This methodology note stands superseded. Refer to ICRA's website www.icra.in to view the updated methodology note on the sector.

ICRA Rating Methodology for Airports in India

Background

India has a sizeable aviation infrastructure with more than 130 airports (including airstrips), of which over 85 are operational. Traditionally, the primary responsibility for the development and management of Indian airports has been with the Government of India (GoI) through the Ministry of Civil Aviation (MoCA)-controlled Airports Authority of India (AAI). During the last decade, the Indian aviation industry reported robust growth following liberalisation of the airlines industry, emergence of low-cost carriers, competition-induced decline in travel costs, and sustained economic growth. Passenger traffic reported a compounded annual growth rate (CAGR) of 11% from 1999-2000 to 2014-15 while cargo traffic posted a CAGR of 8% during the same period. This growth in aviation traffic on the one hand, and the limitation of India's aviation infrastructure to handle the increasing volumes on the other, led to the call for private investments in the sector. Privatisation of airports in the country gained traction with the award of build-operate-transfer (BOT) concessions to private players for greenfield airports at Bengaluru and Hyderabad in 2004, followed by the privatisation of the existing airports at Delhi and Mumbai in 2006. In addition, there have been attempts to revive defunct airports and develop greenfield airports as well. Increasingly, airport development projects are being implemented through project-specific special purpose vehicles (SPVs) in which the debt is raised to fund part of the project cost. Given the overall development focus and the increasing private sector participation in aviation infrastructure building, an independent regulator, Airports Economic Regulatory Authority (AERA), has been formed to decide on various regulatory aspects relating to the sector.

Key risk factors and rating considerations for airports

Airports can be grouped into two categories: those under construction or undertaking major capital expenditure, and those that are operational. The risk profile of an airport depends on the stage of the project. For an under-construction airport, implementation risks (delays in land acquisition, in obtaining clearances, problems with the engineering, procurement & construction (EPC) contractor, and such other issues) and funding risks (equity and debt tie-up) are prominent. Besides these factors, an under-construction airport project's rating is also significantly influenced by the financial strength of the sponsor and the construction contractor, apart from the contractor's execution track record.

An airport project's risk profile undergoes a significant change once it achieves the commercial operations date (COD). While the risks of time and cost overruns dominate the pre-COD period, the primary risks in the post-COD period pertain to traffic for the airport, regulatory tariff fixing, and the airport's ability to attract non-aeronautical revenues. For a project with a track record of operations, the assumptions of traffic are relatively more reliable as compared with those for a greenfield airport. In the latter case, the assumptions for revenue generation would be based on traffic studies and remain a key rating sensitivity. Nevertheless, in both cases, regulatory risks remain pertinent especially till regulatory decisions become predictable.

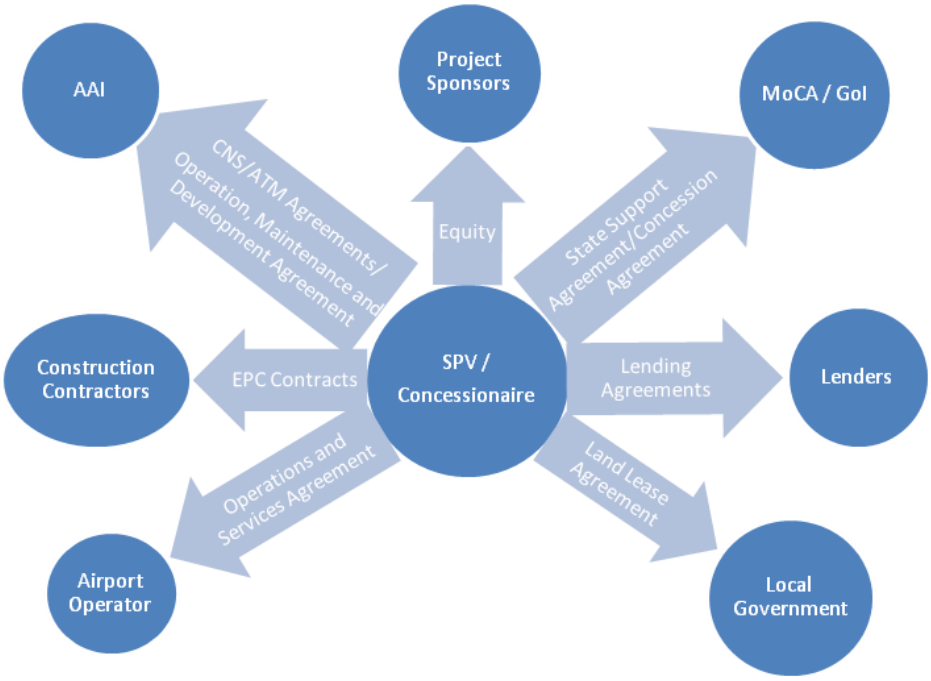
An airport project's rating changes in accordance with the stage of the airport. The rating may see a significant change post-COD as project implementation risks recede. Further, the rating can change with the establishment of some track record of traffic, as the uncertainty associated with the project's revenue generation declines.

ICRA's Risk Analysis Framework for Airports

This methodology note discusses the key factors ICRA considers when assessing the credit risk for Indian airports. The objective of this note is to help investors, issuers and other market participants understand how ICRA analyses the creditworthiness of airports. From a credit perspective, many of the challenges involved in developing airport projects are similar to those faced by other infrastructure projects. The key ones are execution challenges like land acquisition, securing of necessary clearances, financial closure, and revenue risks. However, airport development has its own specific issues as well. Such issues include risks arising from regulatory uncertainty; difficulties in predicting future capital expenditure, given that the growth pattern and service requirements could change; low predictability of passenger throughput over long periods of time and susceptibility to dips in traffic volumes in the shorter term; and difficulty in forecasting revenues from non-aeronautical charges, which have limited precedence in the Indian context. Further, in the case of greenfield airports, some risk factors are more pronounced, such as location of the airport and its acceptability, and competition from the existing airport(s). However, in India, large airports serving major economic areas possess a strong element of monopoly, as most Indian cities/regions typically have just one airport.

Contractual agreements: The key stakeholders and the typical contractual structure for an airport project can be diagrammatically represented as in the following chart.

Chart: Typical Project Structure for Airport Development in India



ATM: Air Traffic Management; CNS: Communication, Navigation and Surveillance

Developing and operating an airport entails involvement of many stakeholders: regulators (MoCA and AERA); AAI, which till recently was the owner and operator of most airports in the country; user groups represented both by airlines and passengers; State governments; and the airport developer/ concessionaire. For any airport project, before any development activity can be undertaken, it is required to put in place a project structure that identifies the roles and responsibilities of the stakeholders and allocates the risks among them.

The concession agreement between the project owner (usually AAI) and the concessionaire defines the framework within which airport projects operate. Such projects are usually implemented through SPVs, a structure that delineates the assets, operations of the airport, and the cash flows that are to be used

towards servicing the debt taken for the development activity. The SPV structure also ensures legal separation of the credit risk of the project from that of the sponsors. The SPV is owned by a concessionaire who is identified through a competitive bidding process.

ICRA examines if all risks are identified and allocated appropriately among the project stakeholders. These pertain to key areas like funding, project execution, airport operation, and land acquisition. The contractual structure, as assessed from the contracts entered into by the SPV with the stakeholders, defines the allocation of risks. These contracts are assessed in terms of their clarity, comprehensiveness and enforceability.

ICRA examines the scenarios (events of default) under which suspension of the rights of the concessionaire or termination of the agreement can take place. Besides the adequacy of the termination benefits receivable by the concessionaire in relation to its debt servicing obligations in the event of a termination[1], the ability and track record of the government agencies concerned to meet their obligations is also assessed.

Apart from a detailed study of the contractual structure, ICRA also assesses airport projects on the following parameters:

1. Sponsor risk
2. Construction risk
3. Funding risk
4. Revenue risk
5. Regulatory risk
6. Operating risk
7. Transaction structure risk
8. Counter-party credit risk
9. Force majeure risk
10. Financial risk

1. Sponsor Risk

Despite the non-recourse nature of the SPV, the financial strength of the sponsor is a key credit determinant, given that apart from contributing the equity capital and/or subordinated debt, a stronger sponsor also has greater wherewithal to meet any funding shortfalls faced by the SPV, while also ensuring timely financial closure of the project. Airports can have a wide range of ownership structures, from being a fully government owned and operated airport to one owned by a public private partnership (PPP). Further, the concessionaire can be a joint venture with multiple shareholders or promoters. During the pre-COD stage, it is critical for the promoters to have the financial strength to consistently support the project in the event of time and cost overruns. Post-completion, the financial linkage is relatively less important. Nevertheless, the presence of financially strong sponsor(s) lends some comfort, given that they have the ability to provide support to the SPV in case of any contingency or short-term cash flow mismatches. In addition, considering the scale and complexity of airport projects, the experience of project sponsors in executing projects of similar nature and magnitude and the requisite project management skills can be key positives. In fact, most private airport development projects in India have seen participation from international airport operators in the joint venture.

The lock-in pattern for the equity shareholders that may be stipulated in the project documents is also evaluated. Easy exit options for existing shareholders partly diminish the comfort that may have been derived from promoter strength.

[1] *this adequacy is more relevant to judge the willingness of the sponsors to invest and stay invested in the project.*

All ratings necessarily incorporate an assessment of the quality of the issuer's management, as well as the strengths/weaknesses arising from the issuer's being a part of a "group". Also of importance are the issuer's likely cash outflows arising from the possible need to support other group companies, in case the issuer is among the stronger entities within the group. Usually, a detailed discussion is held with the management of the issuer to understand its business objectives, plans and strategies, and views on past performance, besides the outlook on the (issuer's) industry. Some of the other points assessed are:

- Commitment of the promoter/management to the airport business
- Attitude of the promoter/management to risk taking and containment
- The issuer's policies on leveraging, interest risks and currency risks
- The issuer's plans on new projects, acquisitions, expansion, etc.
- The ability and willingness of the group to support the issuer through measures such as capital infusion, if required

2. Construction Risk

A key component of the construction risk is the permitting risk, which refers to a project's ability to secure all statutory clearances required for constructing and operating an airport as well as to comply with the relevant environmental norms. In rating an airport project, ICRA evaluates issues related to land acquisition, rehabilitation and resettlement, and also examines the status of the various clearances required under the laws of the land. The permitting risks are usually low where the project involves upgrade of an existing airport. On the other hand, such risks are significant for projects involving greenfield construction, where large tracts of land need to be acquired.

Apart from permitting risks, construction risk includes risks associated with the physical construction of the airport infrastructure. This can include construction of new terminals, runways, taxiways and supporting infrastructure[2], which can be very costly and complex to implement, and call for significant project management skills. Even if an operational airport is transferred to an SPV, development work may still be required for capacity expansion. Thus ratings factor in the risks in construction and commissioning—risks that may cause the project not to be completed on time, on budget, and up to the desired performance standards.

The purpose of analysis here is to judge the adequacy of the project cost vis-à-vis the planned capacities. Challenges in arriving at accurate cost estimates in the initial stages of airport development expose all such projects to the risk of cost overrun. This may be driven by change in design, time extension, increase in cost of imported equipment, and such other factors. Cost escalation can worsen the financial metrics, specifically the debt coverage ratios, in case part or all of the cost overruns are not recoverable from increases in airport charges. The accuracy of cost estimates can be judged by comparing them with the capacity of the proposed airport in terms of the passenger volumes it will service. Unreasonably high cost estimates can impact project viability, besides resulting in tariffs that may be unacceptable. Further, factors such as difficult terrain, weak project management, weather and labour problems can contribute to construction delays and cost escalations.

These risks are partially mitigated through strong fixed-price, fixed-time EPC contracts with strong contractors and adequate provisions such as liquidated damage provisions for non-performance. This transfers the execution risk to the contractor. ICRA therefore assesses the financial and operating capabilities of the EPC contractor and its ability to meet the contractual commitments. Given the technical complexity and scale involved in the construction of an airport, the track record of the contractor in completing projects of similar scale on time, on budget and up to the required standards is viewed positively.

In addition, ICRA evaluates the airport's financial flexibility to meet eventualities related to time and cost overruns, given that cost escalations need to be funded by the project company, which could affect the

[2] *Such as automated baggage systems, air traffic control facilities, and connection inter-changes.*

project's leverage and also the returns to investors. Projects with limited time cushion between the COD and commencement of debt repayment have high risk of cash flow mismatches.

3. Funding Risk

Like any other infrastructure project, airport development is a highly capital intensive activity. The capital intensity is determined by the kind of capacities envisaged, the structures required to be built (in terms of runways, terminal building, parking bays, aprons, etc.), and the amount of displacement of existing facilities required. Factors like the funding structure, and terms of debt and equity have a direct impact on the debt servicing ability of the project.

Given the large upfront capital infusion required before any cash flows can be generated, these projects are usually funded with a considerable reliance on external debt like other infrastructure projects of such scale. Apart from the traditional promoters' equity and debt, funding sources for airport projects in India include grants from State governments/Central government. ICRA's analysis looks at the funding structure, the extent to which the funding is already in place, and the likelihood of the balance funding being available in time, so that project progress is not delayed.

In the case of equity, the sources consist of (a) sponsor contribution, (b) equity raised (either by project SPV or by holding company) from the capital market through initial public offer (IPO) or qualified institutional placement (QIP), and (c) private placement of equity to strategic investors. Clearly, the strength of the sponsors is an important risk mitigator even though project finance is expected to be on a "non-recourse" basis. The strength of the promoter imparts financial flexibility to the SPV, by allowing funding of shortfalls in equity contribution and cost overruns or other contingencies. The agreement entered into by the promoters is reviewed for covenants such as those pertaining to the minimum shareholding required to be maintained by the current promoters, the minimum duration for which the current promoters cannot sell their stake, and the instruments through which equity can be infused.

As for debt funding, the stage of debt funding and the status of disbursement are assessed. The key characteristics of debt instruments that are evaluated are maturity, currency, interest rates, repayment structure, grace periods, provision, if any, for interest deferral, and the priority of repayment. Analysis of these characteristics is critical in determining the funding flexibility of the airport and in ascertaining the adequacy of the cash flows against the debt repayment obligations.

A floating interest rate structure could potentially affect debt servicing, particularly during periods of rising interest rates. The capital structure is also reviewed for the repayment structure of the debt, a rear ended maturity profile usually being considered preferable for such projects, given that revenues usually increase over the first 8-10 years of the concession period.

If the funding is being done in a foreign currency, the necessary approvals and applicable foreign exchange funding limits are reviewed to establish funding certainty. In such cases, natural hedge in the form of foreign exchange income (duty free income or levies in foreign currency on international passengers) is assessed. Foreign currency hedging and the associated cost can impact project profitability.

In case the loan documents stipulate that the financial ratios (debt-equity, debt service coverage ratio, interest coverage, etc.) must be maintained at a particular level, the risks from non-adherence to such stipulations are assessed. Non-adherence to such financial covenants can impose restrictions on the airport company and adversely impact its liquidity.

The sources of funding for some of the airports being developed in the country also include revenues from the leasing/sale of land around the airport. Thus project funding in such cases is dependent on the prevailing real estate scenario and the attractiveness of the area to prospective tenants. Another stream of project funding in India has been the airport development fee (ADF) levied on passengers. This however requires regulatory approval. Thus the implementation, continuity and adequacy of ADF are judged by examining the relevant regulatory orders and the track record of such implementation.

4. Revenue Risk

Post-completion of construction, an airport is primarily exposed to the risks associated with revenue generation. The revenue of any airport has two major sources: aeronautical revenues, and non-aeronautical revenues. In addition, airports can also have other revenue streams, namely, special charges like user development fee (UDF)[3] and inflows from development of real estate around the airport. Aeronautical charges are levied on aircraft operations at the airports for the cost of infrastructure and services. These charges include landing charges, parking & housing charges, and passenger service fee (PSF). These are charged from the airlines on the basis of flight landings, take-offs, parking, and number of passengers flown, and are hence directly correlated to aircraft and passenger movement at the airports.

Non-aeronautical revenues include revenues from the lease/sale of commercial space at the airport, cargo movement, duty free shops, baggage handling, fuel-farms, food & beverage outlets, and advertisements. Typically, the airport enters into agreements with third-party concessionaires to provide these services and the airport earns a fixed rental and/or a fixed share of the revenue earned by the concessionaire. The non-aeronautical revenue potential of an airport is linked to the land available for leasing out, the passenger movement and the per-passenger spending.

To assess revenue risk, factors like projected traffic movement, flexibility to revise aeronautical charges, contracts entered into for non-aeronautical revenue streams, and other possible sources of revenues of the airport are analysed.

4.1. Traffic Risk

For an airport, both aeronautical and non-aeronautical revenues are linked to traffic movement. Traffic at an airport can be divided into three categories: aircraft traffic movement (ATM), passenger movement, and cargo movement. For an existing airport, the track record of traffic movement may be well established and historical traffic data helps in gauging the trends and seasonality of traffic. A relatively stable track record of traffic volume is a credit positive.

For a greenfield airport however, forecasting traffic volumes and measuring market risks can be challenging, given the absence of reliable and sufficient historical traffic data. ICRA therefore relies on independently conducted traffic studies to assess the revenue potential. The traffic studies are however suitably sensitised to assess the cash flow protection available to debt investors in case of shortfall in traffic levels. Further, market and macroeconomic forecasts and peer analysis are used to estimate the traffic volumes likely. Various traffic scenarios are drawn up to establish the adequacy of cash flows in adverse situations. Traffic levels apart, estimating the sensitivity of future traffic flows to tariffs is challenging. The various factors that are assessed to judge the traffic risk for an airport include:

a. **Economic utility:** Air travel competes with other prevalent forms of transportation. While air travel is seen as the fastest mode of transportation, an airport's usage can be dampened if the airport is too far from the potential users, or if the charges are too high, making it economically uncompetitive against other forms of transportation. This is especially true for a greenfield project in a region with no airport in the past.
b. **Location:** Airports are major centres of economic activity and thus the location of an airport is critical as that determines its ability to draw industrial, commercial and tourist interest. An airport's location decides its potential to serve as a hub, or attract transfer passengers, thus deciding the passenger throughput. Location would also have a bearing on an airport's non-aeronautical revenue and real-estate development potential.
c. **Economic indicators of the region:** The economic potential of the region can have a significant impact on the airport's success. An important indicator is the size of the population in an airport's

[3] *While both UDF and ADF are levies on passengers, these are conceptually different. In India, so far ADF has been levied as a means to meet the project cost funding gap, while UDF is levied as a revenue enhancing levy. Thus ADF is a capital receipt, while UDF is a revenue receipt.*

catchment area which establishes the size of the addressable market and indicates the airport's growth potential. Other economic indicators such as per capita income levels, major industries in operation, population mix, and state of infrastructure are critical to the performance of the airport. A region with non-cyclical industries, or the presence of numerous industries, or a tourist attraction would face lower volatility in passenger traffic. The economic base of the region also decides the willingness of users to pay for airport related charges.

4.2. Non-Aeronautical Revenues

The fact that non-aeronautical revenues are largely unregulated makes them an attractive revenue stream with a healthy growth potential. While analysing this revenue stream, the factors that are studied include: the space available and the distribution of the same among various facilities (duty free shops, food & beverage outlets, advertising area, etc.); the market reputation and track record of the concessionaires; the duration and extendibility of the agreements entered into with the concessionaires; the rates of lease rental and revenue share; and the covenants safeguarding the airport's revenue in the event of the anticipated traffic levels not materialising. If the concession agreements are not in place or are nearing expiration, the uncertainty over non-aeronautical revenues is high. For greenfield airports, the uncertainty over non-aeronautical revenues is higher as the marketability of various streams of revenue is untested.

A significant portion of the non-aeronautical revenues is generated in the form of revenue share from third-party concessionaires, which in turn is dependent on the tariffs that the concessionaire levies. In addition, non-aeronautical revenues are highly correlated to macroeconomic factors like the prevailing real estate rentals, level of consumer spending in the economy, and inflation rate.

4.3. Revenues from Real Estate

Projected earnings from the development of real estate around airports can form an important part of their funding and revenue generation plan. Traditionally, AAI airports have witnessed limited commercial use of land parcels. But the private players have been given sizeable land parcels as part of the concession which have been used to raise funds in certain instances. In case real estate is available for commercial exploitation, the airport's entering into lease/sale agreements with real estate developers is viewed favourably. Where firm agreements are not in place, revenue generation is linked to the real estate rates prevailing in the region, which however increases the revenue uncertainty.

The reasonability of the land valuation assumed by the airport in its funding plan along with the amount of annual rentals and lease deposits targeted by it are assessed. The other factors analysed include: the land use allowed under the terms of the concession, status of encumbrances and approvals, location, and the available infrastructure. In addition, reports by independent real estate consultants are also studied.

4.4. Other Revenue Sources

The concession agreement between the private airport developers and MoCA allows the airport concerned to levy special charges like ADF and UDF on its users. The levy and calculation of these charges are regulated. As in the case of aeronautical tariff charges, for ADF and UDF too, it is important to ascertain the flexibility allowed in levying these charges and the period of their validity. Such charges are typically linked to the progress in execution achieved by the airport project and/or the service levels provided by it.

4.5. Competition

Competition is a key factor that can impact the revenue generation potential of an airport. Airports in India are generally less susceptible to competition, given their capital-intensive nature and public utility status. This creates strong entry barriers. Nevertheless, such projects remain exposed to competition from new airports that may be developed or allowed by MoCA/AAI to come up in the vicinity. Alternative airport(s) can pose significant competition risk and impact the airport's ability to achieve the estimated revenues. Here, the relevant concession documents are reviewed for clauses that provide immunity from new airport

development, especially during the tenure of debt. A strong exclusivity clause that prohibits a new airport from being developed in the vicinity or gives a right of first refusal (ROFR) to the airport being rated lends greater assurance to the projected cash flows. However, the social and political risks increase wherever the operation of an airport being rated involves closure of an existing airport.

5. Regulatory Risk

Among the revenue heads discussed, aeronautical revenues are regulated, largely to counter the monopolistic nature of airports. From a credit perspective, it is important to assess the concession regime/framework of economic regulation within which the airport operates. The process of determination of aeronautical charges has evolved over the last decade in India. AAI airports have historically been following a uniform tariff schedule as decided by MoCA in consultation with various stakeholders. Increasingly, for AAI airports, tariffs for individual airports are being determined a case-by-case basis, primarily depending on the capital expenditure undertaken. Further, some of these decisions are being taken by AERA, depending on whether or not the airport is a major one[4]. For privatized airports, the methodology to determine the aeronautical tariffs is usually spelt out in the relevant concession documents. However since some of the concessions of major airports were given before AERA became operational, the regulatory philosophy is gradually being streamlined. The factors related to aeronautical tariff risk for an airport include:

a. **Determination of aeronautical charges:** The concession documents, which specify the coverage of regulatory revenue streams and the methodology to be followed to determine tariffs, form the basis of determination of regulatory charges. The concession documents may give a broad framework or a detailed methodology. While the final tariff decisions are made by the regulator, the same is done in line with the concession documents. In this regard, the track record of the regulator plays a key role. An established and transparent framework of economic regulations allows for firmer future estimations of tariffs. The regulatory regime in India is gradually firming with AERA taking decisions on aeronautical tariffs for more airports and for incremental concession periods.

   In its approach to fixing aeronautical tariff, India is largely following a rate-of-return methodology. This methodology provides for a fixed return on the investment made along with reimbursement of all associated costs, to arrive at the aeronautical charges. There are broadly three approaches in this methodology with regard to the treatment of non-aeronautical revenues: Single Till, Dual Till and Hybrid Till. Under the Single Till approach, revenues from both aeronautical and non-aeronautical activities are taken into account to determine the aeronautical tariffs. However, under the Dual Till approach only aeronautical activities are taken into consideration. Hence, aeronautical tariffs derived using the Single Till approach are lower than the same under the Dual Till approach as non-aeronautical revenues subsidise the targeted aeronautical tariffs under Single Till. Hybrid Till is the mixed approach wherein only a part of non-aeronautical revenues is subsidised while determining the charges. From a cash flow perspective, an airport operating under Dual Till would be better off as compared with one operating under the Single Till mechanism.

   In addition to the Till, the other key determinants for the rate of return methodology include regulatory asset base; the fair rate of return, which in turn requires determination of the cost of equity; ratio of apportionment of assets and expenses into aeronautical and non-aeronautical; and treatment of revenue generation from real estate, if any. While estimating the future tariffs for an airport, ICRA assesses the past regulatory decisions, the estimations of the variables mentioned and also the likely capital expenditure or cost overruns.

b. **Flexibility in rate revision:** Apart from the initial determination of the aeronautical tariffs, the next important part of assessing the cash flow generation of an airport is the mechanism agreed upon for revision in aeronautical tariffs, taking into consideration parameters such as capital expenditure undertaken, changes in operations and maintenance (O&M) expenses, traffic movement at the airport,

[4] *A major airport is one with passenger traffic exceeding 1.5 million.*

and trend in non-aeronautical revenue generation. Provisions to pass through such changes via a truing-up mechanism would help remove the uncertainties associated with them. Thus the frequency of tariff revision, the methodology to determine the same, and the timeliness of implementation of tariff revisions are important to ascertain the future revenue generation at an airport.

6. Operating Risk

Operating risk is the risk of the project not conforming to the required performance parameters over the period of the concession agreement. Airport operations are complex, involving multiple functions such as aeronautical operations, terminal operations, cargo handling, airport retail and commercial operations. Typically, the performance parameters are specified in the concession agreement pertaining to safety requirements and service levels. These would include compliance with international safety standards such as those specified by International Civil Aviation Organisation (ICAO). The service levels can pertain to terminal services, transfer process, check-in process, security check, baggage delivery, runway system, car parking, ease of navigation, adherence to a maintenance schedule, etc. Inability to manage the operations may lead to higher-than-projected O&M costs, which may impact the cash flows. Further, non-compliance with some of the performance parameters may constitute an “event of default”, with implications on the continuity of operations. Hence, assessment of experience of the airport operator, who may be different from the airport owner, is crucial. An airport operator with significant experience of managing similar business successfully is viewed favourably.

An important component of the O&M expenses for some airports may be revenue sharing with the government. Most of the companies that are currently developing airports through the PPP route in India have a revenue sharing agreement with AAI. In some cases, this revenue share was a bidding criterion for the award of the project to the company concerned. The revenue share percentage can be sizeable for some airports, and thus it can have a critical bearing on the viability of the project.

7. Transaction Structure Risk

While rating the debt related to an airport project, the transaction structure is reviewed to evaluate features available to provide additional protection to the lenders. Such features could include:

- Presence of strong escrow mechanism and ring fencing of cash flows to prevent any leakage of funds.
- The process by which the revenue streams are aggregated in collection accounts and subsequently transferred to the debt service reserve accounts (DSRA) after funding the O&M expenses.
- Availability of adequate funds in DSRA so as to cover debt servicing obligations for some months.
- Stipulation on minimum coverage ratios that must be met before payment to subordinate debt holders or declaration of dividends.
- Credit enhancement features like cash collateral for payment of interest during construction period, completion guarantees by sponsors, guarantee for debt servicing by other external entities, and accelerated prepayments on activation of triggers.
- Creation of minimum liquidity buffers either through cash collaterals or through standby letters of credit, for meeting revenue shortfalls, if any, because of disruptions in operations.
- Restriction on the project company to take on additional debt.
- Presence of an experienced trustee who would effectively control the project cash flows.

Transaction structure assumes greater importance in case the issuer is part of a business or corporate group and amongst the stronger entities in the group. A strong transaction structure, which prevents discretionary cash outflows from the issuer to the group entities, is viewed positively.

8. Counterparty Credit Risk

ICRA assesses the financial position of the counterparties and the strength of the payment security mechanism. For an airport operator, the key counterparties are the airlines and the tenants for non-

aeronautical revenue streams. The airport operator collects not only the aeronautical charges from an airline but also various levies such as passenger service fee (PSF) and development fees which are usually built into the ticket price. This exposes an airport operator to the risk of delays in payment from these airlines. Therefore, ICRA examines the financial profile of the major airlines operating at the airport. A sound financial profile of the airlines concerned would provide greater comfort on the likelihood of dues to the airport being paid on time. However, if the airline sector is going through a slowdown, it would have negative implications for the rating of the airport concerned. But a structured payment mechanism to directly remit certain user charges collected by the airlines into dedicated accounts of the airport operator would be considered a credit positive.

9. Force Majeure Risk

Like any infrastructure project, airport development projects are also vulnerable to force majeure events, given the single-asset nature of their operations. While this risk relates to the expected loss in the event of default rather than the probability of default, the presence of force majeure clauses in the concession agreement limits the issuers' liability arising from non-performance or underperformance. ICRA examines if, and the extent to which, the force majeure risks are mitigated through insurance contracts or by specific provisions in the concession agreement that cover such eventualities. These clauses include: termination clauses in the Concession Agreement; compensation payable in the event of termination because of any default by either the concessionaire or the operator or both; and sufficiency of this compensation to cover the debt outstanding. The strength of these mitigants influences the overall financial flexibility of the issuer.

10. Financial Risk Analysis

Any rated entity's financial profile is an important consideration from the credit perspective. While ICRA believes that a strong operating profile provides for a strong financial profile in the long term, the financial profile of an airport is also governed by the risk appetite and the growth plans of the management. For operating airports, the past and current financial position are analysed from the financial statements and from the financial ratios, and suitable adjustments made to the accounts to allow for a meaningful peer comparison. The key indicators in the analysis of an issuer's financial position include the following:

a. **Profitability:** Given the largely fixed cost nature of operations, the profitability of an airport is dependent on the revenue generation, which in turn is dependent on aeronautical tariffs and non-aeronautical revenue generation, besides revenues from real estate monetization and from other sources. Any adverse variation in tariffs has an impact on the company's revenues and cash generation. Profitability metrics including return on capital employed (ROCE) and return on net worth (RONW) are analysed over a long tenure to smoothen medium-term volatility because of changes in tariffs. ICRA assesses the ROCE in relation to the airport company's weighted average cost of capital. In a regulated tariff scenario, the long-term profitability of the airport company is largely protected.

b. **Gearing and coverage Indicators:** As airport projects are capital intensive, the extent of leveraging is inherently high. Generally, a long maturity profile and lower cost of loans can partially offset the risk associated with a high financial leverage. The debt coverage indicators examined include interest coverage ratio, ratio of net cash accruals to total debt, and debt service coverage ratio (DSCR).

c. **Scale of capital expenditure:** Depending on the capacity and traffic levels, an airport may face the need for major capacity expansion in the foreseeable future. ICRA examines the sufficiency of the balance cash accruals (after meeting scheduled repayment) to fund the equity margin required for financing such capital expenditure. If the projected levels of cash accruals (after repayments) are lower than the equity funding requirement, the airport company, despite a satisfactory projected DSCR, may find itself stretched on liquidity, which can negatively impact the rating.

d. **Liquidity and financial flexibility:** ICRA assesses the issuer entity's liquidity by analysing trends in cash collections from counterparties, trends in working capital limit utilisation, and the extent of dependence on short-term debt to meet any shortfall. ICRA also evaluates the issuer's relationships

with banks, financial institutions and other intermediaries; its financial flexibility, as reflected by its unutilised bank/credit limits and liquid investments; and the financial strength of the promoter group to infuse funds to meet cash flow shortfalls, if any.

e. **Adequacy of future cash flows:** Since the prime objective of the rating exercise is to assess the adequacy of the issuer's debt servicing capability, ICRA draws up projections on the likely financial position of the issuer under various scenarios. Future cash flows are projected after taking into account the aeronautical tariffs, traffic levels, trends in non-aeronautical revenue generation, interest cost, debt repayment schedule, working capital requirements, and other funding requirements. A critical component of the cash flow projections is future aeronautical tariffs, which in turn depend on the regulatory methodology, estimated capital expenditure, traffic projections, cost of capital, O&M expenses, non-aeronautical revenues, and debt funding plan. ICRA also does a scenario analysis to assess the average DSCR over the debt repayment period as well as the project Internal Rate of Return (IRR), with key variables being traffic levels, non-aeronautical revenue generation and cost of debt.

f. **Tenure mismatches, and risks relating to interest rates and refinancing:** Large dependence on short-term borrowings to fund long-term investments can expose an issuer to significant refinancing risks, especially during periods of tight liquidity. Existence of adequate buffers of liquid assets/bank lines, or adequate funding of DSRA, to meet short-term obligations are viewed positively. Similarly, the extent to which an issuer would be impacted by movements in interest rates is also evaluated.

g. **Foreign currency related risks:** Airport projects may face foreign exchange risks in case these are funded by foreign currency debt. The cash flows of an airport are largely denominated in domestic currency, with only some revenues from duty-free sales or any tariff levied on international passengers being foreign currency denominated. Thus the scope of a natural hedge remains limited for an airport. The airport company may choose to hedge its foreign exchange payment risk by taking a forward position, but for long-maturity debt such options may be limited or prohibitively expensive. ICRA therefore assesses the extent of natural foreign exchange hedge and the hedging policy of the company. Firm hedging, if not for the entire tenure of debt, then at least for near-term foreign exchange repayment commitments, is viewed positively.

h. **Accounting quality:** In assessing the accounting quality of an entity, the accounting policies, notes to accounts, and auditor's comments are reviewed. Any deviation from the Generally Accepted Accounting Practices is noted and the financial statements of the issuer are adjusted to reflect the impact of such deviations.

i. **Contingent liabilities and off-balance-sheet exposures:** In addition to the financial statements, ICRA also evaluates the likelihood of devolvement of contingent liabilities and off-balance sheet exposures as well as the financial implications of the same.

Summing Up

ICRA's credit ratings are a symbolic representation of its current opinion on the relative credit risk associated with the instrument being rated. This opinion is arrived at following a detailed evaluation of the issuer's business and financial risks, its likely cash flows over the life of the instrument being rated, and the adequacy of such cash flows vis-à-vis its debt servicing obligations.

As this note highlights, for airport SPVs, project risks assume importance during the implementation phase, while post-COD, it is the adequacy of cash flow generation vis-à-vis the debt servicing commitments that primarily influences the rating. Overall, ICRA has a more favourable opinion on projects that are conservatively funded, are promoted by strong sponsors, and that have favourable traffic flow characteristics. ICRA also draws comfort from the stability and predictability of the tariff fixing methodology, positive track record of non-aeronautical revenue generation, and presence of a strong airport operator with the requisite experience. ICRA also draws comfort from strong debt structure, characterised by debt

service reserve accounts, adequate major maintenance reserves, and the presence of a strong trustee who would effectively monitor the progress of the project. Airports which anticipate sizeable capital expenditure in the medium term, entailing debt funding, can witness pressures on rating, given the long gestation period of such projects.

ICRA Limited

CORPORATE OFFICE
Building No. 8, 2nd Floor, Tower A, DLF Cyber City, Phase II, Gurgaon – 122002
Tel.: +91 124 4545300; Fax: +91 124 4050424

REGISTERED OFFICE
Kailash Building, 11th Floor 26, Kasturba Gandhi Marg, New Delhi 110001
Tel.: +91 11 23357940-50; Fax: +91 11 23357014
Website: www.icra.in

Branches: **Mumbai**: Tel.: +91 22 24331046/53/62/74/86/87, Fax: +91 22 2433 1390 **Chennai**: Tel +91 44 24340043/9659/8080, 24330724/3293/3294, Fax +91 44 24343663 **Kolkata**: Tel +91 33 22878839 /22876617/ 22831411/ 22800008, Fax +91 33 22870728 **Bangalore**: Tel +91 80 25597401/4049 Fax +91 80 5594065 **Ahmedabad**: Tel +91 79 26584924/5049/2008, Fax +91 79 26584924 **Hyderabad**: Tel +91 40 23735061/7251, Fax +91 40 23735152 **Pune**: Tel +91 20 25520194/95/96, Fax +91 20 5539231