



KPMG IN INDIA

Indian Airports

Global Landing Ground

ADVISORY



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Foreword



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The Indian Aviation sector, like the economy, has witnessed booming growth over the past few years. According to a survey by the Airports Council International (ACI) India will be the fastest growing market at 10.4 percent in the next 20 years. With the fastest-growing number of airline passengers in the world, the Indian aviation sector is seeing a rapid increase in its capacity requirement. However, underinvestment in the Indian airports network has resulted in massive infrastructure gaps, leaving several expectations unfulfilled.

Infrastructure needs to be developed to counter the problems faced due to high congestion in metro airports, inadequate airfields, limited terminal capacity, deficiencies in ground handling facilities, night landing systems, cargo handling, etc. All these factors and more have necessitated the need for greater investments and increased private sector participation in airport development, which has traditionally been in the public sector. The industry is on its way to bring its facilities and standards at par with international benchmarks so that it can compete on a global platform.

The Indian Government has committed itself to the development of the airports and has introduced several policies and regulations to encourage private participation and investments in the sector. However, the privatization model introduced by the Government also has its critics, who are of the view that there are several government bodies in the sector, functioning autonomously rather than towards a common agenda. Moreover, the Government's focus so far has largely been only on airports, and not on the development of allied infrastructure. The main challenges facing the Indian Aviation sector are ascertaining stable revenue models for all the investors and stakeholders as well enabling aviation-oriented businesses around airports.

The following report is an attempt to summarize the prevailing industry scenario and the varied opportunities and challenges faced. With downturns in two of the world's strongest economies – Europe and the US and the oil crisis adding to it, it becomes especially challenging for the aviation industry and the airport sector to emerge triumphant in these trying times.

We hope you find this report insightful and helpful in your study of the Indian Aviation Sector.

1 The Journey So Far

The Indian economy has been vibrant over the last few years. Stable growth, rising foreign exchange reserves, increasing inflows of Foreign Direct Investment (FDI) have set the stage for high growth expectations. Having grown by at least 9 percent a year for the last three years, the Indian economy has been through a phase of buoyancy and is moving ahead to exciting times.

However, this buoyancy was curbed by rising oil and commodity prices as they led to a slowdown in growth with inflation touching unprecedented highs. The outlook now has moved from euphoric to cautious as the growth expectations pegged on better performances from the services sector and the demographic advantage have been lowered.

The aviation industry has been mirroring the trends in the economy. Propelled by growth of the economy and liberalization, the sector has experienced an unprecedented growth in the last few years. While 2007 can be considered as a good year for the industry, with steady growth in the passenger traffic and cargo volumes, the numbers for 2008 show some signs of a slowdown.

A wave of consolidation swept through the industry last year. Some of the most prominent ones being the state-owned carriers Air India and Indian Airlines seeing a smooth merger despite protests from their employees, private carrier Jet Airways completing its takeover of rival Air Sahara and making it a wholly-owned unit JetLite. Another one was liquor baron Vijay Mallya's UB group acquiring a 46 percent stake in the low-cost carrier Air Deccan.

The growth in the economy has led to rising passenger and cargo volumes leading to an imperative need for aviation infrastructure, which has given rise to several challenges and opportunities as the sector is liberalized and sees increasing private sector participation.

There have also been several useful initiatives in the regulatory framework which shall help propel the aviation sector to new heights despite the challenges faced due to rising fuel costs, fierce competition and infrastructure bottlenecks.

However for the expectations to materialize, large investments in infrastructure are necessary. Planned changes in the policy

framework should be made with the intention to liberalize the aviation industry and ensure the presence of a strong and efficient regulator. With some work already on course, we propel ourselves into the future with a re-energised focus.

1.1 Mapping the Development

Indian airports have come a long way since the Airports Authority of India (AAI) decided to liberalize the rules for private sector participation. The Airport infrastructure development has been undertaken via the Public Private Partnership (PPP) route in some major metro cities such as Delhi, Mumbai, Bangalore and Hyderabad.

Apart from them 35 non-metro airports have also been identified, where private players will be selected via a bidding process for developing the airports. Out of these, the bidders have been pre-qualified for some locations such as the Udaipur and Amritsar airports.

Greenfield airports at Bengaluru and Hyderabad have been developed with increased passenger capacity and plans for further expansion. Existing airports such as Delhi and Mumbai are seeing an expansion in the passenger capacity to be able to better cope with the expected rise in volumes. Capacity creation is seen as a key focus area and work

is underway at several airports to achieve this as shown in the table

Airport	Planned Capacity (On completion)
Delhi	100 million
Hyderabad	40 million
Bangalore	40 million
Mumbai	40 million
Chennai	23 million
Kolkata	20 million

Source: KPMG compiled

Efforts are also being made to improve the facilities at the airports, including the services delivery to passengers, beefed up security arrangements, larger numbers of check-in and immigration counters etc. Human resources initiatives such as employee communication and training have also proved to be helpful. Despite this there is still some way to go before Indian airports provide services at par with their global counterparts such as the Dubai airport and the Singapore airport. For a list of the Top Airports of 2008, compiled by ACI, please refer to Annexure II. However, the airports are making efforts in the right direction.

1.2 Policy Changes in Civil Aviation

With the changing times the need was also felt for revisions and additions to the civil aviation policy to keep up with the change in the

aviation sector. In an effort to this cause a revised draft of the National Civil Aviation policy, in line with the recommended changes, had been submitted to the cabinet for approval. The draft at its current stage has been further referred to a Group of Ministers (GoM) for review.

Further, in order to maintain a continuum of progress and improvements in the aviation sector in India, the Ministry of Civil Aviation (MOCA) recently developed a framework that would soon form the basis of the civil aviation policy which would give the sector the much needed fillip. Titled "Vision 2020", the policy, which is presently reported to be at a draft stage, outlines key developmental aspects for India's airports and as well as capacity building initiatives.

The policy, which is reported to be in the review stage and is pending Cabinet approval identifies the need to upgrade not just the 126 airports under the AAI but also devises methods for modernization, maintenance and up-gradation of all airports in India including those owned by state governments, private estates and airfields that that are currently not in active use.

Listed below are some of the key proposed changes of the policy:

- In addition to FDI presently being permissible up to 100

percent under the automatic route, the government plans to extend a low tax structure

- Suitable guidelines and procedures for the establishment of 'Merchant Airports' in India
- The government will restructure the AAI with the intent of infusing private investment either through PPP or tap the capital market for funding.
- The government will permit AAI to hive off some of its services such as its consultancy division, air cargo handling business and set in place efficient subsidiaries either fully owned by the AAI or through JV in collaboration through international players
- The government intends to consider the setting of an external Air Traffic Management (ATM) company modeled on the line of NavCanada and Euro control models. AAI shall have the majority stake of the ATM Company and air traffic controllers shall be given licenses and individually assessed on the basis of their performance
- To approve traffic structures for aeronautical services and monitor airport quality standards, the government will establish the Airports Economic Regulatory Authority (AERA).

Some of the key developments in the civil aviation policy are:

a) Opening of India-Gulf Route:

The Government had decided to open the India-Gulf route to eligible private schedule carriers from 1 January, 2008, which is now in place. The government had earlier decided to not allow private airlines to operate on the Middle East routes until the end of 2007. Jet Airways is now the first private airline to commence operations on the Gulf route.

b) Overseas Route: It is proposed to do away with the current requirement, of allowing only those Indian carriers which have five years of domestic flying experience and have a minimum fleet size of 20 aircraft to fly overseas. This recommendation is currently in the discussion stage and may evolve into a more firm decision over the course of the next few months.

Some private players have evolved their own ways of getting around this requirement. Since its takeover of Deccan, Kingfisher has become eligible to fly on overseas routes, as Deccan completed five years of domestic operations in August 2008. According to the existing regulations Kingfisher would have been able to fly on international routes only in 2010. Under the changed structure of the airline owing to the merger, Kingfisher Airlines has already launched its first international flight from Bangalore to London.

On the other hand Jet Airways, another leading operator, has also commenced operations with its European hub at Brussels. It is further looking to establish a second international hub at Milan to build up its international operations.

Going per the recommendation, if there is any relaxation in the guidelines to allow an airline to operate on international routes, then other domestic operators such as SpiceJet will be able to commence international operations before the stipulated dates under the current policy.

c) Greenfield Airports Policy:

Private players have evinced keen interest in Greenfield airport projects as these offer them a chance to be comprehensively involved in the airport development. Greenfield airports are an important component in the development of infrastructure for the aviation industry. It is with this view that the new Greenfield airports policy has been designed.

Under the new Greenfield airport policy, Greenfield airports to be set up by AAI would be preferably constructed through the PPP route and these would be financed substantially through PPP concessions. Land for such airports would have to be provided by AAI. Financing gaps, if any, can be bridged through the Viability Gap Funding scheme, which provides

for a capital grant of up to 20 percent of the project cost. If required an additional 20 percent can be made available by the sponsoring Ministry/ agency. The concessions for development of Greenfield airports would be awarded through an open competitive bidding based on model bidding documents.

The PPP model may not prove feasible at several airports, particularly in the north-eastern areas, in view of the fact that these airports do not generate enough revenues to attract private sector participation. For these the AAI could set up Greenfield airports by itself, as may be approved by the government on a case-to-case basis. Financing and development of any other airport would be the responsibility of the Airport Company seeking the license. An entity other than the AAI is to be referred to as an "Airport Company". Land for this purpose may be acquired by the developer

either through direct purchase or through acquisition by the State Government as per extant policy.

According to the new Greenfield airport policy, proposals to set up a Greenfield airport which is beyond 150 km of an existing civilian airport will not require prior approval of the Central government. The Directorate General of Civil Aviation (DGCA) would grant license for operation of the airport as per existing rules and notifications. If redemption or relaxation from any other guideline or existing policy or rule is sought, it would be considered by a Steering Committee, which is to be headed by the Civil Aviation Secretary (For further details please refer to Annexure I).

There is an exception to this procedure where the government may allow an airport within 150 km of an existing civilian airport, in case there is a sound business case. In this case the application

shall be considered by the Steering Committee. The Committee shall consider all relevant facts and circumstances including contractual liabilities. After the Committee's nod, the proposal will be sent to the Civil Aviation Ministry which shall place it before Union Cabinet for consideration.

Apart this the Union Cabinet will only come into picture if the Committee fails to arrive at a consensus. The DGCA would consider such proposals for grant of license only after the approval of the Central government.

d) Ground Handling Policy:

The new ground handling policy announced in September 2007, for non-AAI operated airports, requires review to address some apparent inconsistencies in scope and objectives, as set out below:

1. Section 2 of the policy states that the ground handling service provision guidelines would be applicable to all



airports other than those belonging to AAI. However, the list of metropolitan airports mentioned under 2 (A) also includes Chennai and Kolkata airports which still belong to AAI. Further clarification regarding whether the intent was to cover only privately operated airports/non-AAI operated airports shall be useful. All airports - Greenfield or Brownfield - continue to be "owned" and belong to AAI, under a concession structure, and only development / redevelopment and operations have been licensed to the private concessionaire.

2. The policy also states that "a minimum of two ground handling service providers shall be authorized (to provide services) at these airports in addition to the subsidiaries of NACIL". In our understanding, this could result in a number of separate entities providing GH services (GHS) at one airport.

For instance:

- (i) NACIL providing GHS for the national carrier- Air India (domestic and international)
- (ii) NACIL in partnership with the airport operator - AAI or private operator like DIAL/MIAL - for passenger operations of domestic (other than Air India) and/or international airlines
- (iii) NACIL's subsidiary/Joint Venture (JV) with another GHS provider for cargo operations alone
- (iv) The airport operator itself providing services through a third party for scheduled or non-scheduled/ charter operations.
- (v) Airport operator's JV with another GHS provider for passenger and cargo operations for select international airlines, not handled by NACIL or its JV/subsidiaries
- (vi) Third party GHS provider,

selected through a competitive bidding process, for passenger and cargo operations of other airlines/ entities not serviced by entities under (i)-(v) above.

It is reasonable to assume that in the aforesaid scenario, the feasibility of a third party GHS provider (selected through a competitive bidding process as required under the policy) is likely to be contingent upon adequate addressable "spill-over" traffic, especially since the JV partners or third parties of other "licensed" entities are not mandated to be selected through a competitive bidding process.

In light of this, it is important that the Ministry clarifies the provisions under Section 2A of the policy on :

1. Whether the intent of the policy was to restrict the maximum number of GHS providers to three, including NACIL and its



subsidiaries, for security reasons.

2. Whether the intent of the policy was to allow a minimum of two GHS providers in addition to NACIL and its subsidiaries to encourage competition.

In both scenarios, however, selection of an independent third party GHS provider through a competitive bidding process is unlikely, if the other options discussed under are pre-emptive. It is desirable that the policy provides for at least one of the ground handling agencies to be selected through a competitive bidding process, in addition to NACIL and/or NACIL's subsidiaries, in the interest of enabling competitive service provision. This shall also ensure there is sufficient incentive for airport operators (private or AAI) to initiate a competitive tendering process and GHS providers to participate in the tender. In airports where self-handling by airlines is presently allowed, there is little incentive for operators to see a business case for contracting with "other" service providers through competitive bidding, unless a substantial portion of the traffic is handled by foreign airlines, which are not allowed to carry out self-handling. The policy states that " All airline operators and other ground handling services providers not covered under this policy shall not

be allowed to undertake self-handling or third-party handling from January 1, 2009" . However, it would be useful, for the sake of clarity, to indicate whether all airline operators in all (civilian) airports (whether operated by AAI or other private operators) would be disallowed from self-handling or third party handling. Allowing self-handling by airlines in select major airports and not allowing it at other airports, which may also handle sizeable traffic in the future, may result in unequal cost and service standards.

e) Foreign Direct Investment (FDI)

FDI is a vital component to the success of new airport projects, as it is a valuable source of funding across assignments under the new growth strategy. Some of the revisions in the FDI structure are given below:

- Ground handling: 74 percent on the automatic route, subject to regulations and security clearance
- Maintenance, Repair and Overhaul operations: 100 percent FDI subject to approval
- Helicopter/seaplane services: 100 percent FDI subject to approval
- Cargo airlines: Foreign carriers are allowed to take up 74 percent stake

These various revisions have helped bring greater clarity and encourage increased participation

from the private sector players. While clear policies have been developed for Greenfield airports, there remains a lack of an outlined framework for the development of existing airports. Owing to this volatility existing airports have been driven on a case-to-case basis based on concession agreements such as the ones in place for the Delhi and Mumbai airport. There are several key recommendations in the discussion stage and the outcome is eagerly awaited as they will play a crucial role in shaping the outlook and growth of the aviation industry as a whole.

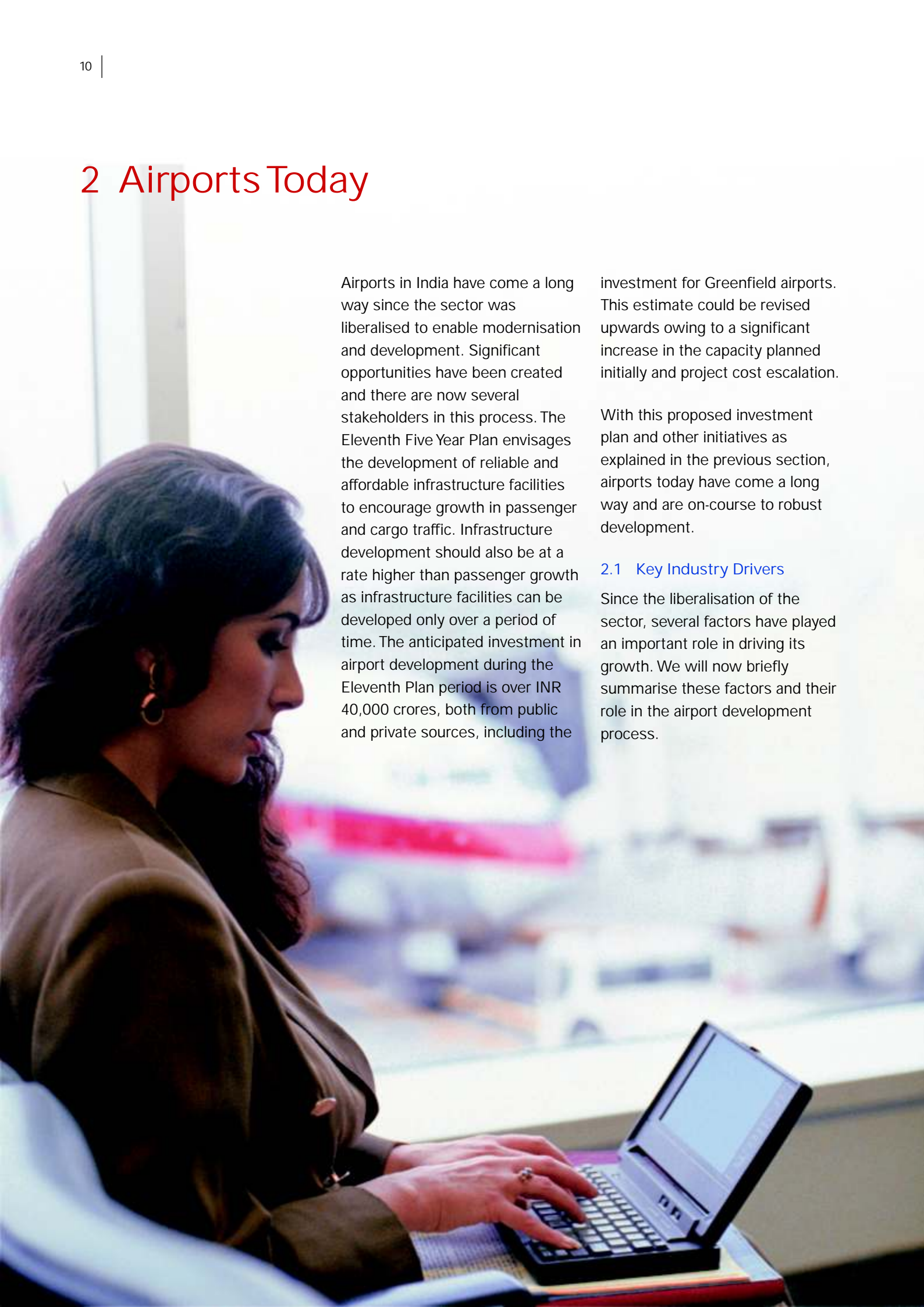
1.3 Evolving Business Model

Airport development has achieved considerable progress since the sector was first liberalised and private player was allowed. Over the course of time several PPP models have been developed for different airports, each catering to the requirements within the purview of the regulatory framework.

The following table provides an overview of the private sector involvement in the development of different airports.

Airport	Type	Ownership	Involvement
Cochin International Airport	Greenfield	Owned by Cochin International Airport Limited (CIAL), a public company which is held by a large number of Non Resident Indians, major Indian corporations and has a 13 percent holding by the government of Kerala.	The airport is wholly managed and operated by CIAL
Hyderabad Airport	Greenfield	GMR Group holds 63 percent of the equity, Malaysia Airports Holdings Berhad (MAHB) 11 percent, while the Government of Andhra Pradesh and AAI each hold 13 percent.	GMR Hyderabad International Airport Limited has undertaken to build, finance, operate and maintain the new airport under a PPP initiative. It is a Build, Own, Operate and Transfer (BOOT) agreement
Bengaluru Airport	Greenfield	Siemens Project Ventures, Germany owns a 40 percent the equity, Unique (Flughafen Zürich AG) Zurich Airport, Switzerland and Larsen & Toubro, India own 17 percent and AAI and KSIIDC (an agency owned by the state of Karnataka, India) both hold 13 percent each.	The airport will be built and operated by Bangalore International Airport Limited for the next 30 years with an option to continue for another 30 years. It is a BOOT agreement
Mumbai Airport	Brownfield	Mumbai International Airport Pvt. Ltd. (MIAL) is a joint venture company owned by the GVK led consortium – comprising of GVK industries - 37 percent Airports Company South Africa - 37 percent and Bidvest - 10 percent and AAI who own is 26 percent.	MIAL is mandated to finance, design, build, operate and maintain the airport. It is a BOOT agreement.
Delhi Airport	Brownfield	Delhi International Airport Limited (DIAL) is a joint venture company owned by the GMR Group – 50.1 percent, Airports Authority of India – 26 percent, Fraport AG – 10 percent, Eraman Malaysia – 10 percent and India Development Fund 3.9 percent.	DIAL is mandated to finance, design, build, operate and maintain the Indira Gandhi International Airport for a period of 30 years till 2036 with an option for extension by another 30 years. It is a BOOT agreement

2 Airports Today



Airports in India have come a long way since the sector was liberalised to enable modernisation and development. Significant opportunities have been created and there are now several stakeholders in this process. The Eleventh Five Year Plan envisages the development of reliable and affordable infrastructure facilities to encourage growth in passenger and cargo traffic. Infrastructure development should also be at a rate higher than passenger growth as infrastructure facilities can be developed only over a period of time. The anticipated investment in airport development during the Eleventh Plan period is over INR 40,000 crores, both from public and private sources, including the

investment for Greenfield airports. This estimate could be revised upwards owing to a significant increase in the capacity planned initially and project cost escalation.

With this proposed investment plan and other initiatives as explained in the previous section, airports today have come a long way and are on-course to robust development.

2.1 Key Industry Drivers

Since the liberalisation of the sector, several factors have played an important role in driving its growth. We will now briefly summarise these factors and their role in the airport development process.

2.1.1 Passenger Traffic

Air travel has now increasingly become a way of life rather than a luxury. The growth in passenger traffic figures so far has been driven by greater air connectivity, affordable air travel due to the emergence of low cost carriers and increased air capacity.

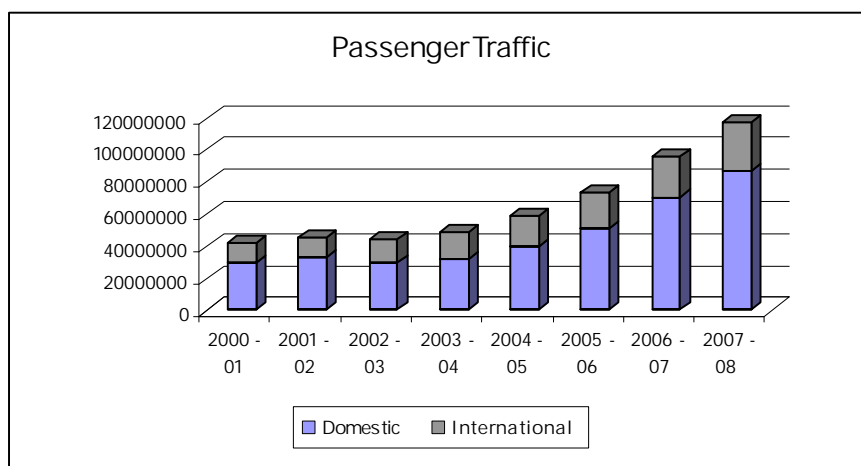
However the industry has seen a few dark clouds looming over its growth story in recent times. Both full service and budget carriers

have seen a dip in passenger growth. This slowdown in the recent period is attributed to the rise in ATF costs, which has led to a hike in the fuel surcharges being levied, thus increasing the air fare.

However it is expected that once oil prices stabilize, in the long run the passenger traffic will continue to maintain its momentum.

For airports an increase in passenger traffic implies an

increase in its aeronautical revenues via the charges levied on the airlines and the potential for an increase in the non-aeronautical revenues through the retail segment. A decline in the footfalls at the airport shall hurt the airport developers' revenues.



Source: DGCA

The following table shows the change in passenger traffic numbers in percentage:

Year	Domestic Traffic	International Traffic	Total Traffic
2000 - 01	13.36	5.6	10.88
2001 - 02	11.43	-2.4	7.22
2002 - 03	-10.64	17.37	-2.88
2003 - 04	9.14	12.05	10.12
2004 - 05	24.11	17.14	21.74
2005 - 06	27.99	14.41	23.53
2006 - 07	38.41	15.09	31.33
2007 - 08	23.23	16.38	21.41

Source: DGCA

2.1.2 Air Cargo

Fuelled by a surging economy the share of air cargo traffic is on the rise. The advent of dedicated cargo aircrafts at international and domestic routes is projected to reduce the share of traffic transported by railways and ships. Also economic expansion, robust commercial activity and a rapidly growing food processing sector have helped drive the surge in cargo traffic. The government has further allowed foreign carriers to take up to 74 percent stake in cargo airlines.

Despite the measures adopted to boost air cargo traffic, there still remain some obstacles to be overcome to give this sector the boost it requires. Some of these are:

- a) Lack of facilities for transshipment of imports and exports

- b) Absence of integrated cargo infrastructure
- c) Deficiencies in gateway and hinterland connectivity through rail and road
- d) Complexities in custom procedures in air cargo
- e) The need for technological up-gradation and performance based service standards
- f) Requirement of trained, knowledgeable and qualified staff

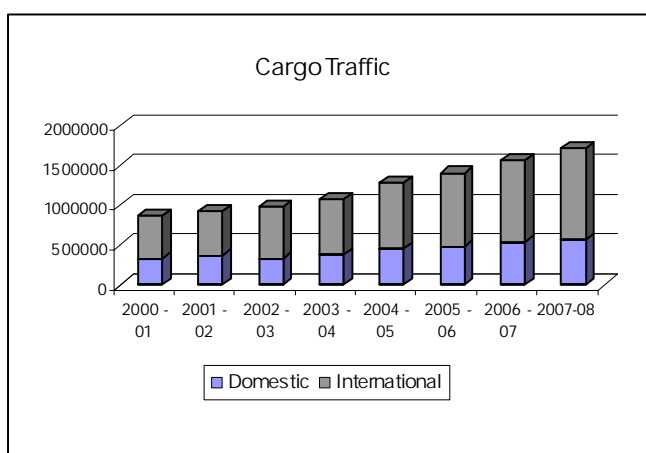
Further government action such as reducing the 'Free period' for cargo clearance at airports to three days from five has also caused concern for the industry. It is felt that it will be difficult to clear cargo in three days, given the infrastructure bottleneck at airports and delays in getting clearances.

Air India is the market leader in the air cargo segment while Blue Dart

is a dedicated private air cargo airline giving tough competition to AI. Players entering the air cargo environment include Safexpress, Quikjet, Aryan Cargo Express and Flyington Freighters.

Indian airports not only have the potential to place India as an important international air trade hub but to also develop the domestic air freight market significantly. India's vast geographic expanse, large population and potential for consolidation in the transport sector offer a considerable opportunity. The challenge lies in addressing the obstacles being faced by the industry effectively.

The figures below provide an overview of the cargo traffic over the past few years:



Source: DGCA All figures in 000' tones

The table below shows the percentage change in the volume of cargo traffic over the last few years:

Year	Domestic Cargo	International Cargo	Total Cargo
2000 - 01	13.36	-075	7.75
2001 - 02	11.08	4.17	6.85
2002 - 03	-10.3	17.98	6.58
2003 - 04	12.83	6.84	8.87
2004 - 05	22.13	18.54	19.8
2005 - 06	5.61	12.01	9.72
2006 - 07	11.47	11.05	11.19
2007 - 08	5.09	12.18	9.73

Source: DGCA

2.1.3 Aircraft Fleets

Airlines had ambitious capacity addition plans over the past few years as they foresaw a steady increase in demand. However, the slump in passenger traffic growth due to various factors has led many carriers to rethink their capacity addition plans. Rising fuel prices and pressure on the balance sheet has led to a strategy fleet rationalization and there is a reduction in the originally planned expansion.

Apart from pruning the fleet size, airlines are considering terminating their leases for aircrafts as they consider it to be more sensible in the current scenario than to keep the aircrafts till the leases expire.

2.1.4 Maintenance, Repair and Overhaul (MRO)

The Maintenance, Repair and Overhaul (MRO) industry in India is estimated at USD 800 million* and has tremendous potential as the

carriers plan to expand their aircraft fleets. India is a key geographical hub. The nearest one is Dubai in the west and Singapore in the east. The surge in air traffic in India, fuelled by the emergence of low-cost carriers, has helped an increase in fleet utilization which is spawning the growth in the MRO market. Airlines need regular maintenance for their aircrafts, heavy airframe and engines and component repair/overhaul and MRO services may cost between 20-30 percent of the cost of operating an aircraft. In addition to these airlines the non-scheduled airlines – chartered airlines operators and corporate-owned aircrafts – would also be the purchasers of the MRO services. Lower labour costs in India compared to countries in the west are also expected to spur the growth of the industry.

Several players are considering entering the industry as India offers a lucrative market. Some of

the proposed ventures include:

1. Malaysia Airlines (MAS) and GMR Hyderabad International Airport Limited (GHIAL) have earlier entered into a Memorandum of Understanding for setting up an MRO facility at the Rajiv Gandhi International Airport in Hyderabad. The proposed MRO centre is expected to be able to handle all types of aircraft from light jets to A 380 and to start operations from the third quarter of next year.
2. Air India and Boeing are reported to be negotiating the equity structure of the proposed MRO joint venture in Nagpur and looking for a third partner. The facility is proposed to come up on land adjacent to the airport.

With the government allowing 100 percent FDI in MRO facilities, it may help in providing a boost to India's MRO sector. However, the industry also faces several tax and regulatory issues, which are addressed later in the document. Due to these taxes servicing an aircraft in India could become costlier than global standards.

To ensure that the industry sees the expected investments materialize, the civil aviation ministry should take necessary steps to address the existing bottlenecks.

Fleet Size of Scheduled Operators as of August 2008

Airlines	Fleet Size	Airlines	Fleet Size
NACIL (Air India)	41	SpiceJet	18
NACIL (Indian Airlines)	76	IndiGo Airlines	19
Air India Express	20	GoAir	7
Alliance Air	20	Paramount Airways	5
Jet Airways	87	MDLR	2
Deccan Aviation	43	Jagson	2
Kingfisher Airlines	43	Indus Airways	2
JetLite	24		

Source: DGCA

* According to Project Monitor – 3 May 2008

2.2 Stakeholder's Perspective

Airport development in India has led to opportunities for several players and has also had an impact on the roles of the regulatory bodies. The following provides an insight into the impact of airport development on the stakeholders:

2.2.1 Airports Authority of India (AAI)

The AAI is the central body in charge of domestic and international airports in India and is also involved in both constructing airports on its own and partnering with the private sector for the development of new airports or terminals. It is the only provider of Air Navigational Services for all operational airports in India and is

currently planning to invest substantially in the upgradation of the communications, navigation and surveillance systems for Air Traffic Management. The investment in this is estimated to be approximately INR 27 billion. It is also planning to invest a significant amount in the upgradation of meteorological equipment at various airports.

However, owing to the multi-pronged role of this central body, there arises a conflict wherein the AAI is both a participant and regulator. Thus, the need arises for an independent and effective regulatory framework to ensure the proper functioning of airports and for the AAI to conduct its role effectively. Therefore the separate

and independent regulator envisaged to be created by the passing of the Airport Economic Regulatory Authority of India Bill ('AERA' or 'the Bill') is of immense importance to address these concerns and in streamlining the development of this sector.

Taking into consideration the financial and technical constraints and the significant interest of the private sector in airport development, the AAI can play an effective role as a regulator of airport development in India and maximise participation in the development and operation of the airports.



2.2.2 Current Private Players

The current private players in the industry are involved in both the up-gradation of existing airports and development of Greenfield airports. They have shown a keen interest to be involved in the forthcoming projects and to be involved in substantial development of the airports in the country. Some of these are already involved in the bidding processes underway and are able to leverage the advantage of having experience in the industry at the national and global level.

Given below are some of the existing players in the sector:

Domestic Players

1. GMR Group
2. Larsen & Toubro, India
3. GVK Industries

International Players

1. Siemens Projects Ventures, Germany
2. Fraport AG
3. Eraman Malaysia
4. Unique (Flughafen Zürich AG) - Zurich Airport, Switzerland
5. Airports Company South Africa

The privatization model in India also poses certain unique challenges, which include the government's interest in revenues in the form of concession fees, which have to be incurred as a fixed cost irrespective of the airport operator's financial situation. Further, the investments in the airport are also constrained

by the stipulations of the government. Several functions such as ATC, Security and Customs are performed individually by the authorities and increase the time and cost involved. Private operators need to take all these factors into consideration when they map out their strategies. So far the government focus has largely been on developing the airports and not the allied infrastructure. However, this approach is now being revised owing to the bottlenecks faced.

Additionally operators also need to stabilize the revenues to enable them to plan ahead with certainty. A spurt in the capacity requirement has also led to an increase in the scope of the project - a challenge which necessitates an interim review of the project outline. Another is the shortage of skilled manpower, an issue not only faced by the private operators but is an impending issue across the industry.

It is expected that the lessons learnt from airport privatization so far shall be used to streamline the process and address the concerns of the private developers. The legal framework and the civil aviation policy, as a part of the bid document, shall be helpful in ensuring clarity regarding the whole process for all the participants involved. Private players already involved in the airport development process are

also better equipped now to effectively address the challenges faced.

2.2.3 Infrastructure Committee of the Planning Commission

The Infrastructure Committee of the Planning Commission has a monitoring role in the development of the sector. The policies and initiatives recommended by the committee play an important role in shaping the development of the sector.

New initiatives are being undertaken to promote the development of airports. These include:

1. A Model Concession Agreement (MCA) is being developed to help attract private investments and to facilitate the smooth execution of air transport projects.
2. The AERA is being established with the aim of having an independent regulator who would efficiently regulate the functioning of the airports and help in operating efficient, economic, and viable airports.

These initiatives shall be useful for the overall development of the aviation industry as they aim to comprehensively address the concerns of the industry.

2.2.4 Airlines

Rising ATF costs, increasing airfares and falling passenger traffic

have all contributed to the slowdown in the aviation sector recently. The airlines are feeling the pinch as they see passenger traffic dip and costs rise. Over-capacity in the market is hurting the carriers and has also led to a wave of consolidation and acquisition in the industry. It is expected that full-fledged service carriers may feel the impact of slowdown more than the budget carriers as companies may opt for the no-frills carriers for their employees.

To survive during this phase airlines are adopting a variety of cost-cutting measures such as reducing the number of flights, rationalising the routes and reducing inventory of spares. Routes which are not profitable or do not cover the basic costs are being restructured. Airline carriers are also surrendering leased planes and phasing out the old ones. A reduction in capacity is seen as inevitable.

Airlines are now looking to identify and develop new routes and focus on the emerging traffic destinations to improve profitability and avoid flying with low-occupancy rates. A focus on non-passenger revenues from food and beverages, merchandise etc. for the budget carriers shall also help them maintain funds in these turbulent times. A reduction in the tax on ATF and uniform ATF prices will also help the airlines rationalize their costs.

Any slowdown in the airlines growth and outlook also impacts the growth expectations that airports have. Some airlines have also abandoned the use of aerobridges at new airports which are charging a hefty fee for their usage. The carriers have deployed buses to ferry people to and from the aircraft.

As airport charges constitute a small amount of the total costs incurred by the airlines, a reduction in this may not make a substantial difference to airline profitability. However, if airport operators were to focus on providing better facilities such as decreased landing time, efficient ground handling enable them to improve turnaround time. This shall help them to govern an increased revenue stream from airlines, who would not mind paying more for efficient services, making it a win-win situation for both. Steps are being taken in this direction by the airport operators and we are hopeful that the facilities at the Indian airports shall be at par with global standards.

2.2.5 Passengers

Passengers are a key stakeholder in the entire process as they are the final users of the airport facilities and drivers of growth in revenues. There is now increased focus on identifying and fulfilling customer expectations. It is important for the airport developer

to understand that customers, who are also bearing the cost of developing airport infrastructure, have increasing expectations. For instance customers would prefer decreased waiting time, a hassle-free boarding procedure, safe and reliable facilities to make their overall airports experience pleasant. Currently there seems to be a gap between the services delivery and the consumer expectations.

While customers are important stakeholders in the process of airport development and are significantly impacted by it, there seems to be lack of representation for them in the decision making process. This can be done via consumer groups and passenger satisfaction feedback surveys etc., some of which are already prevalent but not extensively used. By ensuring consumer participation there could be definite improvements made in the existing Indian airports experience.

2.2.6 Retail Players

Aeronautical revenue from avenues such as landing and parking fees etc form the major part of revenues earned by the airport operators. This is also the controlled segment of revenues as it is largely governed by regulations. However with time the non-aeronautical revenues, which mainly consist of travel retail, food, restaurants, beverages, shop floor rentals and

Percentage split of the airport revenues	Amsterdam Schiphol	BAA UK Airports	Frankfurt	Toronto	Vancouver
Aeronautical Revenues	57	47	30	54	35
Non-Aero Revenues	37	53	47	20	62
Other	6	n/a	23	26	3

Source: 2007 Annual Reports

revenues from the development of the commercial area surrounding the airport are expected to increase substantially. Non-aeronautical revenues can be a significant component of the total revenues of an airport as can be seen in the case of several international airports. In this section we will take a look at the retail component of the revenues.

In India airport retailing is right now at a nascent stage. However, it has a strong growth potential. India's emerging middle class, strong consumer culture and increasing number of people opting for flying - both domestically and internationally - are expected to drive growth for this industry. Airports in India are one of the most promising sectors for retail development. Airport retail operates largely in the food and beverage segment and luxury retailing. Electronic goods are also emerging as a popular category.

The growth in the number of air travelers, the functioning of airports on a 24 hour basis has

meant that there is a need for services such as food, travel related goods and services, health products and services, grooming services and leisure activity. Food retail is seen as a value proposition at India's airports primarily due to the low cost airline trend wherein meals do not constitute the in-flight services.

Duty free retail is one of the key areas of focus for airport developers as they see revenue potential due to the economic growth, changing consumption patterns and the expected growth in passenger traffic. Both domestic and private players have shown an inclination to be a part of the airport retail space.

However, the high rental rates are a major concerns for the potential players. Stringent security and laws governing the movement of goods inside airports and attracting shoppers also pose a serious challenge. Airport retailing is considerably different from general retailing, particularly since the traveler is not visiting the airport

with the purpose of shopping. The additional challenge is to understand customer behaviour and how they respond to the offer, since this is a completely new environment.

There is also no direct correlation between the number of passengers and the sales for airport retailers. Owing to the reduction in passenger traffic, the retailers also fear that the slowdown will affect them.

Despite these concerns airport retail presents a significant opportunity for both domestic and international players and has seen a keen interest from them.

2.2.7 KPMG Study

To understand the perceptions and outlook of the key players in the airport retail industry KPMG conducted a study in which various domestic, international retailers and luxury brands from diverse industries such as food and beverages, fashion and consumer durables were interviewed on their perception of retail in tomorrow's airports. These are the key drivers determining the sustainability of the airport retail concept in the long run and shaping its growth.

“With changing trends and people having lesser time on their hands, airport retail is the way to go” - Anjalee Kapoor, Arjun & Anjalee Kapoor

The key findings from our study were:

- A keen interest in using the airport retail space platform was seen across industries and service providers
- The food and beverage players showed the maximum interest in creating a presence in airports, followed by fashion houses and consumer durables
- International luxury brands consider setting up shop in Indian airports a definite step as part of their global expansion strategy
- Travel retail is expected to be the most promising in terms of footfalls
- Airport rentals are perceived to be significantly higher than mall rentals

"The current retail model being proposed is present the world over and I would like to see this model being replicated in India. I am really interested; however, I would be careful in selecting my city." - Ranna Gill, Fashion Designer

Extending the study to ascertain the preferences of the Indian consumer, KPMG found out that many consumers felt that there was enough slack time to be spent at airports. Several respondents would like to shop in retail stores prior to boarding their flights and preferred discount stores over the luxury and brand outlets.

The study has led us to conclude that the overall outlook towards the future of airport retail in India is

optimistic. Service providers are keen to establish their presence as airport infrastructure across the nation sees a revamp.

2.3 Financing of Airports

Modernisation and development of airports through the PPP route and ancillary activities have seen significant interest from the private players. Various Brownfield and Greenfield airports are currently under various stages of consideration.

The development of these airports requires a considerable amount of investment and private players seek these funds from several options at their disposal. The key financing trends that were observed in this sector are:



- Airport projects are better suited to manage foreign currency risk as part of their financing plan: Over the last two years we have seen a number of infrastructure markets accessing foreign currency loans with the intention of accessing low interest rate funds.

However, this could be a shortsighted approach as it exposes the project to significant foreign currency risk which in the current environment is cause of worry. Nonetheless, airports projects are better suited than other infrastructure projects to manage this risk given that a portion of their revenues is in foreign currency. Going forward the airport sector will continue to see a mix of domestic and foreign currency borrowing in its financing plans.

- Future airport financing projects shall have to manage their return expectations arising from city side development programmes. For the new projects expected to arise due to the 35 non-metro projects, a note of caution about the overall return projection is necessary for those being delivered through city side development. In line with the current downward movement in real estate prices across the board, this city side development plan will be under pressure and sponsors can find

it to be limiting their fund raising exercise.

While new projects in the airport sector are expected to be delivered over a longer time frame ascertained by the government, ambiguity about the procurement framework and the difficulties in the financing market may continue for sometime. Industries in the ancillary services such as passenger traffic and cargo handling services, airport and terminal related services and air charter services will see further investment. Further another growth area shall be the training segment a large number of flying schools and air hostess academies have emerged to cater to the employment demand in the industry. The MRO sector shall also see increased activities wherein Indian companies shall look for strategic partnerships with international players to set these facilities up. Rather than witnessing a large number of airports projects being delivered during the next couple of years, there would be a large number of ancillary sectors developing in and around existing / new developed airports in the country.

2.4 Airport SEZ

In the context of a contemporary greenfield airport, a SEZ plays a pivotal role. With the metamorphosis of an airport from a passenger hub to an integrated logistics hub, an airport-based SEZ can sometimes be a crucial value

driver, an aspect which would come out clearly in the following paragraphs. Apart from a airport-based SEZ, an SEZ near the airport can also create significant value. In a country like India where efficient hinterland connectivity is still a pipedream due to inadequate road and rail infrastructure, an airport, albeit expensive, can act as a crucial connectivity bridge for the hinterland SEZs.

a) Airport based SEZs: SEZs by nature are duty free enclaves designed to promote exports from India. In general, the SEZ law prescribes minimum area requirements for an area to be designated as an SEZ. For a comprehensive multi-product SEZ that will encompass all products and services, the minimum area requirement is 1000 hectares. However, for airport based multi-product SEZs (ie SEZs which are part of an airport), the area requirement has been relaxed to 100 hectares of contiguous land.

b) Planning: By law, a multi-product SEZ could encompass almost all products and services. However, given the fact that land today is a precious resource, allocation of the available land to different sectors (and therefore development of required facilities and infrastructure) is of paramount importance. Furthermore industries, which would not be impacted by air freight cost, should be planned in the SEZ. Given this airport-based SEZs could be most

suitable for industries such as high value precision engineering, warehousing, perishable products' processing, import-export processing and packaging, airport services, high value knowledge based industries such as research and development etc.

An SEZ can have a processing and non-processing zone. In the case of an airport-based SEZ, a non-processing zone comprising of hotels, residential apartments and hospitals would provide an overall value proposition.

Key fiscal benefits and provisions:

- Income tax exemption for a period of ten years out of a block of 15 years for the developer of an airport based SEZ
- Income tax exemption for a period of 15 years on a graded basis for the entrepreneurs

('units') setting up operations in the SEZ

- Customs duty and excise duty exemption on capital equipments, raw materials and inputs brought into the SEZ
- Service tax exemption on input services provided in respect of the SEZ
- Other state and local tax exemptions
- Units need to be net foreign exchange positive over a stipulated period
- Domestic sale from the SEZ in India treated as imports

An important fiscal perspective is that income tax and indirect tax benefits could be sought with respect to the activities undertaken by the SEZ developer in the processing and non-processing zone, subject to conditions. Many mega SEZ developers also seek to create an

airport/air strip in their mega SEZs plan to avail the income tax and indirect tax benefits associated with such infrastructure facilities in the mega SEZs.

c) Approval process: In order to set up an airport based SEZ, approval has to be sought from the respective State and Central Government (Board of Approvals). However for a unit, approval has to be sought from the jurisdictional development commissioner.



3 Regulatory Snapshot

While the Ministry of Civil Aviation and the organisations under its purview are responsible for development and regulation of civil aviation and air transport, state governments have their independent infrastructure acts which also regulate the development of airport infrastructure. In the following sections we have given a brief overview of the regulations governing the airport industry.

3.1 State Regulations

The presence of an Independent Infrastructure Development Act enables a state to set up industrial areas, develop PPP projects, fund initiatives at a state level and also leverage concession benefits to private development towards the provision of industrial infrastructure all over the state for planned and systematic industrial development.

A state infrastructure act helps in speedier implementation of the infrastructure projects through faster decision making and direct negotiations with the bidder. A few states have actively leveraged their state infrastructure acts to facilitate airport expansion. A brief overview of the same is given below:

a) Karnataka: The Government of Karnataka aims to achieve a high growth in the infrastructure sector by encouraging private sector investment and upgrading technology.

PPP are to be considered for both new infrastructure projects and in managing existing infrastructure projects. A PPP would be the first option for all new investments in infrastructure and the government proposes to invest only after being certain that a PPP is not feasible. The exception can be projects in backward areas, or projects with high social relevance, but which are prima-facie not financially viable.

For the Shimoga airport, the Nagarjuna Construction Company Limited is reported to be involved in the development of this and the Gulbarga airport on a Build Operate and Transfer (BOT) basis.

b) Orissa: The Orissa government recognizes the importance of the PPP approach for the development of infrastructure and has developed a policy to put an effective framework to facilitate PPPs in place. A High Level Clearance Authority (HLCA) under the chairmanship of Chief Minister shall be constituted for all

infrastructure projects being undertaken via PPP. All PPP projects having investment of over INR 500 crore will require approval of HLCA.

Other states which have shown a keen interest in involving the private sector for development of airport infrastructure include Andhra Pradesh, Gujarat, Punjab, Rajasthan, UP and Maharashtra. The Maharashtra Airport Development Company (MADC), a state-owned entity has been entrusted with the development of airports in tier-II cities. The Gujarat government is reported to have decided to float a company Gujarat Airport Infrastructure Company (GAIC) to carry out plans of airport and related infrastructure development in the state. Initiatives of the states shall help accelerate the process of infrastructure development as it shall provide an added impetus and support.

3.2 Centre Regulations

The Airport Economic Regulatory Authority of India Bill ('AERA' or 'the Bill'), introduced in the Lok Sabha on 5th September 2007, seeks the establishment of an independent regulatory authority, comprising of a chairperson and two members to be appointed by the Central Government.

An independent regulator in the aviation sector shall help to create

a level-playing field and foster healthy competition among all major airports. It shall also encourage investment in airport facilities, regulate tariffs of aeronautical services and to protect the reasonable interest of users.

The authority will also have penal powers in case of willful failure to comply with its orders and directions, apart from powers to penalise offenses by companies and government departments.

Specific Amendments Proposed by the Parliamentary Committee

The AERA Bill has been reviewed by the Parliamentary Standing Committee on Transport, Tourism and Culture recently and specific amendments to the scope of regulation have been proposed to the Bill (reference PIB release dated 29 August, 2008). It is apparent that the while the principal underlying concern of both the Ministry and the Parliamentary Committee seems to be the need to curb the potentially monopolistic behaviour of private operators with regard to setting of prices for airport services, they differ about the approach to regulate such potential misuse of pricing power by the operators. In our view, it is important to take note of the considerations mentioned in the following paragraphs while determining the scope and form of

regulation, in the interest of sustaining private sector incentive and participation in the country's airport sector.

Inclusion of Non-Aeronautical Revenues for Determining Aeronautical Tariffs

The inclusion of non-aeronautical revenues for determination of prices implies that the Ministry is inclined to adopt a single-till framework for regulating aeronautical tariffs. It is interesting to note that the proposal to set price-caps under the single-till regulatory frameworks is akin to the model followed in the UK for many years now. However, this particular approach has been a subject of scrutiny and debate by regulators in the UK and Australia in the last few years. The general consensus based on observed evidence is that a price-capped system does not necessarily lead to efficient outcomes especially in a single-till framework, i.e., while it has resulted in achieving one set of stakeholder objectives, which is to keep aeronautical tariffs and hence, user charges in check, it has not resulted in timely investments for augmentation of airport capacity and efficiency improvements, which impacts service quality in the long-run.

International experience in the airports sector has clearly shown that the tighter and more rigid the regulation, lesser are the incentives

for the airport operator for further investment. The Civil Aviation Authority (CAA), the regulator in the UK, has observed in its review reports that the investment requirements of airports could not be met with the current single till levels. The Productivity Commission (PC)¹ in Australia, observed in its first periodic review, that the price caps (as existent prior to 2003), dissuaded the airport investors from productive investment. It is pertinent to take note of the following considerations while determining the form of regulation in India:

(i) Indian airports are severely capacity constrained and are in need of major investments in the next few years. A large part of this investment is expected to come from the private sector. Government policy and regulation needs to tie in with the urgent investment needs in this sector, and there is a need to assuage investor concerns about strict price-controlled regulation. Conventional wisdom points to the fact that more flexibility is required in sunrise sectors; and this is possible only where the regulator steps back from the actual decision-making process and allows scope for commercially negotiated outcomes between service providers and users, as a guiding principle.

(ii) Given the thrust of the new policy on encouraging development of more airports, the sector is eventually likely to have lower entry barriers than witnessed, especially in metropolitan cities, where existing airports (Greenfield or Brownfield) are likely to face direct competition in the near future. The traffic handled by major airports is also likely to change, with the advent of second/ competing airports proposed by the government. In this scenario, assumptions about traffic, investments and revenues at the time of the bidding are likely to be impacted. The regulator should recognize the likelihood of the weakening monopoly of existing operators and the emergence of competition between airports, while determining the form of price regulation.

(iii) The percentage of non-aeronautical revenues as a component of the total revenues is comparatively lower for Indian airports (around 25-30 percent), while developed airports around the world earn a high percentage of revenues (as high as 70 percent in some leading international airports) from this category. One of the key objectives of the airport operator is to develop the

airports as international hubs, modeled around successful commercial airports such as Changi, Dubai and Frankfurt. Uncompetitive charges can deflect traffic to neighbouring hubs, thereby causing more harm than good to the operator. Thus, airport operators would be inclined to keep prices in check at least in the initial years until they handle a threshold volume of international traffic. An increase in non-aeronautical revenues would also encourage them to subsidise tariffs for domestic operators, if necessary, purely due to market considerations.

A combination of price-capped and single-till regulatory structures could have a double impact for investors, in the light of available evidence. Firstly, it is likely to stifle innovation and risk-taking by investors, by diverting non-aeronautical revenues to subsidise aeronautical charges by design. Secondly, it may encourage strategic behaviour by both airlines and operators, which is likely to not only delay future investments but also increase regulatory costs, since it is also likely to result in frequent litigation and arbitration.

Regulation of Fuel Throughput Charges

The proposal to have common fuel storage and supply infrastructure at airports under the control of the

1. PC : An independent reference and advisory body of the Australian government

airport operator will probably help improve overall efficiency of ground handling operations and reflect in better turnaround times for all airlines. While the intent of the Ministry to curb the monopolistic behaviour of the operator is appreciable, it would be desirable to allow pricing autonomy to the operator and scope for determining prices under commercially negotiated outcomes, taking into cognizance the underlying risks and performance obligations, pertaining to the respective Service Level Agreements (SLA) between the airlines, oil companies and the airport operator. The regulator could, however, prescribe guidelines for determination of

fixed charges on a cost-plus basis (taking into account a reasonable rate of return on investment – in line with ICAO guidelines), while allowing variable charges (over and above fixed charges) to be negotiated between the contracting parties. Both the fixed and variable charges could be renegotiated by the airport operator with the oil companies depending on risk-sharing and obligations under the SLAs.

Inclusion of all airports under the ambit of AERA

It is understood from the draft AERA Bill that one of the principal functions of AERA would be to determine tariffs at major airports i.e. airports having an annual

throughput of more than 1.5 million passengers. It is our view that while traffic is an important indicator of need for regulation, the regulator would also need to consider other critical parameters such as the current pricing structure of other AAI-run airports in the country (including subsidies for non-economic airports operated by AAI), the need for upgrading airports to ensure uniform service quality, and most importantly the extent of competitive influence exerted by other airports in the vicinity before subjecting it to regulation. A recent example is the case of the Manchester airport in the UK, which has been brought out of the purview of airport regulation when it was found that



competitive forces (from other airports such as Stansted, Gatwick and Heathrow) limited its ability to abuse its market power.

The draft Bill also recognises the need to have differential pricing for airports based on factors such as capital expenditure incurred, future investment requirements, service quality, economic importance, viable operations and provisions of existing concession agreements. In this regard, it is pertinent to mention that the concession agreements with existing private airport concessionaires contain several clauses governing prices, service quality and infrastructure improvements, which are binding on the operators. For example in the case of the Brownfield airports (Delhi and Mumbai), the methodology for arriving at the price caps have already been indicated in the project agreements. In the case of Greenfield airports (Hyderabad and Bangalore), the airports have been given the freedom to charge for non-aeronautical services, with no specific reference to the inclusion of non-aeronautical revenues for determination of aeronautical

services. The regulator may need to respect these agreements in order to sustain the confidence of private sector and its support to the privatization process.

In a sector where private sector investment is nascent, substantial capacity additions are required to provide efficient airport services and competition is imminent, a "light-handed" regulatory approach would be suitable. Such an approach would:

- Focus on regulating/ monitoring service quality as an outcome, rather than determining prices and investment decisions,
- Adopt a price monitoring approach instead of a "price determining" approach,
- Encourage negotiated outcomes between operators and airlines on necessity of investments in infrastructure, related service quality requirements and pricing; and
- Deter monopolistic behaviour through appropriate legislation and threat of enforcement,

The regulator could also publish broad guidelines for tariff determination, investment planning, investment appraisal including approach to determination of cost of capital, rate of return, allowable revenues and tariffs which could facilitate the consultative process between operators and airlines in general.

In summary, regulators should recognise that the threat of greater regulation is often enough to prevent service providers from abusing monopoly power.

Where there is conclusive evidence of abuse of market power, regulatory clauses can be tightened and fine-tuned to deter future instances of monopolistic behaviour. In other words, regulators should step in when there is evidence of market failure, not in anticipation of it.

Key Concerns to be addressed by the AERA Bill from a PSP perspective

The Ministry should also seek to address other key concerns set out below, while outlining the scope and form of regulation under AERA. This would help private investors and developers to assess the regulatory risks and outcomes associated with airport investments.

Consistency of proposed mandate with overall Policy/Regulatory framework

- Is AERA's mandate consistent with sectoral policy, legal and regulatory framework?
- Are the governed entities major airports or major airport operators?
- Will AAI (or any other operator managing multiple airports) be regulated as a single entity, or will individual airports be

regulated separately? For instance, will the regulator look into issues of cross-subsidies across airports managed by the same operator or look at airports individually, while determining aeronautical charges for each airport?

the interests of existing operators/stakeholders?

AERA's role in evaluating new proposals shall be critical in issuing necessary guidelines for regulatory purview of airport charges and capital investments

what constitutes an "efficient" investment?

- determining "allowable" revenues or "return on investment"
- approval of pre-funding requirement, if found necessary

AERA's mandate or operating principles shall need to be consistent with objectives of central government policy, de facto regulators such as AAI, DGCA and current legal/ regulatory framework under AAI Act, Aircraft Act 1934. It shall also need to evaluate triggers for regulatory intervention by other bodies such as the MRTPC, Competition Commission Consumer Forum etc. Reconciliation of conflicting provisions, if any, shall be a prerequisite for effective dispensation of regulatory functions by AERA.

Contractual Review

Will AERA have a role in review of contractual agreements to be signed with new developers? Is there a model concession agreement that would be used for contractual due-diligence or will the contracts be reviewed on a case-to-case basis?

A consistent contractual framework for development of airports, especially competing airports, will help in ensuring a level-playing field. Powers for independent review by AERA would help provide comfort to developers/ investors

AERA should set out the broad guidelines for the consultative process, including the cost of capital, allowable costs/expenses and the methodology to be followed in general. Guidelines should ideally be supported by subordinate legislation to lend credibility to the process. A pre-specified set of guidelines may give comfort to investors/ developers.

Tariff Setting

AERA guidelines should ideally:

- Recognise existing concession agreement provisions and provide for differential treatment of airports based on technical and commercial considerations
- Allow for tariff determination through a consultative process between airlines and airport operators as first resort
- Recognise local industry peculiarities, while being consistent with standard international (ICAO) guidelines

Licensing of New Airports/ Competing Airports

Since AERA's mandate does not cover licensing of new airports, will it acknowledge market conditions while regulating current operators? For instance, if the policy allows second airports to develop/ operate in the vicinity of existing Greenfield/ Brownfield airports, then should/ will the subject airports be regulated or deregulated?

More importantly, should AERA have a say in the licensing of new airports in the interest of protecting

Investment Planning & Appraisal

- What metrics will be used to determine "efficient" capital investment?
- What will be the basis for determining/classifying aeronautical and non-aeronautical assets?
- Will the framework prescribe guidelines for:
 - determining the capital cost of projects (for a given Master Plan)
 - vetting the investment plan provided by operators, based on considerations of

Service Quality/ Performance Monitoring

- Will AERA prescribe a new set of standards or guidelines for target-setting and

measurement of performance/service quality across different types of airports, based on technical and commercial considerations? Or will AERA use the available internationally used metrics/ approaches such as the ASQ perception survey for evaluating performance?

- Will AERA recognise controllable and uncontrollable factors while evaluating performance?

AERA guidelines should recognize:

- Local industry peculiarities, while being consistent with standard international approaches/ benchmarking techniques.
- Existing concession agreement provisions while determining performance standards.

The current regulatory uncertainty about some of these concerns and their implications on commercial outcomes may actually result in weakening private sector interest in the sector.

3.3 Taxation

Legal Framework: The Aircraft Act, 1934 (the "Aircraft Act") and the Rules made there under by the Central Government govern the development, maintenance and operation of all airports, including Greenfield airports.

a) Tax Incentives and Issues: The Income-tax Act, 1961 ('the Act')

Airports		FDI Allowed	Regulatory Scope	Guidelines
a)	Greenfield projects	100 percent	Automatic	Subject to guidelines issued by MOCA
b)	Existing projects	74 percent	Approval required beyond 74 percent	

provides a tax holiday for the infrastructure facilities (including airports) for a period of ten years to attract investors in this space. The airport operators are also eligible to claim concessional rate of customs duty in the case of select items specified under the Customs Act. These benefits are available to the operator developing, or developing and operating or developing, operating and maintaining any new infrastructure facility.

The term 'new infrastructure facility' would in common parlance refer to a Greenfield project. Therefore the issue for consideration is substantial modernization, up-gradation, redevelopment etc would be eligible for the deduction referred to above. This is especially relevant in the case of airports as substantial investments are being made towards up-gradation of these facilities.

Clarity is needed regarding whether in the case of expansion of the infrastructure facility, the eligibility for claiming tax holiday period for the expanded portion

should be combined with the existing facility or should it be looked on a stand alone basis for claiming the tax holiday. This needs to be dealt with in greater detail.

In the case of modernization of the Delhi and Mumbai Airports, several new assets in the form of new terminal buildings, runways, taxiways, loading and unloading infrastructure, safety devices etc. would be created. This may result in substantial redevelopment of the facility. Considering and the need to modernize airports in India, a specific enabling provision to cover substantial redevelopment may provide additional impetus to the growth of infrastructure in the country.

The tax holiday is in respect of income derived by an undertaking from the business of developing and operating an airport. The term 'derived from' has been interpreted by the courts to mean a direct nexus with the eligible business. Typically, the revenue model of the airports comprises of a very substantial part of non-operational revenues comprising of real estate development and retail concessions. The eligibility of non-

operational income for tax holiday also needs to be clarified especially in light of the intense litigation on this issue in the context of various eligible businesses.

The modernization and construction of airports presents exciting business opportunities for the Engineering Procurement and Construction ('EPC') contractors. Typically, such contracts comprising of offshore supply, offshore services, onshore supply and onshore services, may be bundled or split contracts. While split contracts provide tax planning opportunities, sometimes bundled contracts may be suited for the commercial imperatives of the project owner. Single point responsibility is a key commercial concern for the project owner and this is often achieved in a split contract, through a wrap around agreement. It is also common for consortiums to bid for major EPC contracts. It is crucial that the role of each consortium member is clearly defined and there are clearly

discernible revenue streams to avoid being taxed as an 'Association of Persons' ('AOP'). An AOP could have potential tax exposures for the consortium members and contract documentation could play a key role in building safeguards against such characterization.

Further, the tax policy on carry forward and set off of losses in case of amalgamation is inequitable. The advantage of set off losses is only allowed to a public sector companies operating an aircraft.

b) Minimum Alternative Tax ('MAT'): The infrastructure facility claiming benefits under the Act is liable to pay taxes under the MAT regime during the entire tax holiday period. They would probably come within the purview of normal provisions after the tax holiday period.

Since the MAT credit is available for set off for a period of seven

years only, the credit relating to the first three years would expire and would not be available for set off against the normal tax payable after the tax holiday period. This would result in huge cash outflows of the facility and may hamper the financial position of the facility for the respective years.

As such, the government has to consider providing an exemption for the profits derived from development/ operation/ maintenance of an airport facility while computing book profits. If not completely, the deduction should be made applicable for the first three years of the claim of tax holiday under section 80IA.



4 Industry Challenges

Owing to the large number of participants and the scale of investment involved airport development in India faces several challenges. The industry is striving to bring its facilities and standards at par with international benchmarks so that it can compete on a global platform. Some of the key areas which need to be focussed upon include:

4.1 State versus Centre

While the ultimate authority for airports lies with the centre, the states can also enable the airport development process through Infrastructure acts and policies. A large number of state owned airports and/or airstrips are not operational or are operational for limited purposes. States are exploring the option of utilisation of these airports and/or airstrips by passengers and industries to commute within the region and/or the state. While this allows states to be a part of the development process and address needs when they arise, it may also lead to multiple focus in the approach. It is important that the state and centre work in tandem to help ensure that the development of the airports fulfils its goals as both an individual gateway and as a part of the larger network of airports. Since land is a state subject, acquiring and making the land available for

airport development lies within the state's ambit.

4.2 Volatility of Regulatory Requirements

Volatility in the scope of private sector participation requirements reduces the private players' interest and discourages their participation.

For the development of non-metro airports it was initially envisaged that these airports were to be fully privatized. However the Inter Ministerial Group (IMG) is now reviewing this scope of work and it is understood that some of the proposed work will be reduced.

Private players have already been pre-qualified for airport development at certain airports. Changes in the terms and conditions at this stage discourage the players as they view the limited participation as mere real estate development.

The regulator should ensure that the requirements are consistent from the initial stages to avoid problems later.

4.3 Economic Slowdown

The recent slowdown in economic growth has also substantially impacted the civil aviation industry

and caused it to reassess its forecasts and change its plans accordingly.

Overcapacity is being viewed as an obstacle being faced by the airlines as the buoyant forecasts are being reigned in, aircraft leases are being reconsidered and routes rationalized. The steep rise in crude and eventually ATF has had a significant dent on the airlines profitability and could definitely slow growth going forward. There has been some softening seen recently in the ATF prices, but the industry is still cautious. This rationalization also impacts the airports as their expected return on the investment falls.

Private players are now warier of undertaking airport development projects as the environment in which they have to operate is less favourable now. Reduction in passenger traffic, slowdown in freight traffic, waning interest of retail players have all had an effect on the positive outlook for airport development.

From a short to medium term point of view the key concerns for airports are regulatory uncertainty regarding airport projects and slowdown in passenger and cargo growth. Any negative changes in these are likely to substantially impact the airport operators. Though traffic figures have shown a positive trend for a while, there have been short and medium-term

exceptions, which have led to a reduction in traffic and losses for operators.

Airport projects require substantial investments and monetary tightening in the economy is also a cause of concern for the airport developers as it limits the funds at their disposal. Regulatory nuances for airport development in India are still in the early stages and there is a lack of clarity on several issues.

All the agreements currently executed have a provision that they will be covered under regulations from the airport regulator once the AERA Bill is passed. However the bill is still pending in Parliament and does not offer much hope of immediate resolution for any of the disputes between the civil aviation ministry and airport operators, which remain unresolved.

Airport development projects require substantial investment. In the current high inflation scenario, there is a possibility of overshooting the planned costs due to cost escalation and scope expansion. These also present a significant challenge for the operators. The returns for the early investors in airport development have exceeded projections. For the newer airport privatization projects this may not be the case and they have to hence strategise for the future accordingly.

4.4 Balancing Act between Strategic and Commercial Concerns

There are certain airports which do not offer a profitable return to the operators. However they need to be operational for several reasons such as strategic concerns, balanced development etc. It is with this intent the DGCA has issued Route Dispersal Guidelines for all scheduled airlines regarding a certain minimum level of operations to the North-Eastern Region. However the private airlines have concerns regarding the viability of these routes and these guidelines need to be revisited in view of these issues.

One of the possible solutions is the sharing of subsidy provided by the North East Council to all the airlines operators operating in the North-Eastern Region based on criteria of performance, reliability and development of new stations etc. instead of confining the same to the government owned airlines.

Further options need to be explored to ensure that a balance can be maintained between the commercial and strategic considerations.

The Viability Gap Funding (VGF) scheme was envisaged to support the financial viability of infrastructure projects that are economically justifiable but not commercially feasible in the immediate future. This offers an

alternative for the development of strategically important yet non-viable airports. The scheme offers a funding of 20 percent of the project cost. If required, an additional 20 percent can be made available by the sponsoring Ministry/agency.

4.5 Skilled Manpower Shortage

The Indian airport industry today is facing a severe shortage of skilled manpower, largely a result of a sudden spurt in capacity having a direct bearing on resource requirement. Further, since this was a largely government driven sector earlier, there was little attention paid to training and development needs. To bridge the gap private operators are now increasingly hiring resources from across the infrastructure sector, who have the basic skills needed and training them for the specialised skills needed for the industry. This adds substantially to their expenses. Bringing in resources from other countries also increases their operational costs. Several training academies and institutes have come up in the recent years and growth in this segment can be helpful in alleviating the shortage. However, these institutes must be able to adhere to global and reliable benchmarks, to reduce the manpower shortage.

4.6 Government's concerns

The government needs to balance several requirements and fulfil

multiple objectives for the development of airports. In doing so it faces several challenges:

4.6.1 Managing Expectations

The review of the terms of reference for ongoing non-metro airport projects has led to a reduction in the interest of large international player and domestic players. The government needs to understand this problem and redress it by reassuring the players that there is still scope for viable and profitable participation.

4.6.2 Human Resource Transition Challenge

The employees at the airports wherein modernization plans are underway and which are to be replaced by new airports are expressing dissatisfaction with the future options proposed for them. The government needs to make sure that the transition is a smooth process without compromising on the airport development process.

According to the contract with AAI, DIAL could continue to receive services of AAI employees for three years till May 2009 and it was required to make an employment offer to 60 percent of the employees by May 2009. However, DIAL extended this offer to include all AAI employees, whereas we understand that not many employees have exercised this option. We also believe that there has been a similar situation in the case of MIAL. Hence AAI

would need to have a in-house plan to effectively absorb all these employees.

4.6.3 Development Gap in Infrastructure

A considerable development gap in airport infrastructure is currently prevalent. This is the result of the government's approach to the sector which has not been completely business-oriented so far. Substantial investments are required to upgrade and develop airport infrastructure and to bring them at par with their global counterparts.

Passengers already pay Passenger Fees and the Greenfield airports at Hyderabad and Bangalore have started levying User Development Fees (UDF) to recover their costs.

While the operators consider these necessary for the recovery of funds, the passengers find these to be an additional cost. Airlines are expressing unwillingness to include these costs as a part of the tickets, owing to concerns about passenger reactions. The government needs to find mutually acceptable solutions, which would lead to development of the infrastructure at an appropriate rate without burdening the passengers too much or impacting the airport developers' financial position significantly.

5 Opportunity Now

The airport industry in India currently has significant potential as the development of airports opens new avenues for participation. Several opportunities exist for players to successfully participate in this development.

5.1 Opening Skies

In accordance with the policy of liberalization in the civil aviation sector and with a view to attract more foreign passengers, the Government has adopted as overall liberal approach in the matter of grant of traffic rights under bilateral agreements with various foreign countries. Traffic rights have been enhanced with several countries to enable greater connectivity to/from India. This would lead to more flights and better connectivity from these countries to India and also provide more commercial opportunities for all operating carriers.

5.2 Non-metro airports

Up-gradation and modernization of the non-metro airports offers significant opportunity for participation by the private players and the interest of the bidders so far shows their keenness to undertake this.

As per the original scope of work, private participants were expected to participate in maintenance of

terminal building, development and operation of cargo and real estate development. Currently the Inter Ministerial Group (IMG) is reviewing the scope of work and it is understood that some of the proposed framework shall undergo certain changes.

For certain airports private players have been pre-qualified for as bidders. Owing to the expected change in the scope, the private players are awaiting IMG's decision so that they can go ahead and implement their plans.

5.3 Greenfield Airports

Greenfield airports offer substantial scope for participation by the private players through the PPP route right from the development of the airports to its maintenance and operations. Players have shown a significant interest in being a part of these projects as they can expect returns from aeronautical and non-aeronautical revenues.

Normally they are expected to come up in areas where the airport development process is yet to completely take-off. In exceptional cases they may be developed at places where airports already exist, subject to approval from the authorities. The new Greenfield airports policy provides greater clarity for the development of these airports.

Summarised below are the details of some of the major proposed Greenfield airports:

Navi Mumbai: This Greenfield airport is proposed to be developed by 2012. The private partner would have a 74 percent stake while the Government of Maharashtra through City and Industrial Development Corporation and AAI will have a 13 percent stake each in the venture. It is expected to be able to handle 50-55 million passengers annually. The cost of the project is estimated at between INR 3,200 crore and INR 4,000 crore and the bidding for the development of airport is expected to be completed by March 2009.

Kannur Airport: A Joint Venture Company (JVC) between KINFRA, a Government of Kerala entity with 26 percent equity participation and a private strategic partner with 74 percent equity participation is to be set up for the development of the airport. The airport operator is to invest 30 percent of the total required capital investment and the balance would be through debt financing. The estimated project cost is INR 929.5 crores, excluding costs pertaining to land acquisition, resettlement and rehabilitation.

Some more Greenfield airports are under various stages of consideration at Hasan, Pune and Greater Noida.

5.4 Non-operational Airports

There are several non-operational airports across the country and the

reasons for shutting down of these airports include commercial non-viability and lack of utilization of the airstrips as they had not been used for a substantial time period.

Under-utilisation, mismanagement, route rationalization and reduction have all contributed to the non-viability of these airports. While these airports have the basic infrastructure in place, they lack a strategic plan for their development.

India has over 454 airfields, out of which 138 are operated by the military, 158 by the state governments, 61 owned and maintained by private owner or estates and the rest are managed and operated by AAI. A large number of these airfields are not operational and are not being effectively used.

The government may consider shifting the onus for development of these unutilised airstrips and airports to various other constituents such as State Industrial Development organisations, corporates and state governments. State Industrial Development Corporation may be allowed to upgrade and operationalise abundant airfields in close proximity to the industrial zones.

While the traffic to these airfields shall be limited to corporate aviation, gradually each airport could chalk a development plan in concurrence with the state

government and AAI for creating passenger terminals or Fixed Base Operations (FBO) centres.

One of the possible avenues that the ministry is exploring for these airports is to offer the state governments a stake in them. These airports could be a joint venture between respective state governments and AAI.

Allowing management of commercial operations, cargo management and city side development to the private players should offer substantial revenue potential to them. By developing the sources of non-aeronautical revenues, the private players can expect higher and more immediate returns. The ministry can help sustain private initiative by issuing clear guidelines for private participation and identifying the potential revenue sources right from the beginning, so that there is no confusion later.

5.5 Cargo Opportunity

About 40 percent of the world's cargo business, in terms of value, moves by air. The air cargo industry in India is in the nascent stages and hold potential for the players in several areas. 74 percent FDI in the cargo industry will provide the industry with an impetus. According to the Eleventh Five Year Plan cargo traffic is forecasted to be 2683.47 thousand metric tonnes (TMTs) – 1822.69 TMTs international and 860.78 TMTs domestic cargo by 2011–12.

Efficient and specialized cargo terminals are essential in view of the rising domestic and international cargo. It is now mandatory for all greenfield airports to provide separate cargo facilities – storage, ground handling and loading so that the issues being faced at existing airports can be avoided.

The Union Cabinet has given its approval for the Ambedkar International Airport in Nagpur to be transferred to a joint venture company for development into a multi-modal passenger and cargo hub. In the joint venture firm, the AAI – which owns the airport at present – would hold 49 percent stake and MADC would have the remaining 51 percent of equity.

A clear and supportive regulatory framework, which clearly addresses the key concerns of the players, shall help the sustained growth of the industry.

5.6 Aerotropolis – The Real Estate Opportunity

The airport model is undergoing a shift as new airports are being developed away from central hubs in the cities. An aerotropolis refers to the cluster of aviation-oriented businesses around these airports and the transportation corridors emerging from them. It is a new urban infrastructure form comprising aviation-intensive businesses and related enterprises extending up to 25 km outward

from a major airport. It is similar in form and function to a traditional metropolis, which contains a central city core and its commuter-linked suburbs.

An aerotropolis has an 'airport city' at its core, which comprises retail malls, leisure and culture centres, logistics and air cargo, hotels and entertainment, office and retail complexes, and is surrounded by clusters of aviation-related enterprises. The area surrounding the airports has the potential to be developed as a hub of business, retail and hospitality centres. The airport developers are aiming to develop these urban centres on the areas at their disposal for commercial development.

In an aerotropolis a significant component of the revenue comes from non-aeronautical components, which yield faster returns compared to the aeronautical components. This is helpful for the financial standing of the airport developers.

The challenges faced in the development of these commercial centres include getting clearances from the government and land acquisition.

The Indira Gandhi International airport in Delhi has the potential to be developed as an aerotropolis as it has national and global air connectivity, reasonable amount developable land around it, and the

potential for passenger and cargo growth. Cargo and infrastructure facilities would need to be developed for this model to be successful.

The Greenfield airports being developed in the country also present an opportunity for aerotropolis development. As 100 percent FDI is allowed in Greenfield airports through the automatic route, aerotropolises in India have the potential to be developed in collaboration with foreign investors, who will bring in capabilities and experience.

For the concept to be implemented successfully the government would need to integrate airport development with urban and regional city planning.

Internationally aerotropolises have come up spontaneously in certain countries, while in others a planned strategy is being implemented for their development.

Globally airports have embraced the concept of developing the surrounding commercial areas.

Airports which have expanded commercial development beyond the terminal with large connected office buildings, conference and exhibition centres, and business-class hotels have been able to leverage successfully on this concept.

Amsterdam Schiphol, through its Schiphol Real Estate Group, has been involved in landside commercial development. These developments include business office complexes, hotels, meeting and entertainment facilities, logistics parks, shopping and other commercial activities branded under the AirportCity name.

Dallas/Fort Worth airport is among the busiest airports in the world. Land leases, commercial development, hotels, natural gas rigs, and golf courses are examples of undertakings through which the airport earns revenues.

Frankfurt Airport offers shopping facilities in the baggage area, and conference rooms complete with translators, laptops, and catering. It is also among Europe's largest cargo hubs.

Singapore Changi has been a pioneer in terminal commercial development and has a variety of offerings ranging from retail outlets to entertainment and leisure venue.

Aerotropolises are emerging because of the advantages airports provide in the fast-paced commercial and economic environment. They offer significant scope of development beyond the airport space and are a key consideration as players undertake airport development projects.

5.7 Low Cost Airports

Low Cost Airports are the next step for the Indian airports industry. While offering the advantage of enhancing connectivity across the country, these airports shall also help in rationalizing the costs incurred by the airlines and decongesting traffic at regular airports. This shall be a relief for Low Cost Carriers, whose financial position has been negatively impacted by aviation fuel prices and operational costs, and which currently pay the same charges as full service carriers.

Whilst maintaining all standards and safety norms, these airports are expected to have no baggage conveyor belts, aerobridges and buses for the passenger. These airports shall further the no frills experience being offered by the Low Cost Carriers currently. The focus of these airports shall be on instrumental landing, night landing and runways. Departure areas are expected to have basic check-in and security facilities in place along with seating and basic amenities.

Cities that already have an operational runway could get a new low-cost terminal. Terminal 1 of the Delhi airport, operated and managed by DIAL, is expected to be developed as an exclusive terminal for the no-frills carriers by 2010.

Private players are looking to participate in the development of these low cost airports in cities which already have a regular terminal as well as in small towns, which do not have an airport.

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11. Bengaluru International Airport Limited
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12. Cochin International Airport Limited
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13. International Civil Aviation Organization
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14. International Air Transport Association
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7 Glossary of Terms

AAI	Airports Authority of India
ACI	Airports Council International
AERA	Airport Economic Regulatory Authority
Airport Company	Any entity other than the AAI
ATF	Aviation Turbine Fuel
AOP	Association of Persons
ATM	Air Traffic Management
BOT	Build Operate Transfer
BOOT	Build, Own, Operate and Transfer
CAA	Civil Aviation Authority
DGCA	Directorate General of Civil Aviation
EPC	Engineering, Procurement and Construction
FDI	Foreign Direct Investment
GoM	Group of Ministers
HLCA	High Level Clearance Authority
IMG	Inter Ministerial Group
JV	Joint Venture
JVC	Joint Venture Company
MAT	Minimum Alternative Tax
MCA	Model Concession Agreement
MOCA	Ministry of Civil Aviation
MRO	Maintenance, Repair and Overhaul
PPP	Public Private Partnership
SEZ	Special Economic Zone
SLA	Service Level Agreement
VGf	Viability Gap Funding
UDF	User Development Fees

8 Annexure

I. Steering Committee Members

- 1 Secretary, Civil Aviation - Chairman
- 2 Secretary, Ministry of Home Affairs, or his representative not below the rank of Additional Secretary
- 3 Secretary, Ministry of Defence, or his representative not below the rank of Additional Secretary
- 4 Secretary, Department of Economic Affairs, or his representative not below the rank of Additional Secretary
- 5 Secretary, Department of Revenue, or his representative not below the rank of Additional Secretary
- 6 Secretary, Planning Commission, or his representative not below the rank of Additional Secretary
- 7 Director General, India Meteorological Department
- 8 Chairman, Airports Authority of India
- 9 Director General of Civil Aviation; and
- 10 Joint Secretary, Ministry of Civil Aviation – Convener

II. Top Airports 2008

			Passengers	change in	Aircraft	change in	Cargo	change in
				Percent	movements	Percent	(tonnes)	Percent
1	Atlanta	ATL	89,379,287	5.3	994,346	1.8	720,209	-3.5
2	Chicago	ORD	76,177,855	-0.1	926,973	-3.3	1,533,606	-1.6
3	London	LHR	68,068,304	0.8	481,479	0.9	1,395,905	3.9
4	Tokyo	HND	66,823,414	1.1	331,818	2.4	852,454	1.8
5	Los Angeles	LAX	61,896,075	1.4	680,954	3.7	1,884,317	-1.2
6	Paris	CDG	59,922,177	5.4	552,721	2.1	2,297,896	7.9
7	Dallas/Ftworth	DFW	59,786,476	-0.7	685,491	-2.0	724,140	-4.1
8	Frankfurt	FRA	54,161,856	2.6	492,569	0.7	2,127,646	8.4
9	Beijing	PEK	53,583,664	10.1	399,697	6.1	1,192,553	15.9
10	Madrid	MAD	52,122,702	13.9	483,284	11.1	356,427	-1.3
11	Denver	DEN	49,863,352	5.4	614,065	2.8	267,294	-5.2
12	Amsterdam	AMS	47,794,994	3.8	454,360	3.2	1,651,385	5.4
13	New York	JFK	47,716,941	11.9	446,348	17.2	1,607,050	-1.9
14	Hong Kong	HKG	47,042,419	7.3	305,010	5.1	3,773,964	4.5
15	Las Vegas	LAS	46,961,011	3.2	609,472	-1.6	91,205	-10.0
16	Houston	IAH	42,998,040	1.1	603,656	0.2	409,193	0.0
17	Phoenix	PHX	42,184,515	1.8	539,211	-1.3	251,925	-12.2
18	Bangkok	BKK	41,210,081	-3.7	265,763	-8.7	1,220,001	3.2
19	Singapore	SIN	36,701,556	4.8	223,488	2.6	1,918,159	-0.7
20	Orlando	MCO	36,480,416	5.3	360,075	2.8	183,070	5.9
21	Newark	EWK	36,367,240	2.1	435,691	-2.0	963,794	-0.6
22	Detroit	DTW	35,983,478	0.0	467,230	-3.0	233,034	8.7
23	San Francisco	SFO	35,792,707	6.6	379,500	5.7	562,933	-5.4
24	Tokyo	NRT	35,478,146	1.4	195,074	2.6	2,254,421	-1.2
25	London	LGW	35,218,374	3.1	266,552	1.2	176,822	-19.7
26	Minneapolis	MSP	35,157,322	-1.3	452,972	-4.6	257,394	-6.4
27	Dubai	DXB	34,348,110	19.3	260,530	9.8	1,668,505	11.0
28	Munich	MUC	33,959,422	10.4	431,815	5.0	265,607	11.6
29	Miami	MIA	33,740,416	3.7	386,058	0.4	1,922,985	5.1
30	Charlotte	CLT	33,165,688	11.7	522,541	2.6	122,149	-17.7
31	Rome	FCO	32,855,542	9.2	334,848	6.1	154,441	-6.1
32	Barcelona	BCN	32,794,575	9.3	352,489	7.6	100,360	1.3
33	Jakarta	CGK	32,458,946	6.1	248,482	0.6	473,593	24.7
34	Sydney	SYD	32,323,380	6.4	286,101	0.9	***	***
35	Philadelphia	PHL	32,211,439	1.4	499,653	-3.1	543,357	2.1
36	Toronto	YYZ	32,452,848	2.1	425,500	1.8	504,608	-1.1
37	Incheon	ICN	31,452,848	10.8	213,194	15.7	2,555,580	9.4
38	Seattle	SEA	31,296,628	4.3	347,046	2.1	319,013	-6.7
39	Guangzhou	CAN	30,958,374	18.9	260,835	12.2	694,923	6.4

40	Shanghai	PVG	29,083,510	8.6	253,535	9.3	2,559,310	18.0
41	Boston	BOS	28,102,455	1.4	399,537	-1.6	298,536	-8.1
42	Kuala Lumpur	KUL	25,453,379	9.6	193,688	5.3	652,895	-3.6
43	Paris	ORY	26,440,736	3.2	236,926	1.5	109,315	-0.2
44	Mexico City	MEX	25,881,662	4.7	378,161	6.4	411,383	-1.3
45	Istanbul	IST	25,561,435	9.9	262,248	8.7	341,454	14.6
46	Mumbai	BOM	25,236,400	18.1	236,585	14.8	536,432	12.1
47	New York	LGA	25,026,267	-3.0	391,872	-2.1	10,596	-40.7
48	Washington	IAD	24,525,487	7.5	382,939	0.9	358,527	2.2
49	Milan	MXP	23,885,391	9.7	267,941	6.7	486,667	16.1
50	London	STN	23,777,277	0.4	208,423	0.8	228,747	-6.9
51	Taipei	TPE	23,425,794	2.5	160,120	1.5	1,605,681	-5.5
52	New Delhi	DEL	23,346,895	20.5	225,510	17.2	431,623	8.3
53	Dublin	DUB	23,287,438	9.9	211,804	7.7	114,422	-1.9
54	Palma de Mallorca	PMI	23,223,970	3.7	197,354	3.7	26,408	0.6
55	Melourne	MEL	23,076,369	5.4	184,052	2.8	***	***
56	Ft Laudernale/Hollywood	FLL	22,681,903	6.1	307,975	3.7	137,219	-7.4
57	Shanghai	SHA	22,632,962	17.1	187,045	5.3	388,812	6.9
58	Manchester	MAN	22,362,106	-1.8	222,778	-3.1	166,546	10.3
59	Salt Lake City	SLC	22,045,333	2.3	422,010	0.1	177,710	-2.0
60	Baltimore	BWI	21,498,091	1.5	296,872	-2.9	115,402	-6.9
61	Copenhagen	CPH	21,356,134	2.7	257,591	-0.3	395,506	4.1
62	Zurich	ZRH	20,682,094	7.8	268,476	3.0	289,958	3.6
63	Shenzhen	SZX	20,619,164	12.3	181,450	7.1	616,046	10.2
64	Manila	MNL	20,467,627	14.1	188,797	9.8	388,551	-5.3
65	Sao Paolo	GRU	19,560,963	18.0	187,960	21.3	488,485	-1.5
66	Chcago	MDW	19,378,855	2.7	304,657	2.1	13,357	-10.5
67	Tampa	TPA	19,154,957	1.5	358,349	0.5	98,018	-10.2
68	Oslo	OSL	19,043,800	7.8	226,303	5.4	97,311	7.9
69	Vienna	VIE	18,768,468	11.4	280,912	7.7	205,024	1.6
70	Moscow	DME	18,755,098	22.0	181,141	20.9	133,662	5.8
71	Washington	DCA	18,670,924	0.7	275,433	-0.4	2,515	-30.4
72	Chengdu	CTU	18,586,000	14.2	166,382	6.4	328,000	11.0
73	Brisbane	BNE	18,374,667	7.5	171,412	3.4	***	***
74	Sapporo	CTS	18,361,366	-0.2	98,827	-1.6	274,269	2.8
75	San Diego	SAN	18,336,761	4.9	227,329	2.9	140,304	-25.6
76	Stockholm	ARN	17,968,023	1.7	218,549	-3.8	122,922	10.5
77	Fukuoka	FUK	17,902,563	-1.7	71,456	3.8	292,694	0.1
78	Brussels	BRU	17,838,214	7.0	264,366	3.8	747,434	11.3
79	Dusseldorf	DUS	17,832,849	7.5	227,899	5.8	58,026	-2.4
80	Antalya	AYT	17,795,523	20.5	115,002	16.0	6,480	-23.4
81	Johannesburg	JND	17,787,673	2.6	226,992	9.3	360,831	12.3
82	Vancouver	YVR	17,710,239	3.4	328,563	1.9	225,412	1.2
83	Osaka	KIX	16,622,853	0.1	125,637	8.8	845,976	0.5

Source: ACI

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