, and above the trend line for all airports in our benchmarking database (regardless of runway configuration). This indicates that of airports with two closely spaced parallel runways, AICM currently operates with more annual ATMs than any of its peer airports. This is a confirmation that AICM is at or very near the theoretical ATM capacity of its runway configuration.

6.2.5 Examples of Demand Management at Capacity Constrained Airports

Departure Metering

The Port Authority of New York & New Jersey (PANYNJ) has been instrumental in the use of departure metering technology at JFK International Airport. To deal with periods when airlines have scheduled more departures than the departure capacity of the airfield (e.g. weather-driven lower capacity runway configuration), the PANYNJ uses a computerized system that assigns airlines a taxi-out time for each departure. Airlines are not allowed to taxi-out and join the queue for the departure runway until their assigned time, being required to hold the aircraft on a terminal or remote stand until their taxi-out time. The effect of this metering is a spreading of scheduled demand, resulting in minimized queues for the departure runway.

Government Policy to Influence Airline Scheduling

The U.S. Federal Aviation Administration (FAA) has had success in using the potential of implementing slot controls at congested airports to influence airline scheduling. The potential of Federal slot restrictions had the effect of airlines voluntarily reducing flights during delayed periods and shifting flights from peak to off-peak times when additional capacity was available. Chicago O'Hare and San Francisco Int'l are examples of airports where slot controls were prevented because of such voluntary airline rescheduling.

Congestion Pricing to Encourage Off-Peak Scheduling

Several airport have considered or experimented with a form of congestion pricing where landing fee are varied by time-of-day to influence airline scheduling. For instance, an airport may charge a higher fee during peak periods when airlines are scheduled at or above the capacity of the airfield, with a lesser fee charged during off-peak periods when excess capacity is available. The objective is to use the discounted fee to motivate airlines to schedule more flights during the off-peak periods, taking advantage of the excess capacity. Unfortunately, experience has shown that such pricing schemes are not effective in influencing airline scheduling. Often, airlines will maintain flights at peak times because passengers are willing to pay a premium to fly at these preferred times of the day. The revenue premium of peak-time flights outweighs the increased landing fees to operate at the peak-time, and airlines will not reschedule the flight. Experience has shown that the congestion penalty fee would have to be quite significant to influence airline scheduling, and there are often Government restrictions on the magnitude of landing fees charged by airports.

Similarly, airports have considered charging penalty fees for use of smaller aircraft with the hope of motivating airlines to "up-gauge" to larger capacity aircraft, providing more seats per ATM.

6.3 Stand Capacity Assessment

6.3.1 Existing Stands

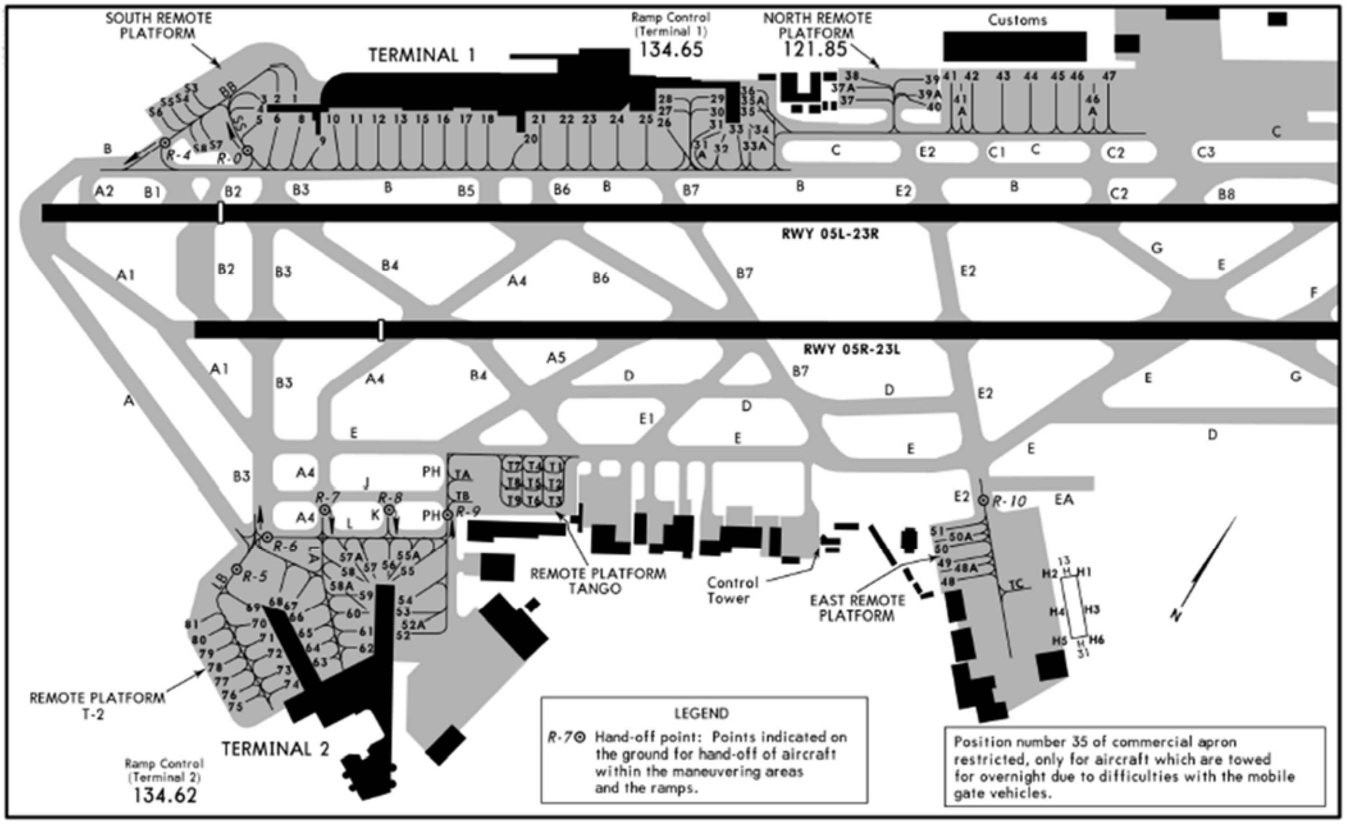


Figure 74 : AICM Existing Aircraft Stands

The following tables document the passenger aircraft stand inventory at AICM by type (contact & remote) and size:

<table>
<tr><th colspan="3">T1 Contact Stands (Stands 1-36)</th><th></th></tr>
<tr><td>2</td><td>up to 727-200</td><td>Restricted Code C</td><td rowspan="9">Notes:
757-200 Stands 31-36 can be used as 3 747-400 (Code E) stands → 31A, 33A & 35A</td></tr>
<tr><td>11</td><td>up to 737-800</td><td>Code C</td></tr>
<tr><td>10</td><td>up to 757-200</td><td>Restricted Code D</td></tr>
<tr><td>1</td><td>up to 767-200</td><td>Restricted Code D</td></tr>
<tr><td>3</td><td>up to 767-300</td><td>Restricted Code D</td></tr>
<tr><td>1</td><td>up to A330-200</td><td>Restricted Code E</td></tr>
<tr><td>1</td><td>up to A340-300</td><td>Restricted Code E</td></tr>
<tr><td>4</td><td>up to 747-400</td><td>Code E</td></tr>
<tr><td>33</td><td colspan="2">TOTAL</td></tr>
</table>

T1 Remote Stands (Stands 37-47 & 53-58)		
11	Restricted Code C	Notes: Code C Stands 37 & 38 can be used as 1 Code E stand → 37A Code C Stands 39 & 40 can be used as 1 Code E stand → 39A Stands 41 & 42 can be used as 1 Code E/F stand → 41A Stands 46 & 47 can be used as 1 Code E/F stand → 46A
1	Restricted Code D	
2	Code D	
3	Code E	
17	**TOTAL**	

T2 Contact Stands (Stands 52 -74)			
12	up to 737-900	Code C	Notes: 737-900 Stands 52-53 can be used as 1 777-300 (Code E) stand → 52A 757-200 Stands 55-56 can be used as 1 A380 (Code F) stand → 55A 757-200 Stand 57 and 737-900 Stand 58 can be used as 1 A380 (Code F) stand → 57A 757-200 Stands 59-60 can be used as 1 747-400 (Code E) stand → 58A
6	up to 757-200	Restricted Code D	
1	up to 767-200	Restricted Code D	
3	up to 767-300	Restricted Code D	
1	up to 747-400	Code E	
23	**TOTAL**		

T2 Remote Stands (75-81, T1-T9, TA-TB)			
9	up to ATR-42	Restricted Code C	
1	up to MD-80	Restricted Code C	
6	up to 737-800	Code C	
2	up to 757-200	Restricted Code D	
18	**TOTAL**		

6.3.2 Maximum Theoretical Stand Capacity

Terminal 1 Stands -- Maximum Theoretical Capacity per Peak Hour

Type	Code	Largest Aircraft	Stand Quantity	Max Seats per ATM	Load Factor	Max Pax per ATM	Turn Time (min)	Buffer Time (min)	Depts per Hour	ATM per Hour per Stand	Pax per Hour per Stand	ATM per Hour (Total)	Pax per Hour (Total)
Contact	C	737-800	13	150	90%	135	50	20	0.86	1.71	231.43	22	3,009
Contact	D	757-200	10	190	90%	171	60	25	0.71	1.41	241.41	14	2,414
Contact	D	767-200	1	185	90%	167	65	25	0.67	1.33	222.00	1	222
Contact	D	767-300	3	225	90%	203	75	25	0.60	1.20	243.00	4	729
Contact	E	A330-200	1	270	90%	243	90	30	0.50	1.00	243.00	1	243
Contact	E	A340-300	1	270	90%	243	90	30	0.50	1.00	243.00	1	243
Contact	E	747-400	4	350	90%	315	105	30	0.44	0.89	280.00	4	1,120
Remote	C	737-800	11	150	90%	135	65	20	0.71	1.41	190.59	16	2,096
Remote	D	767-300	3	200	90%	180	90	25	0.52	1.04	187.83	3	563
Remote	E	747-400	3	350	90%	315	120	30	0.40	0.80	252.00	2	756
			50									**68**	**11,396**

Figure 75 : Maximum Theoretical Stand Capacity – Terminal 1

Terminal 2 Stands -- Maximum Theoretical Capacity per Peak Hour													
Type	Code	Largest Aircraft	Stand Quantity	Max Seats per ATM	Load Factor	Max Pax per ATM	Turn Time (min)	Buffer Time (min)	Depts per Hour	ATM per Hour per Stand	Pax per Hour per Stand	ATM per Hour (Total)	Pax per Hour (Total)
Contact	C	A320-200	1	150	90%	135	50	20	0.86	1.71	231.43	2	231
Contact	C	737-900	11	170	90%	153	55	20	0.80	1.60	244.80	18	2,693
Contact	D	757-200	6	190	90%	171	60	25	0.71	1.41	241.41	8	1,448
Contact	D	767-200	1	185	90%	167	65	25	0.67	1.33	222.00	1	222
Contact	D	767-300	3	225	90%	203	75	25	0.60	1.20	243.00	4	729
Contact	E	747-400	1	350	90%	315	105	30	0.44	0.89	280.00	1	280
Remote	C	ATR-42	9	50	90%	45	40	15	1.09	2.18	98.18	20	884
Remote	C	737-800	7	150	90%	135	65	20	0.71	1.41	190.59	10	1,334
Remote	D	757-200	2	190	90%	171	75	25	0.60	1.20	205.20	2	410
			41									**66**	**8,232**

Figure 76 : Maximum Theoretical Stand Capacity – Terminal 2

To determine the theoretical hourly capacity of the stands, we considered the maximum hourly throughput of each type of stand (e.g. contact/remote, and by maximum aircraft size). This included an assumption of an efficient turnaround time for the largest size aircraft capable of using the stand, the corresponding buffer time between flights, and an assumption of the passenger load on-board each ATM using a peak hour load factor of 90%. The result was a per-stand expectation of ATMs and passengers per peak hour, which was multiplied out by the total number of stands of each stand type.

Inefficiencies in the airfield layout, such as alleyways and the practice of pushing back onto Taxiway B, were not directly considered.

It is important to note that this theoretical maximum analysis assumes that all ATMs on a given stand are operated by the largest aircraft type capable of using the stand. For example, while all Code C stands are capable of handling 150 seat Boeing 737s, airlines routinely utilize these stands for smaller aircraft of 100 seats or less. As such, the analysis presents the maximum possible passenger capacity per stand.

In terms of ATMs, the stand capacity of each of the terminals is almost equivalent: 68 total ATMs/hour for T1, and 66 ATMs/hr for T2. Thus, the stand capacity of each terminal is slightly above our estimated airfield capacity of 62 ATMs/hour, implying that the airport's aprons/stands can theoretically handle up to twice as many hourly operations as the airfield.

Utilizing the theoretical pax/hr capacity of each terminal's stands and an assumption of 16.5 hrs of ops per day, we can imply that the annual maximum theoretical passenger capacity of the stands is as follows. This does not account for the constraint of airfield and terminal processing capacity and therefore is unachievable without significant increases to airfield and terminal processing capacity.

- Terminal 1: 11,396 pax/hour x 16.5 hours/day x 365 days/year = 68,632,410 annual passengers
- Terminal 2: 8,232 pax/hour x 16.5 hours/day x 365 days/year = 49,577,220 annual passengers
- Airport Total: **= 118,209,630 annual passengers**

The reality is that such a level of maximum utilization of the stands with the largest possible aircraft is not operationally sustainable.

6.3.3 Benchmark of AICM Annual ATMs per Stand

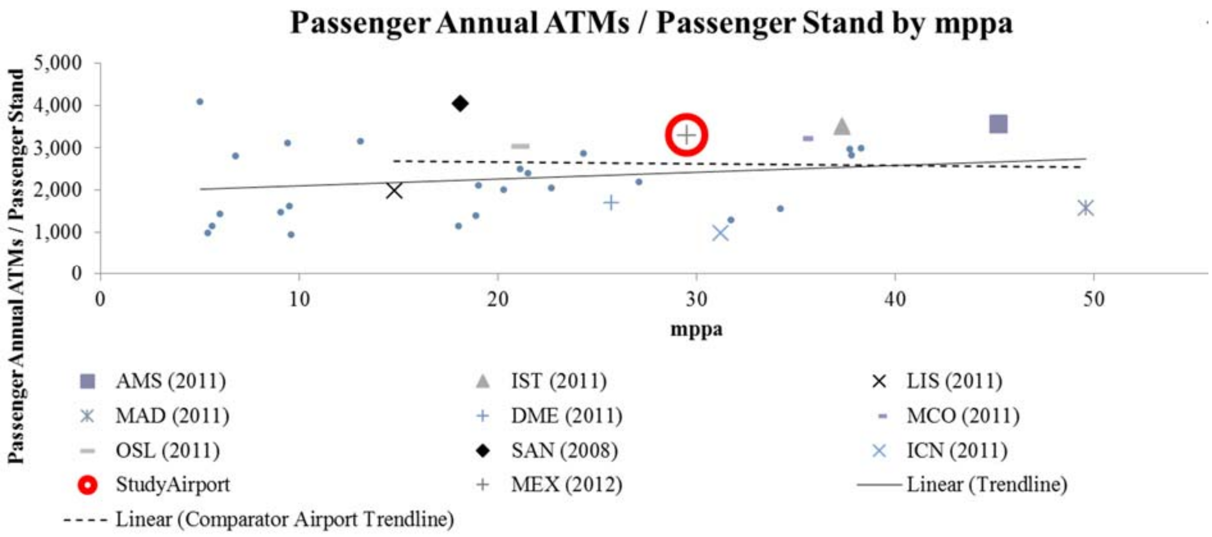


Figure 77: Annual ATMs per Stand Benchmarks

With approximately 3,300 annual passenger ATMs per passenger stand, AICM (MEX) sits well above the trend line of airports in our benchmarking database. This indicates that AICM's stands are very well utilized compared to other airports, with an average of 9 ATMs per stand per day.

While the benchmarking data demonstrates airports are able to handle in excess of 4,000 annual ATMs per stand, it is likely that AICM's governing constraint (the airfield) prevents the airport from achieving that level of stand utilization.

6.3.4 Benchmark of AICM Annual Passengers per Stand

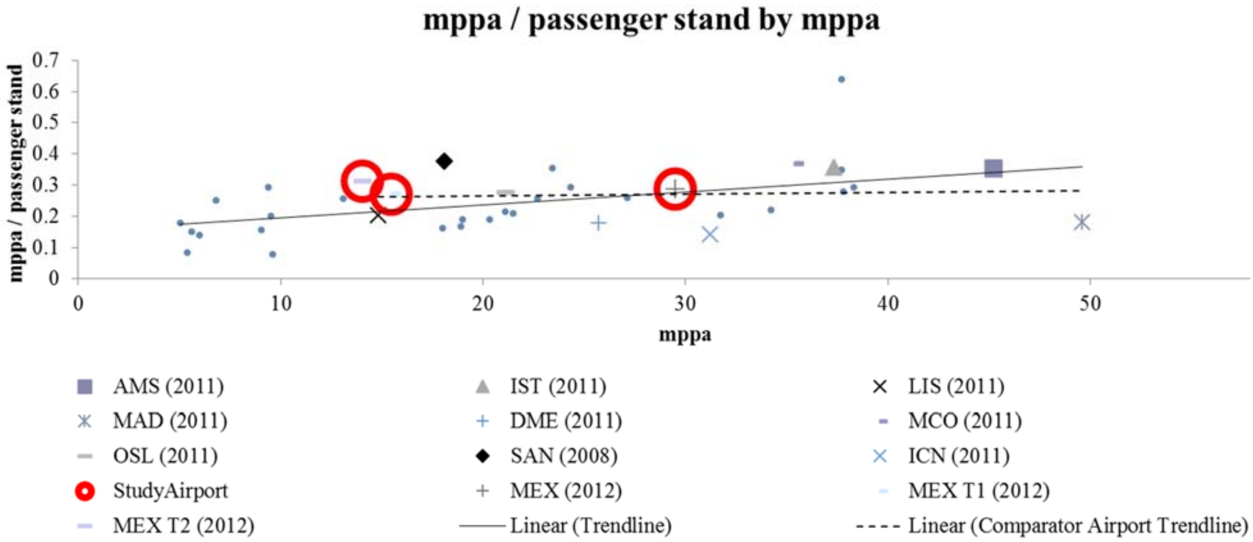


Figure 78 : Annual Passengers per Stand Benchmarks

While AICM is above average in terms of annual ATMs per stand, the benchmarking analysis of annual passengers (mppa) per stand shows that AICM sits on the trend line. This reflects the fact that the majority of ATMs at AICM are operated by regional and mainline Code C aircraft (of 50-150 seats), with comparatively few Code D and E aircraft operations (175-400 seats) for a hub airport of a capital city.

The benchmarking indicates that it is reasonable to assume an increase in passengers throughput per stand based on increased load factors and upgauging of the aircraft serving AICM.

6.4 Terminal Capacity Assessment

6.4.1 Methodology

Terminal Processing Capacity

For each component of terminal processing (e.g. check-in, security, immigration, etc.), Arup has estimated individual capacities using known quantities of processors (from previous reports and drawings) and our knowledge of typical and appropriate processing rates, IATA space standards, and wait times.

All IATA standards used were for Level of Service (LOS) C, which is typical and appropriate for airport planning.

Component processing capacities were estimated separately for Terminal 1 and Terminal 2, with the capacity represented by passengers per hour. The hourly capacity is assumed to present the peak hour.

Components of terminal processing were then grouped according to four different directional passenger flows:

- Domestic Departures Flow → Includes domestic check-in, domestic security, and domestic gate hold-rooms.
- International Departures Flow → Includes int'l check-in, int'l security, and int'l gate hold-rooms.
- Domestic Arrivals Flow → Includes domestic baggage reclaim.
- International Arrivals Flow → Includes passport control, CSA international bag reclaim, and non-CSA international bag reclaim.

For each passenger flow group, the component with the lowest hourly capacity was identified as the "bottleneck" of the flow. This "bottleneck" component thereby constrained the entire flow down to its capacity.

Note that if a queue (e.g. check-in, security, immigration, etc.) was determined to have the lowest capacity in a given flow, it was not considered the "bottleneck". We've used this assumption, as our review of drawings indicate that additional queue space can be created with relative ease and minimal capital. For example, prior to the security checkpoints, there is generous public space that can be re-allocated as additional pre-security queue space. Similarly, operational practices and technology such as queue metering can be used to manage the queues to ensure that demand does not exceed available capacity. For example, the operator can use variable message signage and establish/enforce a rule where passengers can only proceed into the security queue if their scheduled departure time is within the next 90 minutes. This metering practice has the effect of spreading demand into the queue, and may have a secondary benefit of increasing average retail spend as passengers will wait less in queue and have more time to visit retail, food and beverage outlets.

The processing assumptions used and the results of this methodology – including the identified "bottleneck" capacities – are shown on the following pages.

6.4.2 Assumptions – Terminal 1

T1 Domestic Departures Flow

	Processing Rate	Area per Passenger	Staffing/ Utilization %	Queue Wait Time (Time to Clear Queue)	Quantity
Check-In Queue Area – DOM		1.5 sqm		20 min	1,870 sqm
Check-In Desks – DOM *(common-use)*	30 pax/hr/desk		80%		166 desks
Security Screening Queue Area – DOM		1.0 sqm		10 min	263 sqm
Security Screening Lanes – DOM	200 pax/hr/lane		100%		9 lanes
Departure Hold-room – DOM	0.75 departures/ hr/stand	1.7 sqm per Seated pax (60%) 1.2 sqm per Standing pax (40%)			6,497 sqm

T1 International Departures Flow

	Processing Rate	Area per Passenger	Staffing/ Utilization %	Queue Wait Time (Time to Clear Queue)	Quantity
Check-In Queue Area – INT'L		1.5 sqm		20 min	2,940 sqm
Check-In Desks – INT'L *(common-use)*	24 pax/hr/desk		80%		194 desks
Security Screening Queue Area – INT'L		1.0 sqm		10 min	296 sqm
Security Screening Lanes – INT'L	200 pax/hr/lane		100%		7 lanes
Departure Hold-room – INT'L	0.60 departures/ hr/stand	1.7 sqm per Seated pax (60%) 1.2 sqm per Standing pax (40%)			3,750 sqm

Figure 79 : Processing Capacity Assumptions – Terminal 1 Departures

T1 Domestic Arrivals Flow

	Processing Rate	Area per Passenger	Staffing/ Utilization %	Queue Wait Time (Time to Clear Queue)	Quantity
Baggage Reclaim Devices – DOM	3.0 arrivals/ hr/device	0.33 m of frontage per pax			424 m of frontage
Baggage Reclaim Area – DOM	3.0 arrivals/ hr/device	1.7 sqm			2,190 sqm

T1 International Arrivals Flow

	Processing Rate	Area per Passenger	Staffing/ Utilization %	Queue Wait Time (Time to Clear Queue)	Quantity
Passport Control Queue Area – INT'L		1.0 sqm		30 min	785 sqm
Passport Control Desks – INTL	60 pax/hr/desk		90%		27 desks
Baggage Reclaim Devices – CSA + INT'L	2.5 arrivals/ hr/device	0.33 m of frontage per pax			526 m of frontage
Baggage Reclaim Area – CSA + INT'L	2.5 arrivals/ hr/device	1.7 sqm			3,630 sqm

Figure 80 : Processing Capacity Assumptions – Terminal 1 Arrivals

6.4.3 Processing Capacity - Terminal 1

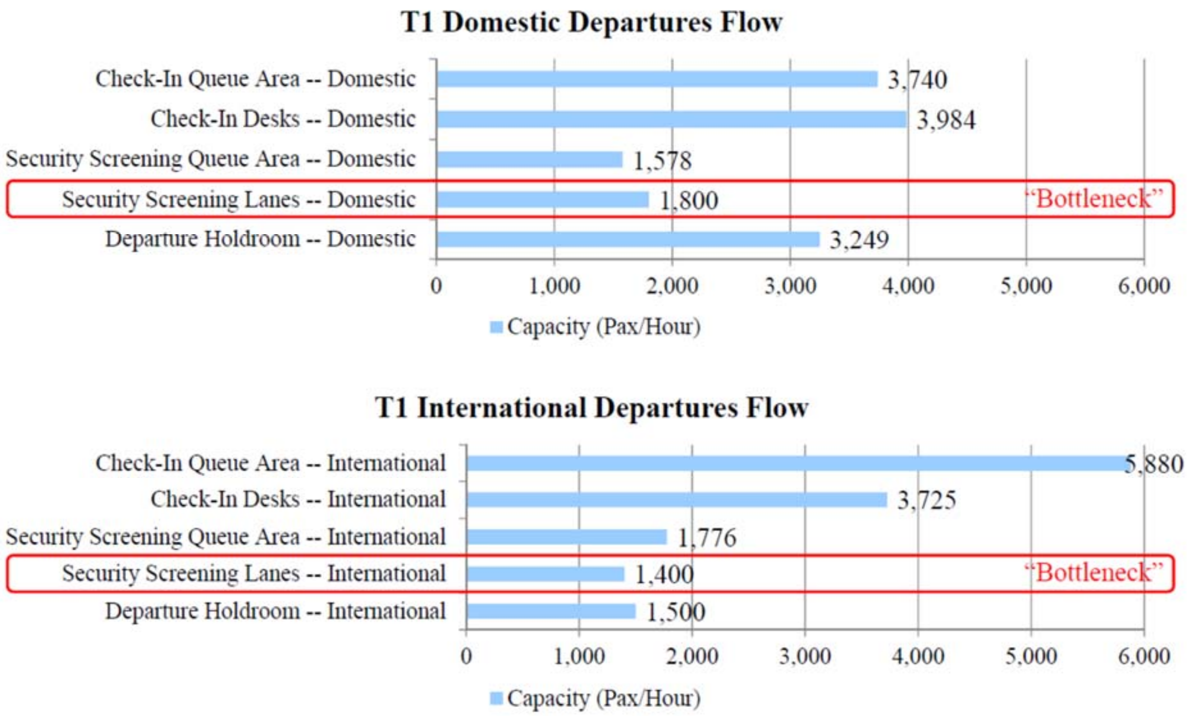


Figure 81 : Processing Capacity – Terminal 1 Departures

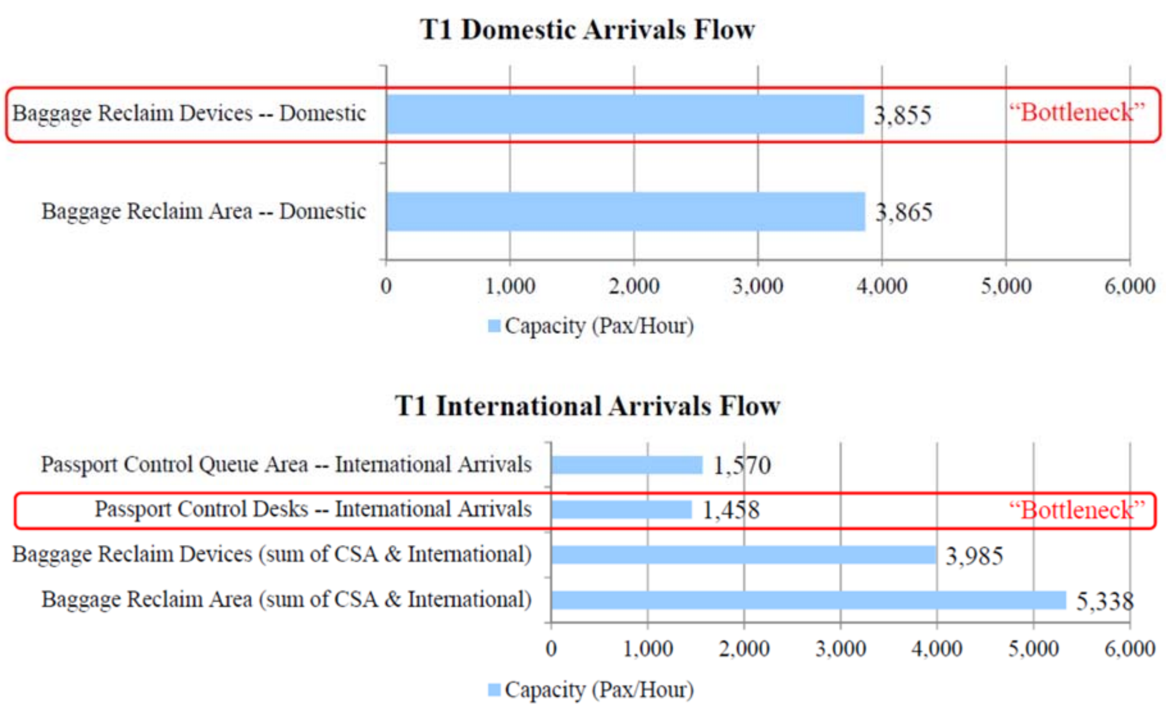


Figure 82 : Processing Capacity – Terminal 1 Arrivals

6.4.4 Assumptions - Terminal 2

T2 Domestic Departures Flow

	Processing Rate	Area per Passenger	Staffing/ Utilization %	Queue Wait Time (Time to Clear Queue)	Quantity
Check-In Queue Area – DOM		1.5 sqm		20 min	980 sqm
Check-In Desks – DOM *(common-use)*	30 pax/hr/desk		80%		88 desks
Security Screening Queue Area – DOM		1.0 sqm		10 min	250 sqm
Security Screening Lanes – DOM	200 pax/hr/lane		100%		6 lanes
Departure Hold-room – DOM	0.85 departures/ hr/stand	1.7 sqm per Seated pax (60%) 1.2 sqm per Standing pax (40%)			6,930 sqm

T2 International Departures Flow

	Processing Rate	Area per Passenger	Staffing/ Utilization %	Queue Wait Time (Time to Clear Queue)	Quantity
Check-In Queue Area – INT'L		1.5 sqm		20 min	490 sqm
Check-In Desks – INT'L *(common-use)*	24 pax/hr/desk		80%		44 desks
Security Screening Queue Area – INT'L		1.0 sqm		10 min	132 sqm
Security Screening Lanes – INT'L	200 pax/hr/lane		100%		6 lanes
Departure Hold-room – INT'L	0.65 departures/ hr/stand	1.7 sqm per Seated pax (60%) 1.2 sqm per Standing pax (40%)			6,024 sqm

Figure 83 : Processing Capacity Assumptions – Terminal 2 Departures

T2 Domestic Arrivals Flow

	Processing Rate	Area per Passenger	Staffing/ Utilization %	Queue Wait Time (Time to Clear Queue)	Quantity
Baggage Reclaim Devices – DOM	3.0 arrivals/ hr/device	0.33 m of frontage per pax			261 m of frontage
Baggage Reclaim Area – DOM	3.0 arrivals/ hr/device	1.7 sqm			4,219 sqm

T2 International Arrivals Flow

	Processing Rate	Area per Passenger	Staffing/ Utilization %	Queue Wait Time (Time to Clear Queue)	Quantity
Passport Control Queue Area – INT'L		1.0 sqm		30 min	827 sqm
Passport Control Desks – INTL	60 pax/hr/desk		90%		16 desks
Baggage Reclaim Devices – CSA + INT'L	2.5 arrivals/ hr/device	0.33 m of frontage per pax			264 m of frontage
Baggage Reclaim Area – CSA + INT'L	2.5 arrivals/ hr/device	1.7 sqm			2,439 sqm

Figure 84 : Processing Capacity Assumptions – Terminal 2 Arrivals

6.4.5 Processing Capacity – Terminal 2

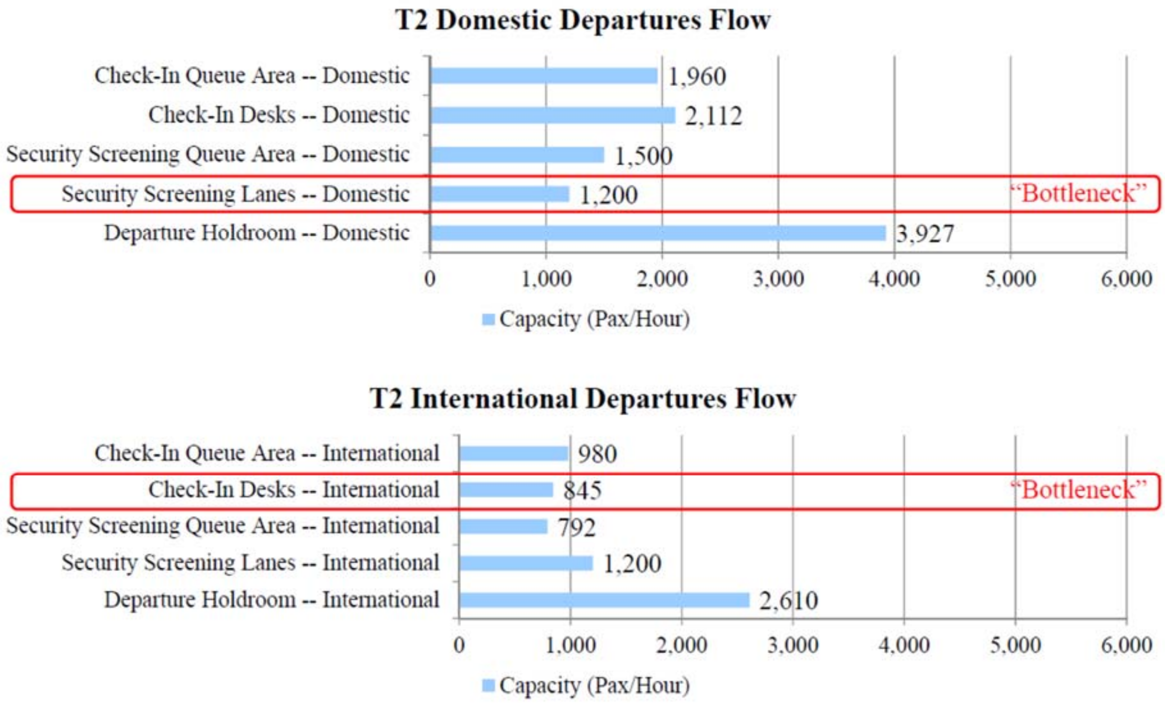


Figure 85 : Processing Capacity – Terminal 1 Departures

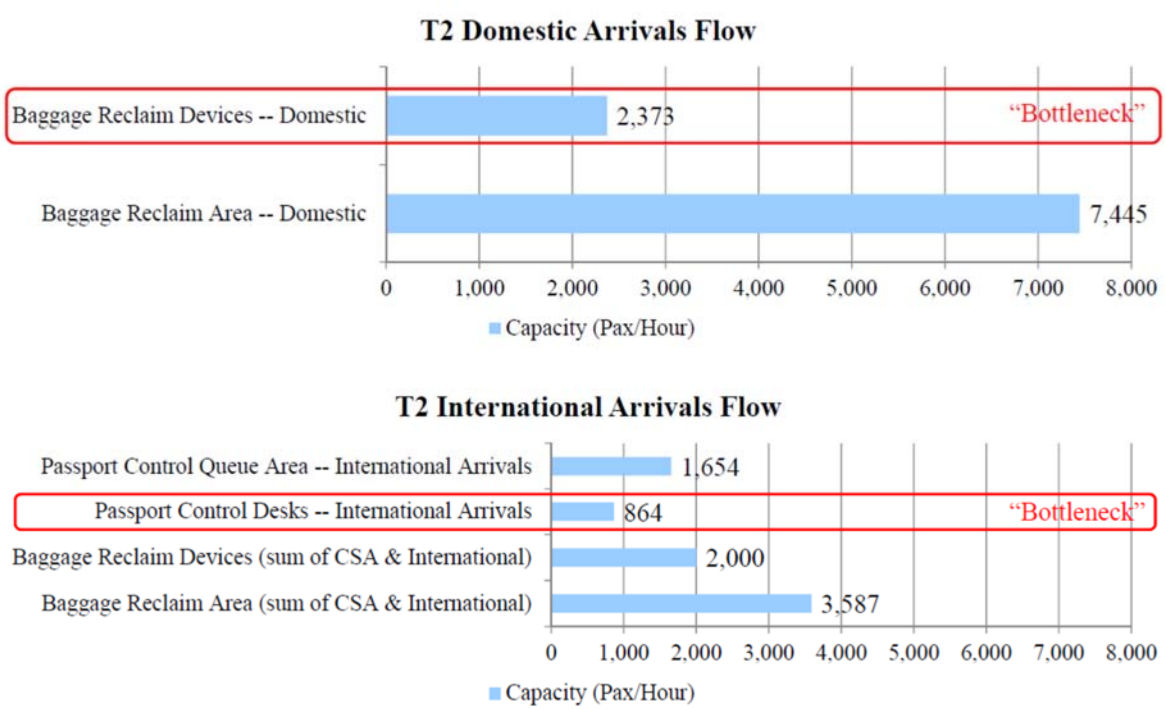


Figure 86 : Processing Capacity – Terminal 1 Arrivals

6.4.6 Terminal Processing Capacity Summary

Terminal 1	**Capacity**	**Bottlenecks**
Domestic Departures Flow	1,800 pax/hour	Security Screening Lanes
International Departures Flow	1,400 pax/hour	Security Screening Lanes
Domestic Arrivals Flow	3,855 pax/hour	Baggage Reclaim Devices
International Arrivals Flow	1,458 pax/hour	Passport Control Desks
Total T1 Peak Hour	**3,200 pax/hour Departures**	
	5,313 pax/hour Arrivals	

Terminal 2	**Capacity**	**Bottlenecks**
Domestic Departures Flow	1,200 pax/hour	Security Screening Lanes
International Departures Flow	845 pax/hour	Check In Desks
Domestic Arrivals Flow	2,373 pax/hour	Baggage Reclaim Devices
International Arrivals Flow	864 pax/hour	Passport Control Desks
Total T2 Peak Hour	**2,045 pax/hour Departures**	
	3,237pax/hour Arrivals	

Of the four departures flows (T1-DOM/INT, T2-DOM/INT), the capacity of the security checkpoint lanes was identified as the bottleneck with only one exception (T2-INT). Security checkpoint capacity is quite sensitive to the processing rate, and we utilized a rate of 200 passengers per lane per hour. Having visited AICM and reviewed terminal drawings, we believe there are straightforward solutions to add security checkpoint capacity in both terminals to increase security screening capacity. This would require the conversion of existing office and/or retail space into additional security checkpoint space, with new screening lanes between check-in and the hold-rooms. Both terminals appear to have plentiful office and retail space for conversion.

International arrivals flows are constrained in both terminals by the capacity of the passport control desks, which have less than half the hourly capacity of the baggage reclaim devices. Our determined capacity of the passport control desks is based on a processing rate assumption of 60 passengers per desk per hour, and 90% utilization of the desks (90% of full staffing). Streamlined processing by the immigration officers and technology such as automated passport control for trusted travellers and/or all passengers are easily-implementable methods to increase immigration capacity. The latter is being introduced at many other large hub airports in North America.

6.5 AICM Capacity vs. Forecast Demand

The ultimate constraint on the capacity of AICM is the runway with a theoretical limit of 57mppa assuming an increase in capacity to 70 ATMs per hour and a fairly constant profile of demand throughout the operational period. Analysis of historic flight schedules shows scheduling of 70 ATM per hour in recent years and suggesting that the airport is already operating at this limit during peak periods. This is the main constraining factor on our projections up to the opening of NAICM.

Continued growth of movements will be constrained. Passenger growth at AICM will continue to grow through increased load factors and upgauging of aircraft. Resulting in a growth of both peak hour and annual passengers.

Stand capacity is sufficient to accommodate growth up to 57 mppa, assuming a significant increase in bus to gate operations.

Today terminal capacity is limited during the peak hour for certain passenger flows, notably security, but these shortfalls could be mitigated through the combination of the development of additional processor capacity, the implementation of new processes and technology to improve operational efficiency and a reduction in the level of service.

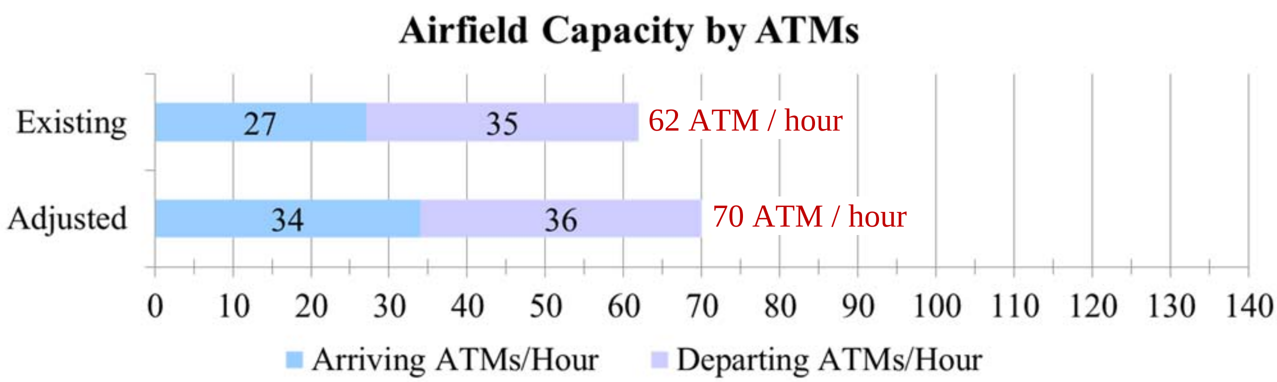


Figure 87 : Airfield Capacity by Peak Hour ATM

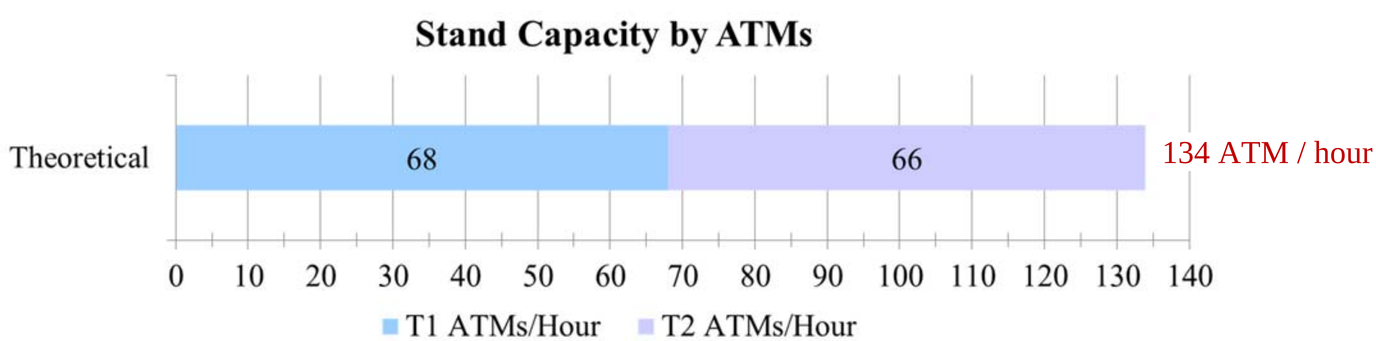


Figure 88 : Stand Capacity by Peak Hour ATM

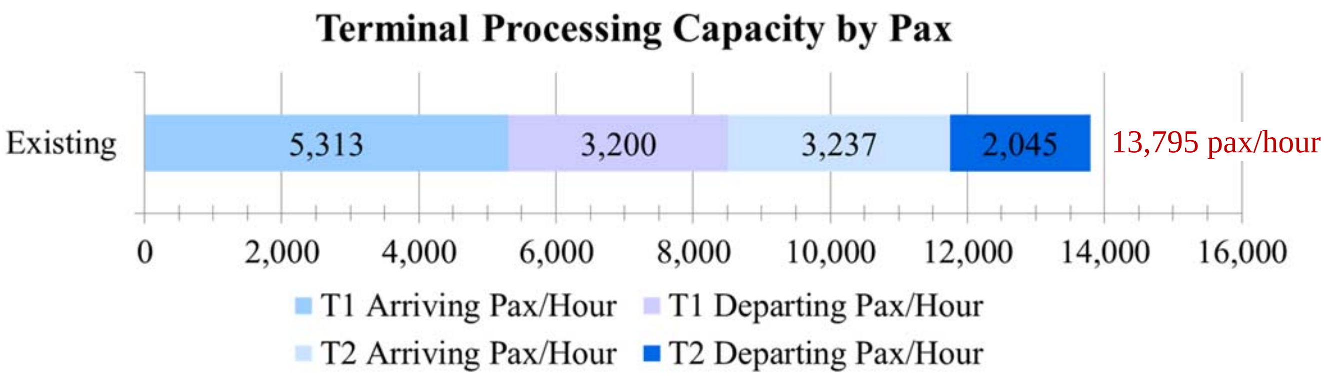


Figure 89 : Terminal Capacity by Peak Hour Passengers

6.6 Other Airports Capacity Assessment

6.6.1 Toluca (TLC): Licenciado Adolfo López Mateos Int'l Airport

Located 53 air km west of AICM, and approximately 60 road km west of the center of Mexico City. TLC was previously a hub for Volaris, which moved its primary hub to Guadalajara in 2011. Other service was transferred from TLC to AICM, following the 2010 shutdown of Mexicana. Interjet is currently the airport's largest carrier, with additional service by Aeroméxico Connect, Aeromar, Volaris and Spirit Airlines of the U.S.

In 2012, TLC handled 972,414 passengers, down from a high of 4.3 million passengers in 2008.

The airport has a single runway of 4,310 meters, with a full-length parallel taxiway. There are two terminals with a total of 15 non-jetbridge aircraft parking positions and 30,000 sqm of space. Terminal 1 (T1) is used for international flights, and Terminal 2 (T2) for domestic flights. A third terminal (T3) is planned.

Capacity

The airfield is reported to have a capacity of 500 ATMs per day, or 32/hour (assuming 16 hours of operations/day). TLC has a reported capacity of 6-8 million annual passengers, including 1,850 passengers per hour.

A master plan was developed by the Mitre Corporation, with a concept for two parallel runways and annual capacity of 60 MAP. TLC management has near term plans to construct a second runway and an additional terminal during the next few years.

Arup estimates the TLC airfield capacity to be approximately 40 ATMs/hour, given the full length parallel taxiway and assuming 80% of ATMs are large jet, 5% large 757s, and 3% heavy jets (remaining 12% are large turboprop and smaller).

6.6.2 Puebla (PBC): Hermanos Serdán International Airport

Located 80 air km east of AICM, and approximately 110 road km east of the center of Mexico City. The airport is served by four airlines (Volaris, Aeroméxico Connect, American Eagle and United Express) to six nonstop destinations.

In 2012, PBC handled 264,211 passengers.

The airport has a single 3,600 meter runway with no parallel taxiway. There is one 3,600 sqm recently-constructed terminal with a total of 6 Code D non-jetbridge aircraft parking positions (depicted in the lower left photo).

Capacity

The runway reportedly has a capacity of 20 ATMs per hour. PBC has a reported capacity of approximately 500,000 annual passengers, including 450 passengers per hour.

Aerial photographs indicate that the airport is surrounded by farmland. Acreage seems to be available for construction of a full-length parallel taxiway, and space is available for expansion of the new terminal and its associated apron.

A U.S. TDA funded master plan and feasibility study has developed a conceptual plan to expand the terminal to include 20 contact gate positions (depicted in the lower right photo).

Arup estimates the PBC airfield capacity to be approximately 22 ATMs/hour, given the lack of a parallel taxiway and assuming 80% of ATMs are large jet, 5% large 757s, and 3% heavy jets (remaining 12% are large turboprop and smaller).

6.6.3 Cuernavaca (CVJ): General Mariano Matamoros Int'l Airport

Located 70 air km south of AICM, and approximately 95 road km south of the center of Mexico City. VivaAerobus is currently the only airline operating at CVJ, although several other carriers previously served the airport, including Aeroméxico, ALMA, Aerolíneas Internacionales, Avolar and Volaris.

In 2012, CVJ handled approximately 50,000 passengers.

The airport has a single runway of 2,926 meters, with no parallel taxiway. There is a single terminal with a total of 3 non-jetbridge aircraft parking positions.

Capacity

The terminal has a capacity of 240 passengers per hour, and the airfield should be of similar capacity to that of Puebla (20 ATMs per hour), given the similar layout.

Arup estimates the CVJ airfield capacity to be approximately 22 ATMs/hour, given the lack of a parallel taxiway and assuming 80% of ATMs are large jet, 5% large 757s, and 3% heavy jets (remaining 12% are large turboprop and smaller).

7 Forecast of Revenues and Operating Expenses

7.1 Introduction

In this section of the report we summarize our analysis of the various forecasts of other revenues and operating expenses prepared by the sponsors (GACM and AICM), providing an opinion on its deliverability and identifying potential risks and opportunities.

Our analysis reviews the long term projections split between non TUA related aeronautical revenue, non-aeronautical revenue (classified as commercial and complementary) and operating expenses. We have considered two cases:

- **Constrained case:** Continued long term operations within the existing facilities (considering all the key constraints to growth).
- **Unconstrained case:** Continued operations within the existing facilities until the new facility is opened in 2020.

For each element, and in each case we have provided:

- An overview of the assumptions underpinning the projections, opining on their reasonability.
- An assessment of these assumptions and the resulting projections with reference to industry benchmarks and industry best practice.
- Commentary on key delivery risks and potential upsides, based on the analysis completed.

A key part of our analysis is to benchmark the current and projected performance versus peer airports. We have undertaken our own benchmarking of revenues and costs using publically available data from other airports.

Mexico City airport is currently considered the International hub airport in Mexico, and the intention is that the new airport will continue to be operated as such. Therefore, we have selected a peer group of International hub airports for benchmarking purposes. These include (where data was available):

- London Heathrow airport (LHR);
- Frankfurt airport (FRA) (or Fraport group);
- Amsterdam Schiphol airport (AMS);
- Charles de Gaul airport (CDG) (or ADP);
- Istanbul Ataturk airport (IST);
- Dubai International airport (DXB);
- Doha International airport (DOH);
- Abu Dhabi International airport (AUH);
- Rome Fiumicino airport (FCO);

- Hong Kong International airport (HKG);
- Incheon International airport (ICN);
- Suvarnabhumi airport (BKK);
- Singapore Changi airport (SIN);
- Narita International airport (NRT);
- Beijing Capital International airport (PEK); and
- Cairo International airport (CAI).

7.2 Limitations

Our analysis is a high level review of such assumptions (developed by the sponsors), which has been undertaken without the benefit of detailed due diligence or the review of any business plans/contract documents. We have therefore provided a view on these projections based on our knowledge of the sector, industry best practice, and benchmarking versus peer airports.

Reflecting the above, no reliance can be placed on our analysis and it should be seen as a guide for the development of potential alternative scenarios.

Our analysis of the operating cash flows (contained within the assumptions of the sponsors) suggests that, in general, these assumptions appear reasonable, however, we have provided alternative assumptions for some revenue and cost items where we believed the inputs assumed were atypical when compared with other similar airports. Our key findings are outlined as follows:

Category	Assumption opinion	Comment
TUA Passenger Revenue	In real terms, the model assumes step changes in the TUA at the start of 2014; 2015; 2016; and 2017. These proposed increases are supported by our benchmarking analysis which shows AICM's charges at the lower end of the spectrum, with room for uplifts.	Once the new airport has been opened and operating under a steady state, additional increases may be considered over the longer term. Such increases could be linked to further infrastructure expansion. The percentage of passengers who pay TUA (National and International) was determined in the PMD (Plan Maestros de Desarrollo) of AICM, which takes into account the fact that the TUA is only payable by departing passengers, and that a proportion of departing passengers may not be TUA eligible (children, civil servants, military personnel, etc.). There is potential to introduce TUA on transit passengers – who tend to utilize the airport and its facilities more than O/D passengers. This is a charge that can be observed at other airports, and thus

		could be a logical introduction to supplement the existing TUA charges and present an upside versus the current projections
Non TUA Aeronautical Revenue	The non TUA aeronautical revenue includes a number of items we would typically see allocated as "non-aeronautical revenue" at other airports. However, we note that the sponsors consider a number of these items as "airport services", and therefore accounts for them as aeronautical charges. For the benefit of direct comparisons with other airports, we have normalized these numbers excluding the more commercial charges. Therefore the main items considered include: airport services; landings; parking in platform overnight stays (it is assumed this refers to overnight aircraft parking charges); and aero cars. The forecast assumes that these revenues are uplifted annually in line with passenger growth or aircraft movements, with no adjustment for inflation. These assumptions are considered reasonable, with the exception that some charges could expect to see annual inflation uplifts.	According to the regulation of tariffs, AICM is permitted to increase the tariff annually by inflation and this is typically the case at other airports – this would be a potential upside versus the current projections.
Non-Aeronautical Revenue (Commercial Revenue and Other)	For useful comparison of the non-aeronautical revenue, we have also included charges such as "ground handling"; "car parking", etc., which the sponsors classify as aeronautical charges. A number of the items within the non-aeronautical revenue category are considered more aligned to the growth in terminal space than the increase in passenger numbers, with a few exceptions. In addition, the projections do not appear to take into account the current below par offering at the airport and the potential to achieve annual inflationary uplifts, which are typical for most commercial airports with an active management strategy. These omissions offer opportunities for potential upside.	In the absence of any supporting information these assumptions are considered reasonable, and we have not provide alternative assumptions. However, we have listed some specific initiatives that may be adopted to improve the commercial offering at the airport. Consideration of any of these opportunities over and above inflation uplifts already planned will give the sponsors the potential to increase revenue.
Operating Costs	The overall approach to developing the operating expenses projections appears reasonable. Sense checking the operating expenses projections versus the typical elasticity based approach that Arup would adopt, indicates higher costs versus airports with similar passenger and capital growth profiles, therefore highlighting the potential for savings through efficiencies and economies of scale. Specific areas of potential overstatement include staff costs and some of the general expenses, particularly for those cost items that are largely administrative and not linked to the footprint of the terminal.	We would expect to see some efficiencies in both scenarios. However, it is to be noted that with continued long term operations in the existing airport, these will be limited as additional costs will need to be factored to counter reduced serviced levels as a result of operations within a constrained environment. Whilst we would expect a step change in operating costs in the event a new airport is opened, more economies of scale benefits may be achieved in the long term.

7.3 Revenue and Expense Drivers

7.3.1 Aeronautical Revenues

Aeronautical revenues are projected to experience strong growth over the period driven by strong growth in traffic volumes and an increase in the tariff in 2016 and 2017, as well as the introduction of a TUA charge to domestic and international passengers in 2017.

7.3.2 Assumptions

Description	Assumption	Comment
Domestic TUA	Calculated as domestic passengers x tariff x % domestic passengers that pay TUA (38.5%). The rate is adjusted annually by US inflation assumed at 2% per annum. Marginal increase of 0.18% on January 1st 2016. Subsequent increase of 2% on 1st January 2017. Tariff remains flat thereafter in real terms.	Assumption is considered conservative, particularly with the understanding that these charges are at the lower end of the spectrum when compared with regional and international peers (see previous section). Following the major increase in 2014 (of c.38%), GACM appears to be adopting a conservative approach going forward, evident in the flat tariff (in real terms) beyond 2017.
International TUA	Calculated as international passengers x tariff x % international passengers that pay TUA (39.7%). The rate is adjusted annually by US inflation assumed at 2% per annum Marginal increase of 0.17% on January 1st 2016. Subsequent increase of 2% on 1st January 2017. Tariff remains flat thereafter in real terms.	Assumption is considered conservative, particularly with the understanding that these charges are at the lower end of the spectrum when compared with regional and international peers (see previous section). Following the major increase in 2014 (of c.73%), GACM appears to be adopting a conservative approach going forward, evident in the flat tariff (in real terms) beyond 2017.

7.3.3 Non TUA Aeronautical Revenue Assumptions

In general the assumptions applied to the different revenue items are in line with what we would expect to see compared with other airports. Inflation remains an upside which could further improve the revenue position.

Revenue Category	Assumed Elasticity (from model)				Comment
	Passengers	ATM	Terminal Size	Inflation	
Airport Services		100%			In the absence of more information, driver seems reasonable. Potential to add inflation.
Landings		100%			In the absence of more information, driver seems reasonable. Potential to add inflation.
Parking In Platform		100%			In the absence of more information, driver seems reasonable. Potential to add inflation.
Overnight Stays		100%			In the absence of more information, driver seems reasonable. Potential to add inflation.
Aerocars		100%			In the absence of more information, driver seems reasonable. Potential to add inflation
Items below classified by Sponsors as “non TUA aeronautical revenue”, however, for our numerical analysis these have been considered as “commercial revenue”					
Erpe Security Service	100%				In the absence of more information, driver seems reasonable. Potential to add inflation
Baggage Inspections (Domestic)	100%				In the absence of more information, driver seems reasonable. Potential to add inflation.
Baggage Inspections (International)	100%				In the absence of more information, driver seems reasonable. Potential to add inflation.
Car Parking	100%				We would typically expect this item to be categorized as “non- aeronautical revenue”. However, note that the Airport law in Mexico includes car parking as an “Airport Service”, and as a result the airport classifies it as part of aeronautical charges. For comparison purposes, we have considered this as commercial revenue. Depending on the utilization levels, car parking may be increased by an elasticity of 1x passenger growth, coupled with potential step changes if the facility is increased over time.
Land Transportation Participation	100%				In the absence of more information, driver seems reasonable. Potential to add inflation.

Revenue Category	Assumed Elasticity (from model)				Comment
	Passengers	ATM	Terminal Size	Inflation	
Access / Maneuvering Areas		100%			In the absence of more information, driver seems reasonable. Potential to add inflation.
Badges		100%			We would expect this to be driven by the number of staff (which should in turn be driven by passengers/terminal footprint). Potential to add inflation.
Visual Signs		100%			We would expect this to be linked to passengers or footprint of the terminal, rather than ATMs. However, it is to be noted that this is a minor contributor to revenue (c. 0.0006% of total revenue). Potential to add inflation.
Valet Parking	100%				In the absence of more information, driver seems reasonable. Potential to add inflation.
Commercial Zone Access		100%			In the absence of more information, driver seems reasonable. Potential to add inflation.
Federal Zone Access		100%			In the absence of more information, driver seems reasonable. Potential to add inflation.
Mechanical Bordering Equipment					
Special Services					

7.3.4 Non-Aeronautical Revenues

Non-aeronautical revenues are projected to increase in line with passenger growth or size of the terminal plus inflation. We consider the assumptions underpinning each revenue category in more detail below.

7.3.4.1 Non Aeronautical Revenue Assumptions – Sponsors

The non-aeronautical revenue projections for NAICM have been developed based on the 2015 reported revenues at AICM, adjusted annually by elasticities to passenger growth and terminal size.

Non-aeronautical revenues are made up of two components:

- Commercial services – property rental, car parking, concession revenues, etc.
- Other/complementary services – baggage handling and revenue recovered from the re sale of utilities.

No specific revenue optimization initiatives have been assumed by the Sponsors.

In general, the assumptions applied to the different revenue items are in line with what we would expect to see, with the potential for further optimization.

Revenue Category	Assumed Elasticity (from model)				Comment
	Passengers	ATM	Terminal Size	Inflation	
Commercial Revenue					
Rent			75%	100%	This assumption is considered reasonable. We would also expect that with the opening of a new terminal, and as a result negotiating new contracts, there could be the opportunity to increase revenue potential through better commercial terms.
Revenue Sharing	75%			100%	Reasonable
Revenue Sharing - Advertising			75%	100%	Revenue sharing element should be linked to passengers, whilst fixed component linked to terminal.
Fixed Monthly Participation			75%	100%	Assumption seems reasonable within the context of the data provided.
Joint Investments			75%	100%	Assumption seems reasonable within the context of the data provided.
Revenues From Assets In Concession				100%	
Filming Permit				100%	Inflation adjustment only seems to be a reasonable assumption.
Car Parking					Commentary captured in previous table (non TUA aeronautical revenue).
Complementary Revenue					
Water Consumption (Reimbursements)			75%	100%	We understand that this is the utilities recovery cost at the airport. As evidenced at other airports, it is common for airports to recharge / recover the cost of providing utilities to third parties (sometimes including a margin). This represents a potential upside. We would typically expect to see a revenue driver of passengers, applying an elasticity of c.75%.
Oil Spill		100%			Assumption seems reasonable.
Baggage Handling Revenue			100%	100%	Assumption seems reasonable.
Protection of Certain Jobs				100%	
Telephone Calls (Reimbursements)				100%	Linked to utilities recovery charge, therefore similar assumption as water consumption should be considered.
Maintenance					No historically reported revenue or future projections.
Issuance of Badges					No historically reported revenue or future projections.
Baggage Screening					No historically reported revenue or future projections.
Commissariat Participation					No historically reported revenue or future projections.

Land Transportation Participation					No historically reported revenue or future projections.

7.3.4.2 Non Aeronautical Revenue Assumptions – Arup

In this section, we highlight the revenue streams that could potentially be enhanced through improved management, improved brands, and negotiation of improved commercial terms, within the existing facility.

<table>
<tr><th>Category</th><th>Background</th><th>Opportunity / Assumption</th></tr>
<tr>
<td>Car Parking</td>
<td>The current yield per passenger is US$0.62, which is comparable to Viracopos. However, this is lower than the average yield reported by some of the larger South American airports prior to management interventions and related improvements. For example:
Brazil US$0.92
Chile US$0.74
Peru US$0.82
At AICM, 59% of the car parking revenue yields from terminal 1 (T1) users, with the remainder from terminal 2 (T2) users.

Over the last few years, parking within the airport has become more controlled with the parking policy set by the government of the Federal District. However, recent years have seen the introduction of parking meters with freedom over the tariffs charged at different locations.

The current tariffs are understood to be as follows:
<table>
<tr><td>Tariff</td><td></td><td></td></tr>
<tr><td>Minutes</td><td>MXN$</td><td>US$</td></tr>
<tr><td>0-30</td><td>22</td><td>1.2</td></tr>
<tr><td>31-45</td><td>33</td><td>1.8</td></tr>
<tr><td>46-60</td><td>44</td><td>2.4</td></tr>
<tr><td>24 hours</td><td>288</td><td>15.75</td></tr>
</table>
The airport charges are higher than those observed at Cancun airport, which charges US$1.80 per hour vs. Mexico International, which charges US$2.40.

There is off-site competition for the airport with an hourly charge of $50 MXN, which is considered comparable to the airport’s hourly charge listed above. However, the competition appears to target the 24 hour parking which is considerably cheaper than the airport’s with options of $56 MXN per 24hr downtown.</td>
<td>As a result of this analysis, the following opportunities have been identified to improve the car parking revenue per passenger:
Increase the tariffs for the short term car park.
Improve the valet car parking offer and target more passengers.
Introduce a competitive long term price structure to address the local competition – built around the safety and security of the car and driver.
Improve the booking process of the car parking on the website.
Improve the car parking contract and management of the audited revenues.
We would expect the above could be reflected in the projections as follows:
2018 – Increase yield by 2.5% from US$0.62 to US$0.635.
2020 – Improve the parking product and strategy – increase yields by 3.5% to US$0.658.
2022 – Assume new contract negotiated with a highly professional organization, which is a step up from the current operator. This has the potential to drive yields to US$0.80.
2027 – Assume increase of 1% in the yield every 5 years from 2027 to 2052. Thereafter assume 0.5% to the end of the concession/forecast period to reflect the negotiation of the operating contract on improved commercial terms.</td>
</tr>
</table>

	AICM's tariffs are higher than those in Lima airport, but $1 lower than Santiago airport, and $2.60 lower than GIG airport for the 60 minutes tariff. These tariffs have increased over this past year from a much lower base, which potentially shows the effect of influence from new investors and/or management's focus to deliver incremental revenues. Valet parking is frequently used in Mexico City, with restaurants and businesses offering this as their parking option. The airport charges $45 MXN plus the time for parking, which equates to $2.40 as a service charge – this appears to be rarely used (delivering only US$33,000 in 2015). There was some uncertainty over the revenues from Fumisa, who were previously responsible for the administration of car parking at the airport – there is some litigation over monies not paid by Fumisa for exploitation of commercial space. It therefore raises questions about whether the car park was managed professionally and with the right processes and control procedures. There are also queries over the revenue being recognized in 2014 based on a 1991 contract, and in 2015 based on a 2003 contract. This may explain the slightly lower yield per passenger. It is understood that the management terminated the 20-year agreement with effect from 1/1/14 and took over the management themselves.	
Advertising – Revenue Sharing	Currently, advertising revenue amounts to US$0.02 per passenger. In comparison, other airports in Brazil, Chile, Colombia and Peru which operate around the US$0.10 / US$0.15 / US$0.22 per passenger level. Those at the higher end of US$0.22 are airports with new terminals or greatly expanded terminals. Up until 1st January 2014, Fumisa held the advertising contract, following which the airport management assumed administration.	Opportunities for advertising growth exist through the following: • New contract with international company which would attract higher value advertising in line with that experienced in other capital cities. • Step up in marketing the attractiveness of the airport to global players. • Adopting global brands. • External branding professionally delivered. • Embracing new technologies and associated revenue streams. We would expect the above could be reflected in the projections as follows: • 2018 – Create a step up in revenues through associations with other adverting companies – yield increases to US$0.03 per passenger. • 2020 – Assume new contract with global advertising and media company delivering a yield of US$0.08 per passenger. 2023 – New technologies come into play –

<table>
<tr><td></td><td></td><td>yield increases to US$0.14 per passenger.
2025 – New contract and improved advertising infrastructure delivers a yield of US$0.15 per passenger
• 2030 onwards – Assume 0.5% real increase in advertising revenues every five years with new contracts.</td></tr>
<tr><td>Fumisa contract Rents, participation of income and fixed monthly participation</td><td>Up until 1st January 2014, Fumisa managed 180 commercial concessions within the airport. This 20-year contract was terminated and airport management took over the immediate responsibility for these concessions. As a result, there was a +61% uplift in commercial revenues in 2014 vs. 2013 (of US$146m as reported in the Moodie Report on 12th August 2015 equating to US$4.04 per passenger).

It is difficult to reconcile this reported figure with the historical data in 2014 (when rent and revenue sharing accounted for US$138m). This figure is reported to have fallen in 2015 to US$123m or US$3.21 per passenger based on the reported commercial revenues.

Given that there is no breakdown available, it is a reasonable assessment that approximately 70% of rents, 100% of revenue participation and 100% of monthly fixed participation revenues are generated in the passenger terminals in 2015 – this would deliver US$3.12 per passenger. The remainder of rents would be from offices, ticket counters, ground handling rents, fuel farm rents, etc.

The resulting yield per passenger is behind that achieved in other Central and South American main airports, where the yields for duty free, specialty retail and food and beverage alone constitute US$4.72 - US$5.80. This figure does not include banking, foreign exchange, car rental and other services on offer at these airports.</td><td>Potential opportunities to improve the commercial revenues include:
• New duty free contract to be negotiated – the duty free operator, Dufry, operates 33 stores covering liquor, tobacco, fashion, specialist retail and perfumes and cosmetics – the lower revenue per passenger must mean that they are paying below the market value for this contract. Dufry operates the main duty free operations at the main Mexican airports and some key border stores.
• There are 30 plus gift and souvenir stores – Central and Southern America are renowned for not paying market rates – therefore there should realistically be an opportunity to improve.
• There are a number of food and beverage stores competing with each other suggesting that consolidated larger and more targeted operations could result in the ‘less is more’ concept, and thus higher revenues.
• Market improvements – ASUR has just reported an increase of +25.22% in its duty free shops between January to June 2016, citing market improvements as the main driver.
• Improved brands required in both retail and food and beverage and introduction of targeted concepts aligned with the passenger profile.

We would expect the above could be reflected in the projections as follows:
• 2018 – increase yield by an extra US$0.25 – (US$3.12 to US$3.37)
• 2022 – Assume improved duty free contract with a global provider adding a further US$0.30.
• 2024 – Assume improved terms for food and beverage and specialist retail given the new contracts mostly signed in 2014 – it is likely that 10 years will be the maximum duration of each contract with 5 years being the average. Assume further US$0.20, increasing yield to US$3.87.
• 2030 – Assume new duty free contract and new space delivering further US$0.30.</td></tr>
</table>

In the following table, we highlight the incremental enhancements that may be achieved in an unconstrained environment if the new airport opens in 2020.

Category	Background	Comment
Advertising	In addition to the opportunities identified in the constrained case, we have identified some incremental assumptions that may be adopted if the new airport opens with expanded space for commercial operations and advertising.	In addition to sponsors' assumptions and opportunities identified above, consider the following inclusions: • 2018 – Step up in revenues through associations with other advertisers – yield increases to US$0.03 per passenger. • 2020 – New quality infrastructure and new advertisers adds US$0.15 per passenger (this will bring AICM / NAICM closer to the yield reported at other Latin American airports). • 2025 – New contracts and improved terms delivering $0.20 per passenger. • 2030 onwards – assume 0.5% real increase in advertising revenues every 5 years associated with new contracts.
Rents, Participation of Income and Fixed Monthly Participation	In addition to the opportunities identified in the constrained case, we have identified some incremental assumptions that may be adopted if the new airport opens with expanded space for commercial operations.	• 2018 – Increase in yield by US$0.11 as a result of smaller/short term negotiations. • 2020 – Assume improved duty free contract with a global provider adding a further US$0.25 (assume full effect the year following opening of the airport). • 2020 – Assume improved terms for food and beverage and specialist retail given the new contracts mostly signed in 2014 – it is likely that 10 years will be the maximum contract length with 5 years being the average. Assume further US$0.21 (full effect the year following opening of the airport). • This means that in 2020 with new space; 70% of rent; 100% of monthly participation; and 100% of revenue sharing, yield could increase to US$4.34 per passenger. • 2030 – Assume new duty free contract and new space delivering further US$0.30 per passenger.

7.3.5 Operating Expenditure

Operating costs are driven by passengers and terminal growth, and inflation. Limited efficiencies and scale economies are anticipated in the Sponsor projections.

7.3.5.1 Assumptions – Sponsors

Operating expenditure at AICM has been built up as follows:

Operating Expenses	Assumed Elasticity (from model)				Comment
	Passengers	ATMs	Terminal Size	Inflation	
Personnel Services	30%		50%	100% inflation plus 2% annual wage inflation.	Assumption is reasonable; the elasticity to passengers and terminal size suggests a highly operationally geared workforce. It is assumed that annual wages are increased by 2% above inflation, which we consider reasonable.
Material and General Costs	30%		75%	100%	In the absence of further data, this assumption seems reasonable.
General Services Cost					
ASA (New Agreement)					This cost is based on agreed fixed sums.
SACM Services				100%	In the absence of further data, this assumption seems reasonable. The sponsor's analysis suggests that this assumption is reasonable, as historically the airport did not experience any increases to staffing levels when a new terminal opened in 2008/2009.
Basic Services				100%	In the absence of further data, this assumption seems reasonable.
Leasing Services				100%	In the absence of further data, this assumption seems reasonable.
Professional, Scientific, Technical and Other Services				100%	In the absence of further data, this assumption seems reasonable.
Financial, Banking and Commercial Services				100%	In the absence of further data, this assumption seems reasonable.
Installation, Reparation, and Maintenance and Conservation	30%		50%	100%	This assumption appears reasonable, Typically, we would expect to see a low elasticity to passenger growth reflecting wear and tear from use, and a higher elasticity to the terminal footprint.
Print, Publicity Services					
Social Communication and Publicity Services					
Official Services					
Transfer Services					
Other General Services	30%		100%	100%	In the absence of further data, assumption appears reasonable, however, on the conservative side. Consideration should be given to a

Operating Expenses	Assumed Elasticity (from model)				Comment
	Passengers	ATMs	Terminal Size	Inflation	
					reduction in the terminal elasticity element (e.g. 75%).
Real Estate and Property	100%			100%	We would expect this cost item to be driven by the footprint of the terminal rather than passengers.
Public Investment					It is understood that this item is "maintenance capex", which would typically be capitalized rather than expensed. The Sponsors' have adopted an assumption to increase this line item linearly with the airport's master development plan (PMD) until a peak of US$1.50 per passenger. In the absence of any detail, it is difficult to opine on the reasonability of this. However, from our previous engagements, we note that on average, airports over 1 million passengers per annum spend around $1.48 per passenger on average.
Tesofe (Concession) Rights					% of revenue. This is consistent with AICM and NAICM concession title.

7.4 Operating Cash Flow Forecasts

This section showcases the operating cash flow projections on the basis of the sponsors' assumptions highlighted above.

All outputs (including TUA; commercial and complementary revenues; and operating expenditure whose assumptions include inflationary uplifts) are shown in real terms.

7.4.1 TUA Revenue Projections

7.4.1.1 Constrained Case

TUA revenues are projected to increase from US$380m in 2015 to US$586.7m in 2063. This growth slows in line with slowing passenger growth as the existing terminal becomes more constrained and reaches capacity.

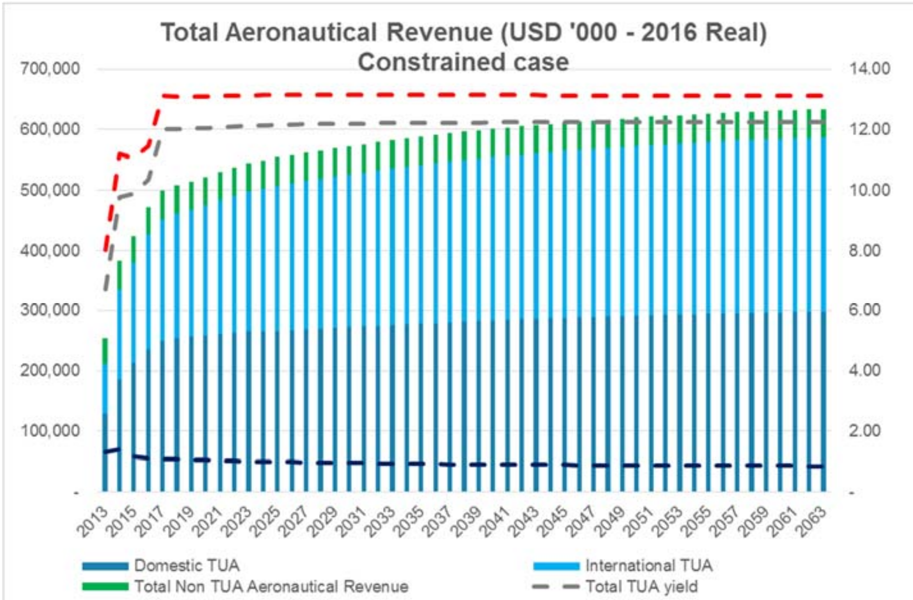


Figure 90 : Total Aeronautical Revenue Constrained Case

7.4.1.2 Unconstrained Case – Operations In New Terminal From 2020

TUA revenues are projected to increase from US$380m in 2015 to US$1.42bn in 2063, by a CAGR of 2.79%. This is predominantly driven by strong passenger growth in line with the opening of the new unconstrained facility.

These projections are considered conservative, as it is to be noted that the sponsors do not currently consider any major TUA uplifts linked to the opening of the new facility or any subsequent capacity expansions. This is an approach that has been adopted at other airports, which could present a potential upside for NAICM.

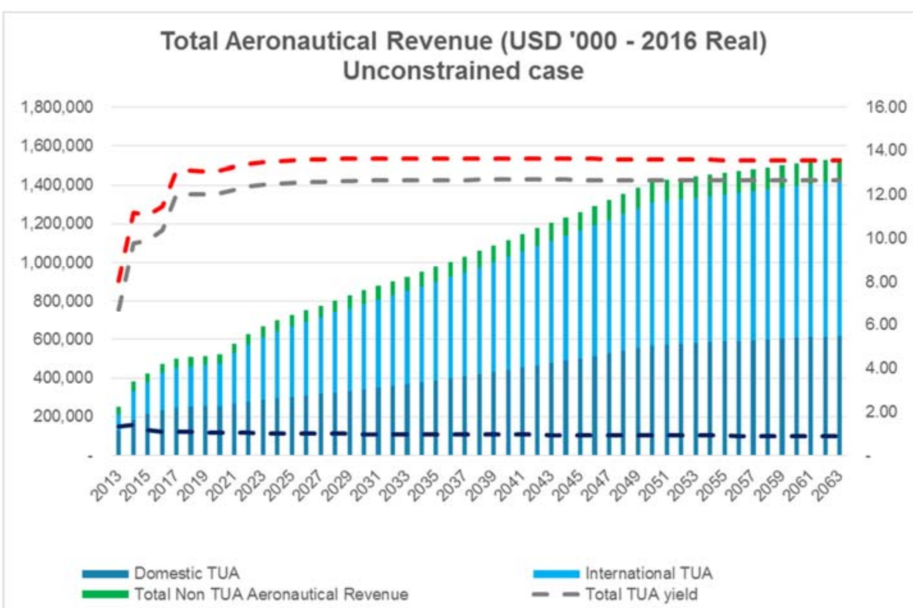


Figure 91 : Total Aeronautical Revenue Unconstrained Case

7.4.2 Non TUA Aeronautical Revenue Projections

7.4.2.1 Constrained Case

Normalized aeronautical charges (non TUA aeronautical revenue excluding items that would typically be considered commercial / non-aeronautical revenue) are projected to increase from US$44.5m in 2015 to US$46.7m in 2063, by a CAGR of 0.1%.

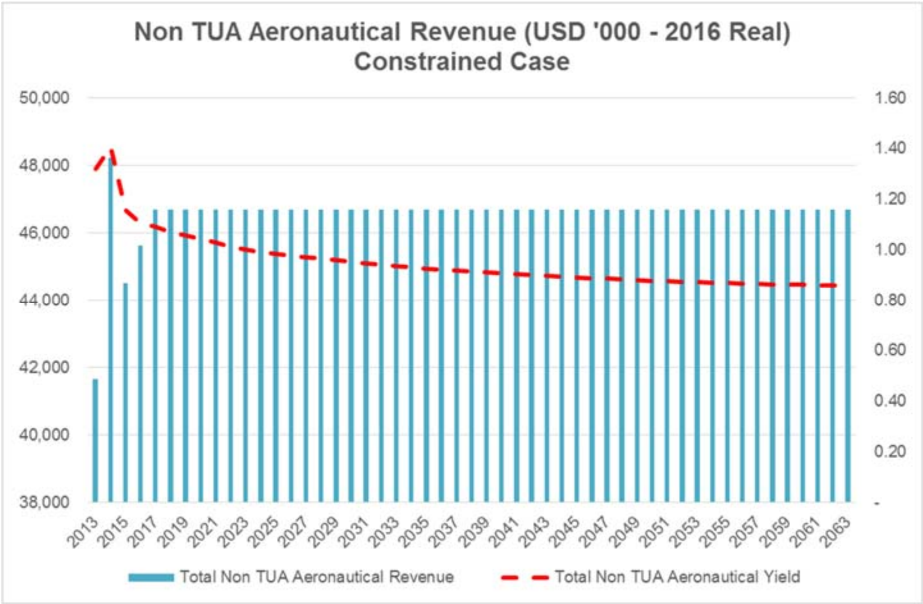


Figure 92 : Non TUA Aeronautical Revenue Constrained Case

7.4.2.2 Unconstrained Case

Aeronautical charges are projected to increase from US$44.5m in 2015 to US$113m in 2063, by a CAGR of 1.97%.

The key items considered here are driven by aircraft movements, which experiences strong growth from 2020 once the new airport opens. The major upside potential is the consideration of inflationary uplifts to these charges.

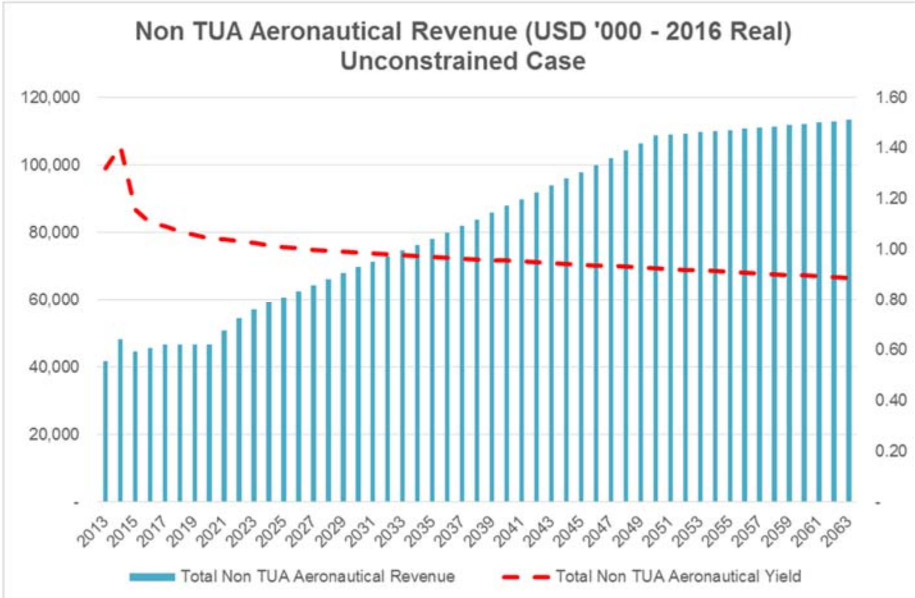


Figure 93 : Non TUA Aeronautical Revenue – Unconstrained Case

Conclusions

On the whole the modelling methodology and assumptions for aeronautical revenue assumptions appear reasonable.

The assumptions do not consider the annual effect of inflation on non TUA aeronautical revenues, which could be achieved through an active commercial management strategy, and represents a potential upside.

7.4.3 Non Aeronautical Revenue Projections

We summarize below the non-aeronautical revenue projections under the Constrained and Unconstrained Cases.

7.4.3.1 Constrained Case

Based on the sponsors' assumptions, total commercial, complementary and "other" (items classified as non TUA aero) revenue is projected to increase from US$207m in 2015 to US$239m in 2063, a CAGR of 0.30%.

Non-aeronautical revenue per passenger is projected to decrease from a peak of US$5.39 in 2015 to US$4.39 in 2063, a CAGR of -0.42%.

Revenue remains largely flat over the period, as the key revenue elements are driven by the size of the terminal, which remains constant in this case.

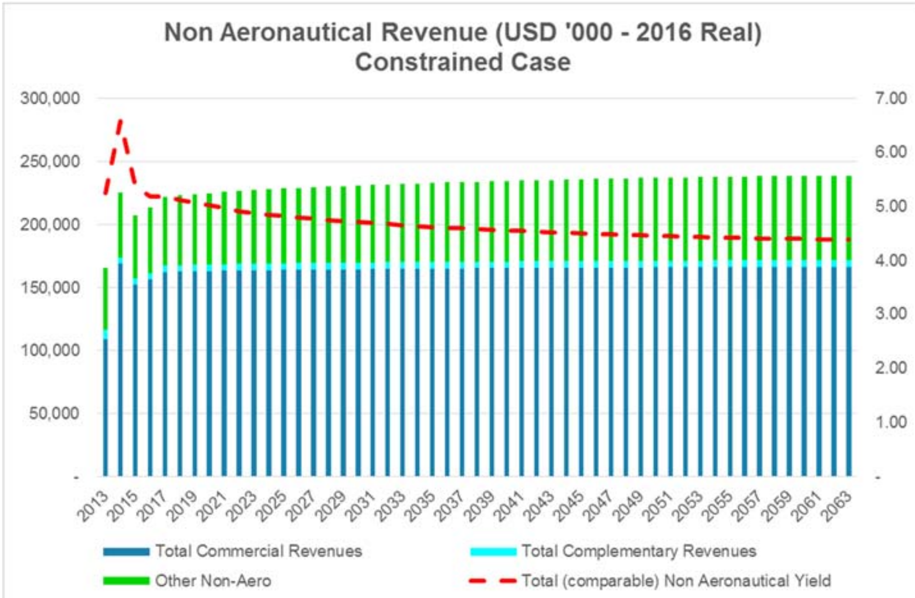


Figure 94 : Non TUA Aeronautical Revenue – Unconstrained Case

7.4.3.2 Unconstrained Case

Non aeronautical revenue in this case is projected to increase from US$207m in 2015 to US$496.5m in 2063, a CAGR of 1.84%.

Non-aeronautical revenue per passenger is projected to decrease from a peak of US$5.39 in 2015 to US$3.89 in 2063, a CAGR of -0.67%.

There is a step change in the revenue profile, driven by the opening of the new facility in 2020. Subsequent growth is linked to passenger growth and future expansions planned.

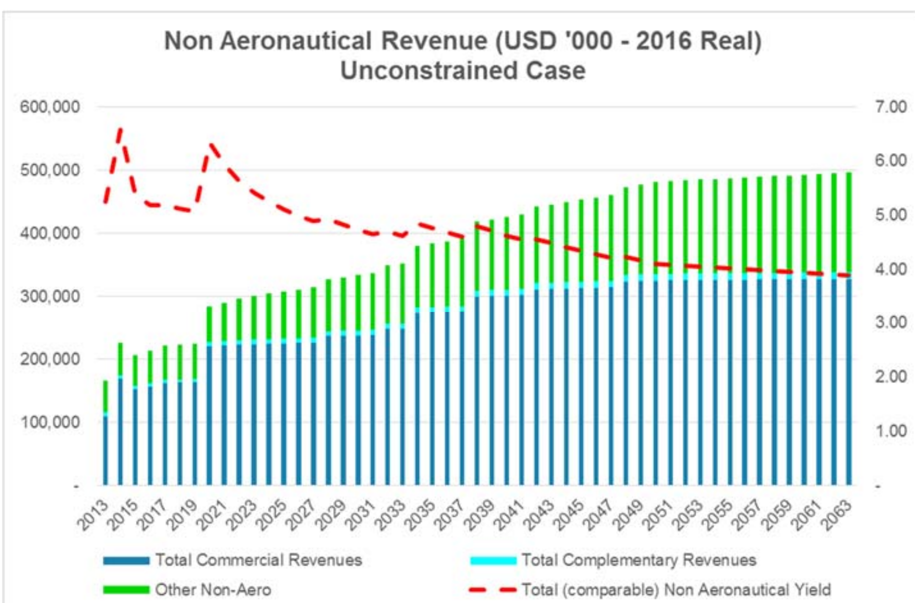


Figure 95 : Non Aeronautical Revenue Unconstrained Case

Conclusions

The non-aeronautical revenue projections are contingent on passenger volumes and terminal size.

There is a potential upside opportunity on opening of NAICM to achieve inflation adjusted yields in line with average international hubs. This will require active management and consideration of the opportunities identified previously.

7.4.4 Operating Expenses

7.4.4.1 Constrained Case

Based on the sponsors' assumptions, operating costs are projected to increase from US$281.8m in 2015 to US$419.2m in 2063, a CAGR of 0.83%.

Operating costs per passenger (including Concession Fee) are projected to increase from US$7.33 in 2015 to US$7.71 in 2063, a CAGR of 0.10%.

This spend profile is reflective of operations in a constrained environment, where the airport incurs additional costs to ensure service levels do not drop below an acceptable level.

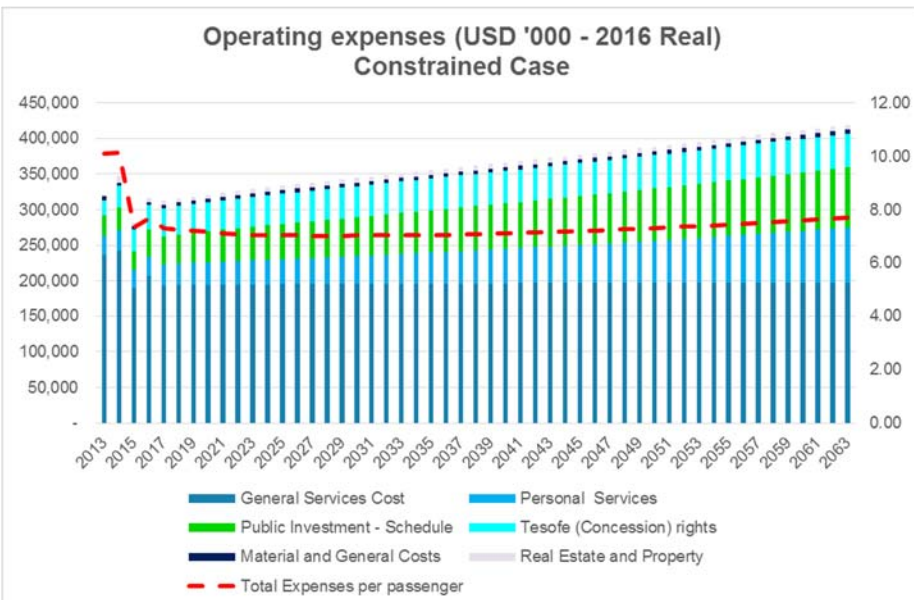


Figure 96 : Operating Expenses Constrained Case

7.4.4.2 Unconstrained Case

Based on the sponsors' assumptions, operating costs are projected to increase from US$281.8m in 2015 to US$769.8m in 2063, a CAGR of 2.12%.

Operating costs per passenger (including Concession Fee) are projected to decrease from US$7.33 in 2015 to US$6.04 in 2063, a CAGR of -0.40%.

This cost profile is reflective of economies of scale achieved through consolidating operations in a new facility. However, there may be further efficiencies achieved through contract negotiation (for outsourced services) and active management of the premises and operations.

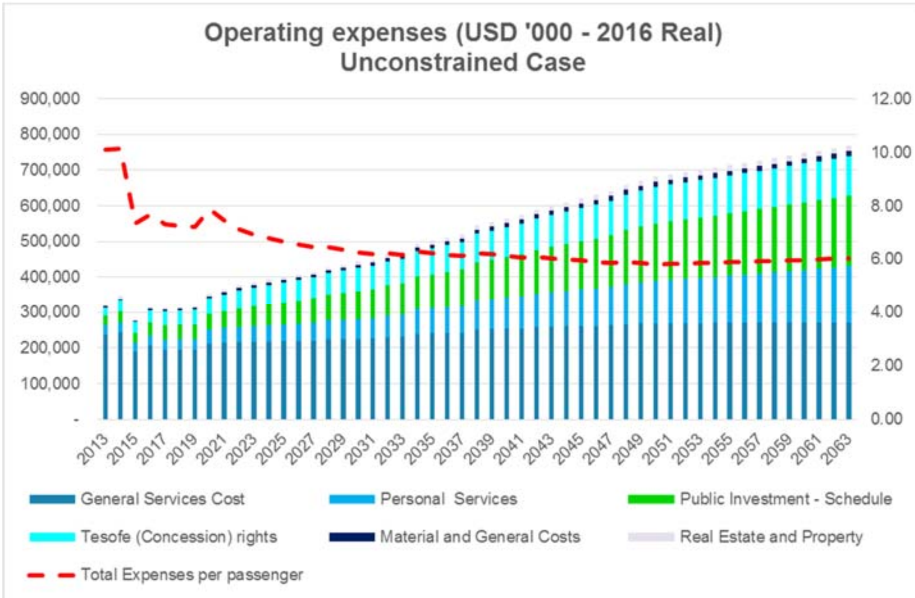


Figure 97 : Operating Expenses Unconstrained Case

Conclusions

Operating expenditure projections on the whole appear reasonable as confirmed by benchmarking analysis, however, scope for further reductions may be achieved as a result of economies of scale and efficient infrastructure.

Opex projections within the sponsors' assumptions have been developed based on the current costs uplifted annually by inflation and terminal growth.

The assumptions used, and the approach applied appear logical, and therefore the projections appear reasonable. However, the following should be noted:

- Operational costs are a mix of variable (staff related) and fixed (infrastructure related).
- Variable cost increases are projected to increase directly in line with passenger numbers when we would normally expect a less linear relationship and as a result these costs may have been over estimated.
- Conversely, fixed costs tend to increase in steps relating to the development of new infrastructure and thus a number of step change increases would be anticipated on the opening and subsequent expansions of NAICM. These costs would be expected to increase in varying degrees due to an increase in the terminal footprint as new facilities tend to be more efficient than the existing. The fact that some cost items have been inflated at 100% to terminal size, may result in over estimation.

- The assumptions do not appear to reflect any further efficiencies, particularly with the opening of the new facility, which we would typically expect to see at new airports.

7.4.5 EBITDA

Long term EBITDA margin levels of up to 60% are projected – such levels that would be expected for a large, well run, modern and commercially focused international hub airport. However, it is to be noted that whilst such profitability levels may appear high compared with other well managed international airports, they reflect some of the unique characteristics of the airport, notably:

- Aeronautical revenues in USD and costs in MXN.
- MXN devaluation versus the USD.

Other factors that may also support higher profitability (if adopted) include:

- Strong commercial performance.
- Consideration of further operational efficiencies and economies of scale.

7.4.5.1 EBITDA Projections

7.4.5.2 Constrained Case

EBITDA is projected to increase from US$349.8m in 2015 to US$453.15m in 2063, a CAGR of 0.54%.

Profitability as measured by EBITDA margin is projected to fluctuate during the period, but in overall terms will decrease from 55% in 2015 to 52% by the end of the forecast period.

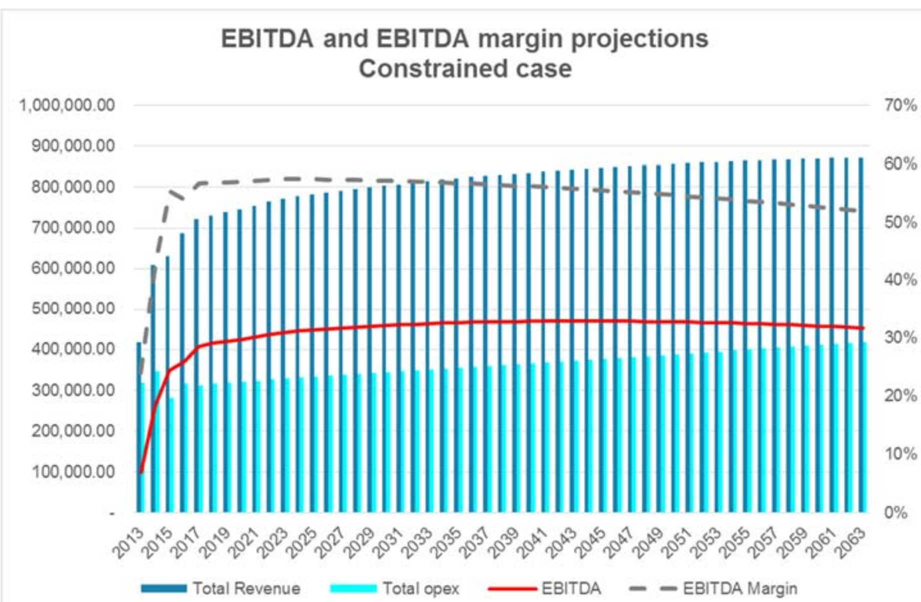


Figure 98 : EBITDA and EBITDA Margin Projections Constrained Case

7.4.5.3 Unconstrained Case

In this case, EBITDA is projected to increase from US$349.8m in 2015 to US$1.26bn in 2063, a CAGR of 2.71%.

Profitability is projected to fluctuate during the period, but in overall terms will increase from 55% in 2015 to 62% by the end of the forecast period.

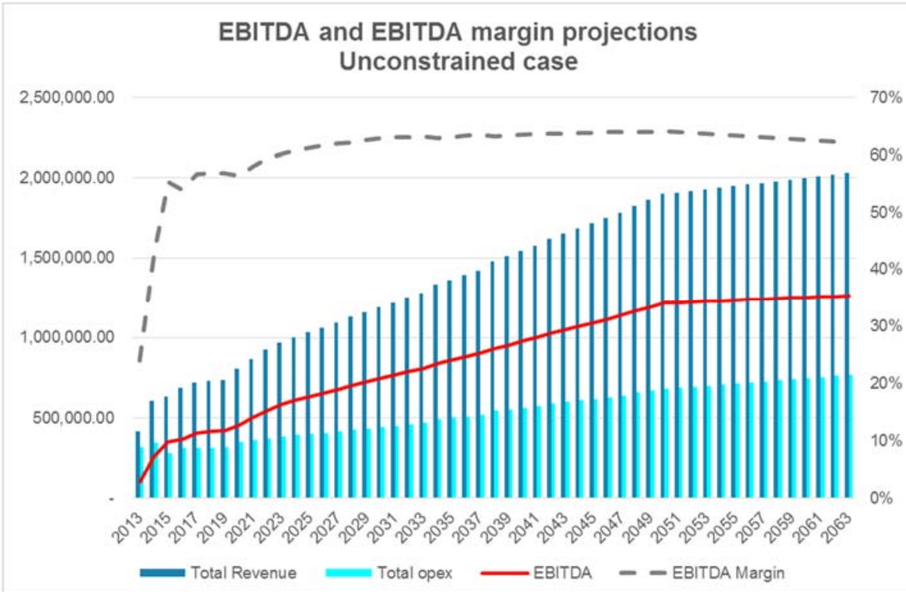


Figure 99 : EBITDA and EBITDA Margin Projections Unconstrained Case

7.4.5.4 Conclusion

EBITDA levels of above 50% would be expected for well run, modern and commercially focused large scale international airports. However, an airport operating under similar foreign exchange terms to AICM, may result in higher EBITDA as a result of USD revenues against costs in Pesos.

7.5 Benchmarking

7.5.1 Non TUA Aeronautical Revenue

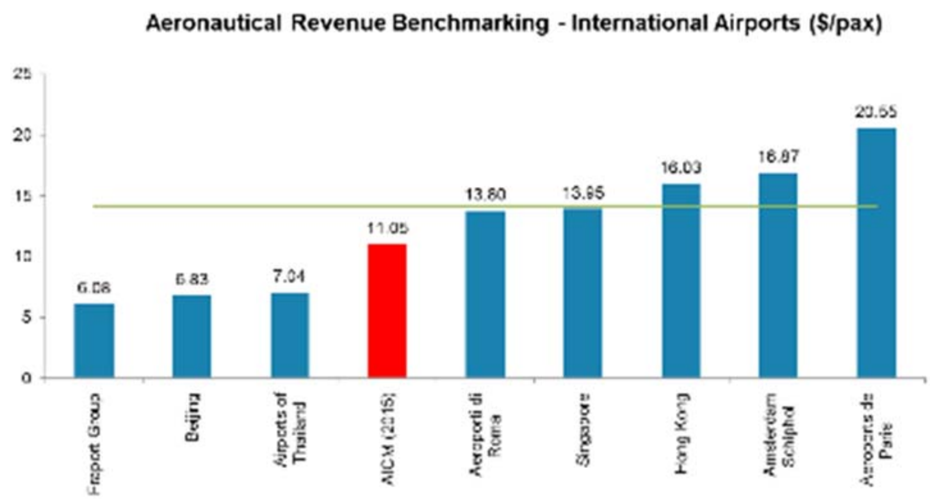


Figure 100 : Aeronautical Revenue Benchmarking –International Airports ($/pax)

7.5.2 Non Aeronautical Revenue

In order to identify the reasonableness of the non-aeronautical revenue projections we have benchmarked the projected yield versus other airports in the region where information is publicly available.

Benchmarking analysis indicates that the current yield assumptions indicate potential upside revenue opportunities, especially when NAICM opens.

It is to be noted that some of the airports considered in the peer group operate in significantly more mature economies and have a much higher level of throughput compared to AICM/NAICM.

Benchmarking AICM versus international hub airports suggests that it is currently operating below the peer group average, which highlights opportunities to optimize and improve commercial revenue generation potential in the future.

Figure 101 : Commercial Revenue Benchmarking –International Airports ($/pax)

Commercial revenue per passenger on a regional basis also illustrate average peer group performance at AICM. As the sponsors' assumptions do not consider any optimization of commercial revenues, our analysis suggests that there could be further improvement to AICM's performance with consolidated and focused management.

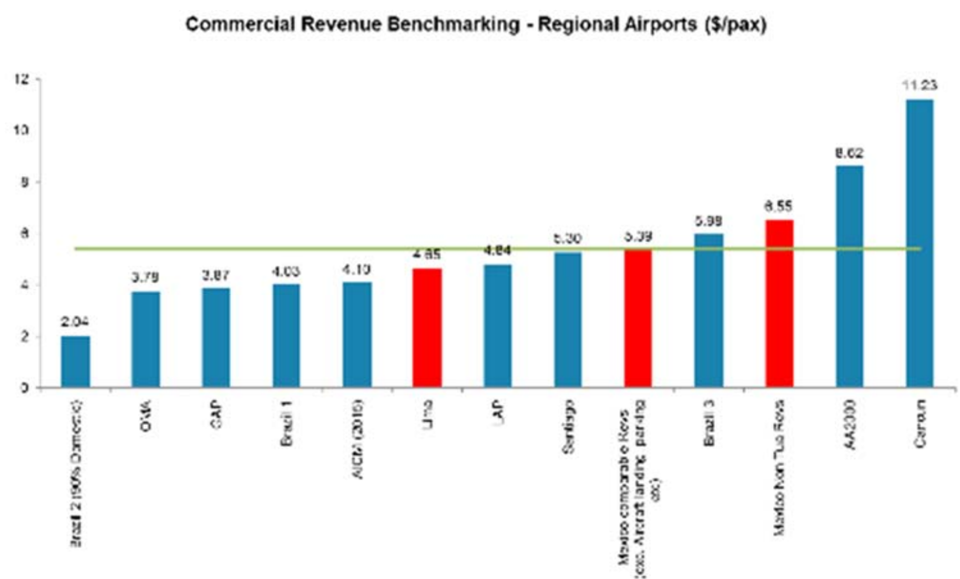


Figure 102 : Commercial Revenue Benchmarking – Regional Airports ($/pax)

7.5.3 Operating Expenses

To determine the adequacy of the operating expenditure projections, we have benchmarked costs (in 2015 prices) against other airports. This comparison may also provide an indication of future potential improvements.

Benchmarking of operating costs per passenger (in real terms) indicates that AICM appears relatively more efficient when compared to the regional peers than the international peers.

Comparison versus international hubs demonstrates that Mexico City airport is currently operating comparatively efficiently against this peer group, particularly when considered against airports with higher throughput.

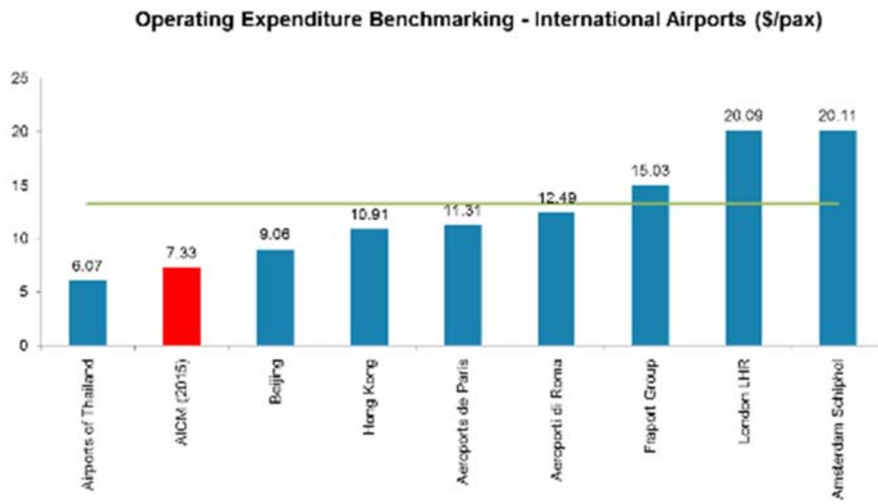


Figure 103 : Operating Expenditure Benchmarking – International Airports ($/pax)

Comparison against the regional airports however demonstrates that the current airport is operating reasonably efficiently, but with the potential opportunities for savings.

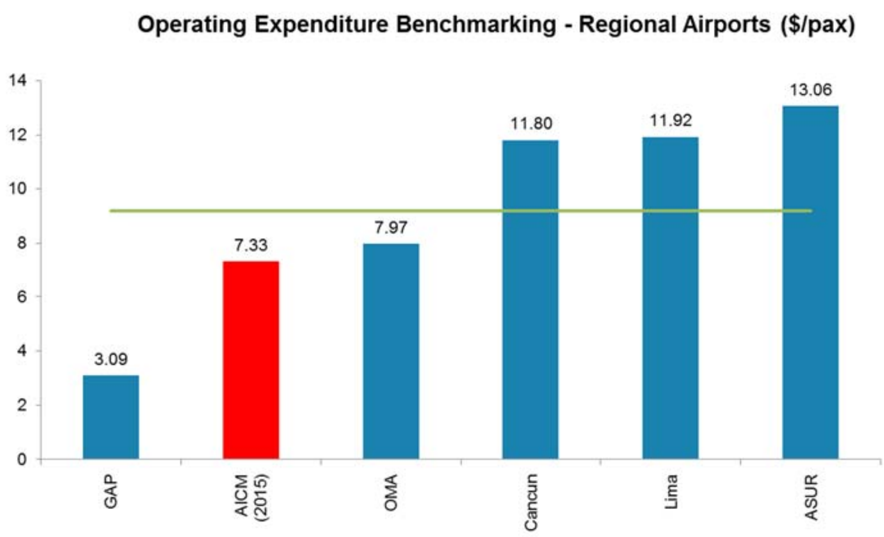


Figure 104 : Operating Expenditure Benchmarking – Regional Airports ($/pax)

8 Conclusions: Risks and Opportunities.

Traffic Risk	
Long-term Mexican GDP growth not delivered	Ultimately the performance of airlines and demand for flights will be influenced by the underlying health of the Mexican economy. However, the performance of Mexico compared to the rest of the region has reflected a good level of resilience and underlying strength.
Limits to NAFTA/Open Skies/ United States Geopolitical Trade and Travel Barriers	A new inward looking and protectionist government in the US could act to limit cross border trade, tourism and VFR traffic. However unlikely it may be, the short term nature of the political regime would not be expected to have long term structural ramification towards the US-Mexico trans-border relationship
Lack of development of a strong Mexican-based hub carrier at NAICM and volatility in Mexican airlines in terms of financial stability	The concept of NAICM as a north-south and international-to-domestic hub depends on the development of Aeroméxico and partners in building a strong hub. Ultimately growth depends on the confidence of the whole spectrum of stakeholders, including the markets, in the Mexican aviation system. Delta Airlines’ recent investment in Aeroméxico shows a good level of confidence in the carrier and market but erosion of this relationship could be a limiting factor in future.
Limitations on Mexican market due to FAA safety concerns	The US FAA have previously downgraded the safety of Mexico due to concerns about safety oversight. These were rapidly resolved but this remains a risk.
Nationalisation of airline assets	Ultimately this risk is dependent on Mexican politics.

Political volatility in terms of investing in long-term aviation infrastructure	The current facility is over-capacity. Further delay in the expansion of Mexico City airport will lead to carriers developing at alternative airports and ultimately Mexico City will be bypassed as a global hub.
Bilateral constraints on market development	Our long-term forecast assume that bilateral constraints are gradually eased to enable incremental growth. This will require an ongoing process of renegotiation, with a recognition that prioritising growth for the Mexican economy comes before the protection of national airlines.
Global geopolitical Tension/ Major Terrorist Attacks	Global geopolitical tensions/ major terrorist attacks could reshape the world's geopolitics which would impact trade and travel

Traffic Opportunities	
Rapid growth in Mexican economy	Further economic reforms and shift to a more diverse economy could accelerate Mexico's economic growth, which would support further expansion of trade and travel beyond the forecast growth rate. Associated growth in personal disposable income may increase propensity to travel resulting in additional originating/terminating traffic demand.
More aggressive increase in pax/ATM growth in constrained scenario coupled with incremental improvements in existing runway/terminal capacity.	There is an upside increase in passengers within the constrained airport environment if airlines accelerate the use of larger aircraft and change the network mix while the airport improve the operational efficiency to increase its capacity.
Continuation of subdued global fuel price	A continued shift in the oil demand-supply balance coupled with growth in alternative energy could result in the continuation of a low fuel price environment. This would support the development of new airlines and new routes.

Weak regional airlines allowing more expansion of Mexican airlines network influence	The weaker regional economy would affect the overall health of competing regional airlines. While the long term economy of Latin America is expected to improve, there exist opportunity for Mexican airlines/airports to capitalise on the stronger underlying fundamentals to exert greater network expansion within Latin America.
Commercial revenue	Through active and focused management, a number of specific incentives have been identified to improve the commercial offering to bring AICM / NAICM closer in line with some regional and international peers.
Operating expenditure	With further detail / analysis, there may be opportunities to achieve operational efficiencies and economies of scale.

Appendix A

TUA Data Table

A1 TUA Constrained Case

Constrained case	Units	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Annual passengers	mppa	**31.53**	**34.26**	**38.43**	**41.21**	**42.78**	**43.60**	**44.17**	**44.77**	**45.44**	**46.12**
TUA applicable passengers	mppa	**12.27**	**13.33**	**14.95**	**16.03**	**16.64**	**16.96**	**17.19**	**17.42**	**17.69**	**17.95**
Domesic TUA applicable pax (38.5%)	*mppa*	8.05	8.76	9.88	10.53	10.91	11.10	11.24	11.31	11.42	11.53
International TUA applicable pax (39.7%)	*mppa*	4.22	4.57	5.07	5.51	5.73	5.86	5.95	6.11	6.27	6.43
Total TUA	US$m	**211.78**	**335.16**	**380.05**	**427.00**	**452.34**	**461.30**	**467.58**	**474.87**	**482.93**	**491.02**
Domestic	*US$m*	128.59	185.86	213.15	235.52	249.00	253.29	256.35	258.16	260.60	263.04
International	*US$m*	83.18	149.30	166.90	191.48	203.34	208.01	211.23	216.71	222.33	227.97

Constrained case	Units	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Annual passengers	mppa	**46.70**	**47.06**	**47.42**	**47.74**	**48.06**	**48.38**	**48.68**	**48.99**	**49.28**	**49.58**
TUA applicable passengers	mppa	**18.18**	**18.32**	**18.47**	**18.59**	**18.72**	**18.84**	**18.96**	**19.08**	**19.19**	**19.31**
Domesic TUA applicable pax (38.5%)	*mppa*	11.61	11.63	11.66	11.71	11.77	11.83	11.88	11.94	11.99	12.04
International TUA applicable pax (39.7%)	*mppa*	6.57	6.69	6.81	6.88	6.95	7.01	7.08	7.14	7.20	7.27
Total TUA	US$m	**498.02**	**502.74**	**507.55**	**511.30**	**514.99**	**518.62**	**522.20**	**525.72**	**529.18**	**532.58**
Domestic	*US$m*	264.86	265.41	265.96	267.28	268.59	269.87	271.13	272.37	273.58	274.76
International	*US$m*	233.16	237.33	241.59	244.01	246.40	248.75	251.07	253.35	255.60	257.81

Constrained case	Units	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Annual passengers	mppa	**49.86**	**50.14**	**50.40**	**50.64**	**50.86**	**51.07**	**51.27**	**51.47**	**51.67**	**51.86**
TUA applicable passengers	mppa	**19.42**	**19.53**	**19.63**	**19.73**	**19.81**	**19.89**	**19.97**	**20.05**	**20.13**	**20.20**
Domesic TUA applicable pax (38.5%)	*mppa*	12.09	12.14	12.19	12.24	12.28	12.33	12.37	12.42	12.46	12.50
International TUA applicable pax (39.7%)	*mppa*	7.33	7.39	7.44	7.49	7.53	7.56	7.60	7.64	7.67	7.70
Total TUA	US$m	**535.91**	**539.17**	**542.08**	**544.90**	**547.31**	**549.66**	**551.95**	**554.18**	**556.35**	**558.46**
Domestic	*US$m*	275.92	277.06	278.17	279.25	280.30	281.33	282.33	283.30	284.24	285.16
International	*US$m*	259.98	262.12	263.91	265.66	267.01	268.33	269.63	270.88	272.11	273.30

Constrained case	Units	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052
Annual passengers	mppa	**52.04**	**52.22**	**52.39**	**52.55**	**52.71**	**52.87**	**53.01**	**53.15**	**53.29**	**53.42**
TUA applicable passengers	mppa	**20.27**	**20.34**	**20.41**	**20.47**	**20.54**	**20.60**	**20.65**	**20.71**	**20.76**	**20.81**
Domesic TUA applicable pax (38.5%)	*mppa*	12.54	12.57	12.61	12.64	12.68	12.71	12.74	12.77	12.80	12.83
International TUA applicable pax (39.7%)	*mppa*	7.74	7.77	7.80	7.83	7.86	7.88	7.91	7.94	7.96	7.98
Total TUA	US$m	**560.50**	**562.48**	**564.40**	**566.25**	**568.03**	**569.74**	**571.38**	**572.96**	**574.46**	**575.89**
Domestic	*US$m*	286.04	286.90	287.73	288.52	289.29	290.03	290.74	291.41	292.06	292.67
International	*US$m*	274.46	275.59	276.67	277.72	278.74	279.71	280.65	281.54	282.40	283.22

Constrained case	**Units**	**2053**	**2054**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**
Annual passengers	mppa	**53.54**	**53.65**	**53.76**	**53.86**	**53.96**	**54.05**	**54.13**	**54.20**	**54.27**	**54.33**
TUA applicable passengers	mppa	**20.86**	**20.90**	**20.94**	**20.98**	**21.02**	**21.06**	**21.09**	**21.12**	**21.14**	**21.17**
Domesic TUA applicable pax (38.5%)	*mppa*	12.85	12.88	12.90	12.92	12.94	12.96	12.98	12.99	13.01	13.02
International TUA applicable pax (39.7%)	*mppa*	8.01	8.03	8.05	8.06	8.08	8.10	8.11	8.12	8.14	8.15
Total TUA	US$m	**577.25**	**578.53**	**579.74**	**580.88**	**581.94**	**582.93**	**583.84**	**584.68**	**585.43**	**586.11**
Domestic	*US$m*	293.26	293.81	294.33	294.82	295.27	295.70	296.09	296.45	296.78	297.07
International	*US$m*	283.99	284.72	285.42	286.06	286.67	287.23	287.75	288.23	288.66	289.04

Constrained case	**Units**	**2063**									
Annual passengers	mppa	**54.38**									
TUA applicable passengers	mppa	**21.19**									
Domesic TUA applicable pax (38.5%)	*mppa*	13.03									
International TUA applicable pax (39.7%)	*mppa*	8.16									
Total TUA	US$m	**586.71**									
Domestic	*US$m*	297.33									
International	*US$m*	289.38									

A2 TUA Unconstrained Case

Unconstrained case	**Units**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Annual passengers	mppa	**31.53**	**34.26**	**38.43**	**41.21**	**42.78**	**45.01**	**46.87**	**49.21**	**51.33**	**53.47**
TUA applicable passengers	mppa	**12.27**	**13.33**	**14.95**	**16.03**	**16.64**	**16.96**	**17.19**	**17.42**	**19.08**	**20.56**
Domesic TUA applicable pax (38.5%)	*mppa*	8.05	8.76	9.88	10.53	10.91	11.10	11.24	11.31	11.78	12.24
International TUA applicable pax (39.7%)	*mppa*	4.22	4.57	5.07	5.51	5.73	5.86	5.95	6.11	7.30	8.32
Total TUA	US$m	**211.78**	**335.16**	**380.05**	**427.00**	**452.34**	**461.30**	**467.58**	**474.87**	**527.76**	**574.39**
Domestic	*US$m*	129	186	213	235.52	249.00	253.29	256.35	258.16	268.73	279.18
International	*US$m*	83	149	167	191.48	203.34	208.01	211.23	216.71	259.03	295.21

Unconstrained case	**Units**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
Annual passengers	mppa	**55.78**	**58.05**	**60.24**	**62.23**	**64.30**	**66.38**	**68.45**	**70.59**	**72.46**	**74.38**
TUA applicable passengers	mppa	**21.68**	**22.65**	**23.51**	**24.29**	**25.10**	**25.91**	**26.73**	**27.56**	**28.29**	**29.04**
Domesic TUA applicable pax (38.5%)	*mppa*	12.60	12.92	13.24	13.58	13.94	14.29	14.65	15.02	15.40	15.79
International TUA applicable pax (39.7%)	*mppa*	9.09	9.73	10.27	10.70	11.16	11.62	12.08	12.54	12.89	13.25
Total TUA	US$m	**609.79**	**639.96**	**666.36**	**689.68**	**713.90**	**738.45**	**762.66**	**787.63**	**808.82**	**830.46**
Domestic	*US$m*	287.47	294.78	302.10	309.93	318.11	326.09	334.28	342.66	351.40	360.34
International	*US$m*	322.31	345.18	364.26	379.76	395.79	412.36	428.38	444.97	457.42	470.12

Unconstrained case	**Units**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**
Annual passengers	mppa	**76.36**	**78.40**	**80.51**	**82.68**	**84.93**	**87.23**	**89.56**	**91.98**	**94.41**	**96.94**
TUA applicable passengers	mppa	**29.82**	**30.61**	**31.44**	**32.28**	**33.17**	**34.06**	**34.97**	**35.92**	**36.87**	**37.86**
Domesic TUA applicable pax (38.5%)	*mppa*	16.20	16.61	17.04	17.48	17.94	18.41	18.88	19.37	19.87	20.38
International TUA applicable pax (39.7%)	*mppa*	13.62	14.00	14.40	14.81	15.23	15.66	16.10	16.55	17.01	17.48
Total TUA	US$m	**852.78**	**875.78**	**899.63**	**924.10**	**949.54**	**975.48**	**1,001.78**	**1,029.11**	**1,056.56**	**1,085.12**
Domestic	*US$m*	369.54	378.96	388.72	398.78	409.31	419.96	430.74	442.03	453.29	465.03
International	*US$m*	483.24	496.82	510.91	525.32	540.24	555.52	571.03	587.08	603.27	620.09

Unconstrained case	**Units**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**
Annual passengers	mppa	**99.27**	**101.71**	**104.17**	**106.68**	**109.26**	**111.90**	**114.60**	**117.37**	**118.12**	**118.87**
TUA applicable passengers	mppa	**38.77**	**39.72**	**40.68**	**41.66**	**42.66**	**43.69**	**44.75**	**45.83**	**46.12**	**46.41**
Domesic TUA applicable pax (38.5%)	*mppa*	20.90	21.45	22.00	22.57	23.15	23.75	24.36	24.99	25.15	25.31
International TUA applicable pax (39.7%)	*mppa*	17.87	18.27	18.68	19.09	19.51	19.94	20.39	20.84	20.97	21.11
Total TUA	US$m	**1,110.76**	**1,137.61**	**1,164.59**	**1,192.19**	**1,220.46**	**1,249.40**	**1,279.05**	**1,309.41**	**1,317.79**	**1,326.22**
Domestic	*US$m*	476.91	489.45	502.06	515.00	528.27	541.88	555.84	570.16	573.81	577.48
International	*US$m*	633.85	648.15	662.53	677.19	692.19	707.53	723.21	739.25	743.98	748.74

Unconstrained case	**Units**	**2053**	**2054**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**
Annual passengers	mppa	**119.63**	**120.40**	**121.17**	**121.95**	**122.73**	**123.51**	**124.30**	**125.10**	**125.90**	**126.70**
TUA applicable passengers	mppa	**46.71**	**47.01**	**47.31**	**47.61**	**47.92**	**48.23**	**48.53**	**48.84**	**49.16**	**49.47**
Domesic TUA applicable pax (38.5%)	*mppa*	25.47	25.63	25.80	25.96	26.13	26.30	26.46	26.63	26.80	26.98
International TUA applicable pax (39.7%)	*mppa*	21.24	21.38	21.51	21.65	21.79	21.93	22.07	22.21	22.35	22.50
Total TUA	US$m	**1,334.71**	**1,343.25**	**1,351.85**	**1,360.50**	**1,369.21**	**1,377.97**	**1,386.79**	**1,395.67**	**1,404.60**	**1,413.59**
Domestic	*US$m*	581.18	584.90	588.64	592.41	596.20	600.01	603.85	607.72	611.61	615.52
International	*US$m*	753.53	758.36	763.21	768.09	773.01	777.96	782.94	787.95	792.99	798.07

Unconstrained case	**Units**	**2063**									
Annual passengers	mppa	**127.52**									
TUA applicable passengers	mppa	**49.79**									
Domesic TUA applicable pax (38.5%)	*mppa*	27.15									
International TUA applicable pax (39.7%)	*mppa*	22.64									
Total TUA	US$m	**1,422.63**									
Domestic	*US$m*	619.46									
International	*US$m*	803.17									