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Infrastructure

Infrastructure Airports

Blue skies and greenfield investments expected in this decade as COVID-19 clouds clear

FEBRUARY 2022

Foreword

The civil aviation industry in India has emerged as one of the fastest growing industries in the country over the past decade. India has become the third largest domestic aviation market in the world.

In 2020, COVID-19 pandemic had a massive impact on the Indian aviation sector with major companies facing losses and challenging times reducing the domestic air traffic by 60%.

However, with recovery in business activities and the desire to travel after being confined in homes for months, the domestic air traffic is showing green shoots of recovery since the beginning of the second quarter of 2021 compared to the 2020 levels.

In this report, we have intended to provide insights into the airports sector with a focus on public private partnership. The report talks about the need for building airport infrastructure as the projected passenger traffic is likely to reach 690M by 2030 on the back of robust growth in economy.

This report aims to provide various industry stakeholders including business leaders an overall perspective on the market.

The situation is evolving rapidly, and some of the expected scenarios might have slight variations. The report reflects our perspectives as of end of 2021.

We, at Praxis, look forward to continuing the discussion with our friends across sectors and exchanging notes.

Madhur Singhal
Managing Partner & CEO

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Key takeaways

- India's air travel demand had grown at a 11% CAGR over FY16-20, primarily driven by growth in domestic air travel, however, COVID-19 had a severe impact on air transportation resulting in a 85% decline in international travel and more than 60% decline in domestic travel in FY21
- Connectivity and transportation are the fulcrum for economic development and developing the right infrastructure is of paramount importance. Understanding the need for building airport infrastructure, the Government has laid out over INR 600B investments in next 2-3 years and significant push from schemes like RCS-UDAN
- Our hypothesis highlights a total of projected passenger traffic likely to reach 690M by 2030 and freight traffic is likely to reach at 5.8MMT by 2030. This translates to a requirement of 34 greenfield airports needed by 2025 and about 125 greenfield airports needed by 2030 to meet this projected traffic demand
- The greenfield opportunity size for airports in India by 2030 translates to about INR 2.3T, resulting in a huge opportunity in the current decade; The Government has already identified 16 greenfield projects with investment of more than INR 500B and given in-principle approval; Further, 34 destinations have been shortlisted for the development of new airports with major focus on Northern and Southern parts of the country
- Given the demand for 125 airports by 2030 and Government expediting development of 50 airports, this results in an unmet demand of 75 airports and net new investments to the tune of INR 1.1T
- Out of the estimated 75 new airports across all regions, North India is projected to witness the maximum number of new airports to cater to the unmet demand in future.

Executive summary

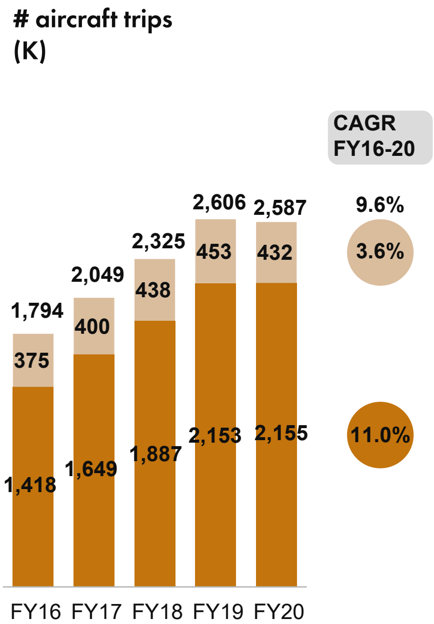
Air travel demand has grown significantly over the last 4-5 years, primarily due to growth in domestic air travel supported by new airports in tier 2 & 3 cities, UDAN scheme, connectivity initiatives and increased spending power. However, the COVID-19 pandemic had a severe impact on air transportation as countries put various lockdown measures to arrest the spread of the virus resulting in decline in international as well as domestic air travel in FY21.

However, post FY21, the aviation market started showing recovery and is expected to reach pre-COVID-19 levels in couple of years. To understand the growth in passenger traffic, we undertook a regression of GDP and travel to arrive at a projected passenger traffic of 690 M by 2030.

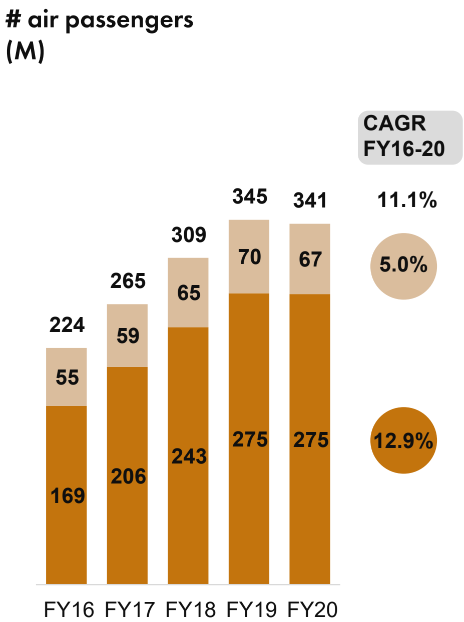
With present capacity, India needs an average additional 34 airports by 2025 and about 125 airports by 2030 to meet the 350-400 million additional passengers demand added by 2030. This further translates to about 150,000 acres of land for development and total capex requirement of INR 2.3T by 2030. The Government has already identified 16 greenfield projects and shortlisted 34 destinations for development of new airports which leaves an unmet demand of around 75 airports and net new investments to the tune of INR 1.1T, opening doors for strong PPP opportunities in airports. As per our analysis, North India is projected to witness the maximum number of new airports for catering to the unmet demand in future.

India's air travel demand grew at 11% CAGR over FY16-20 driven by growth in domestic air travel

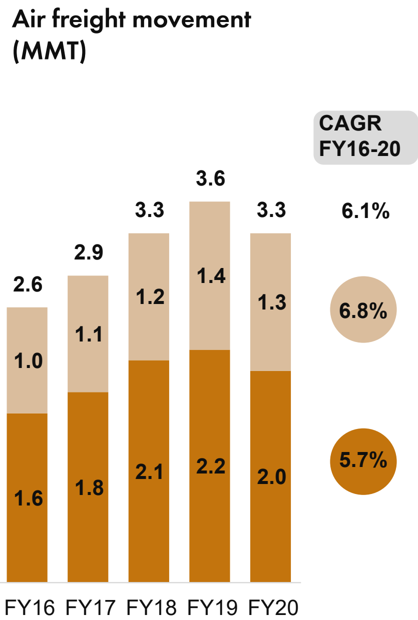
Aircraft trips have grown at 10% CAGR between FY16-20



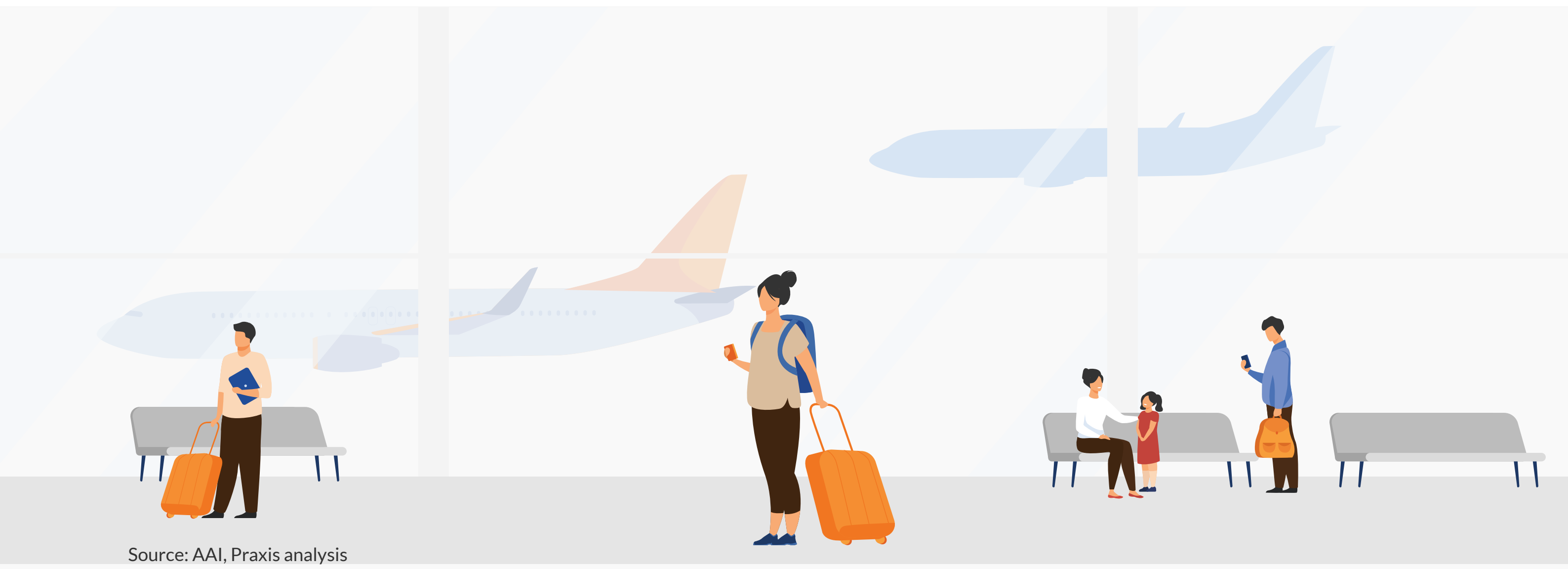
Driven by growth in air passengers at 11% CAGR over the same period



Cargo movement has grown at 6% CAGR over FY16-20



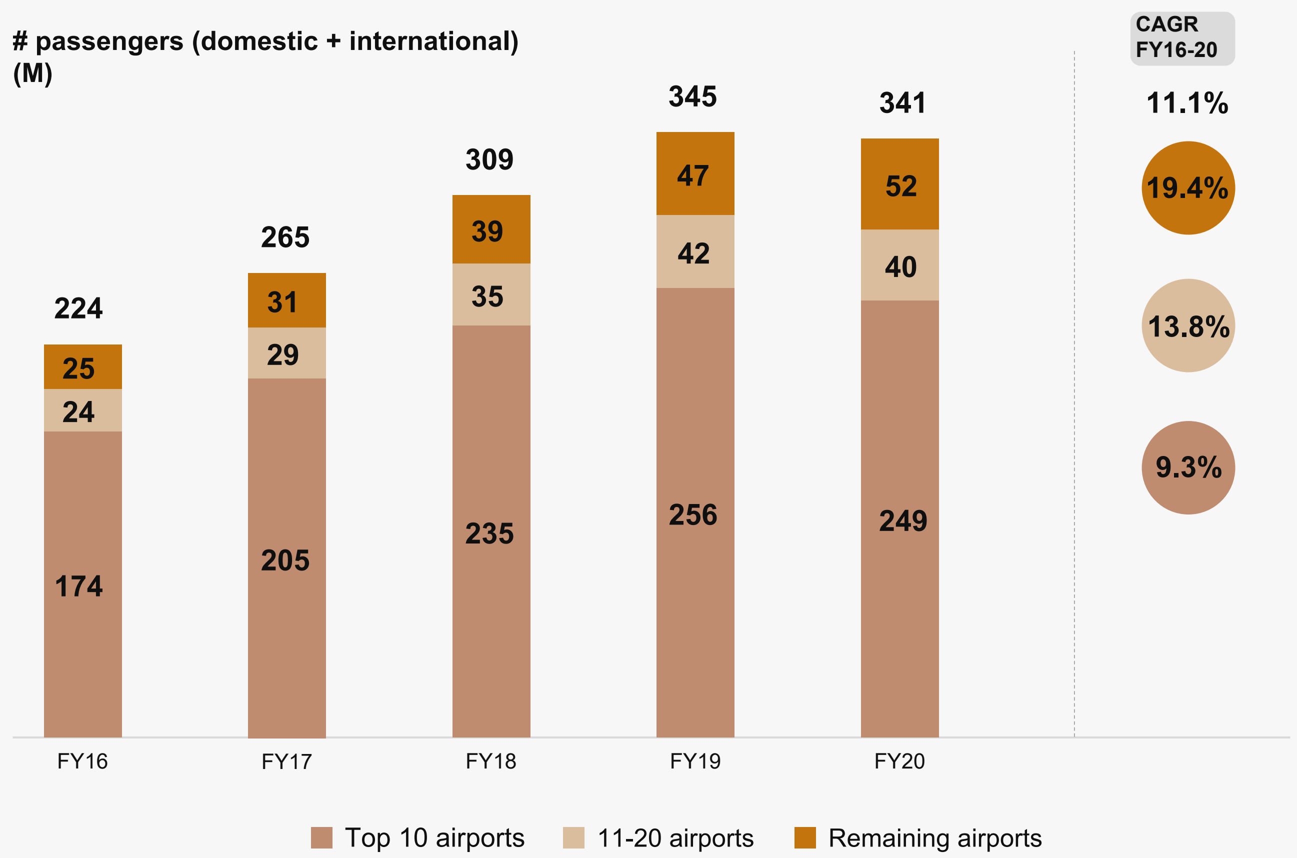
Domestic International

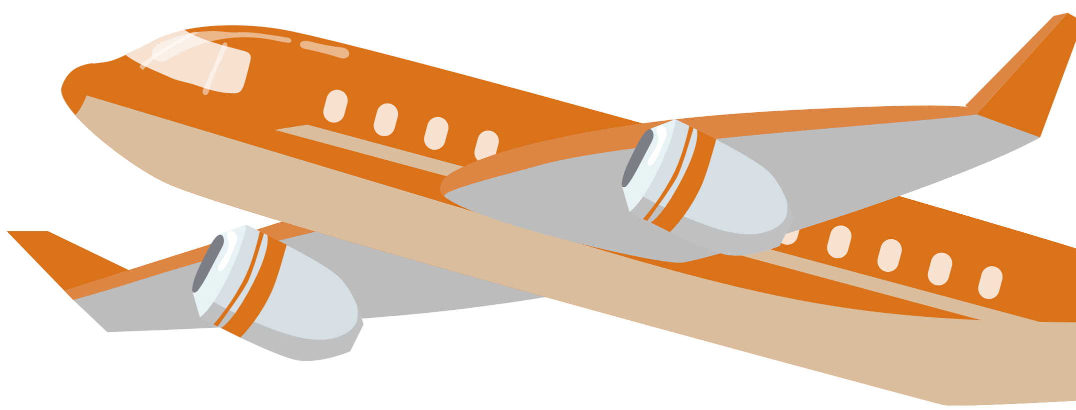


Source: AAI, Praxis analysis

Smaller airports in Tier 2 & 3 cities, UDAN scheme, connectivity initiatives and increased spending power have been driving this growth

Growth in aviation sector is driven by increasing passenger load at smaller airports



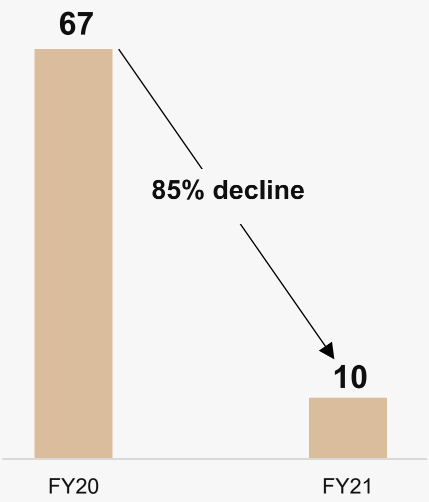


Source: AAI, Praxis analysis

COVID-19 impacted the aviation industry resulting in over 60% decline in international and domestic travel in FY21

International passengers fell by 85% post COVID-19

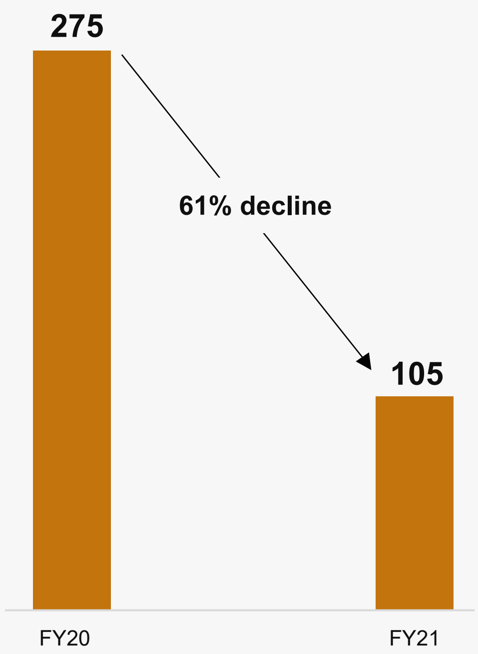
Decline in international passengers (M)



International passengers

Domestic passengers declined by 61% post COVID-19

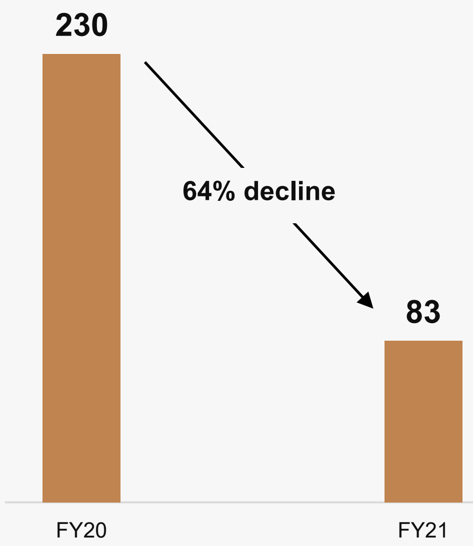
Decline in domestic passengers (M)



Domestic passengers

Operating revenue for airports fell by 64% post COVID-19

Decline in airport operating revenues (INR B)



Airport operating revenue

Sources: CAPA India, Praxis analysis

AAI owns and manages majority of country’s airports; the top 5 airports together cater to about 55% of the pax capacity in India

Airport infrastructure in India

- Airports in India #153
  - AAI managed #141
    - Domestic airports #114
      - Domestic airports #91
        - Operational #66
        - Non-operational #25
      - Domestic civil enclave #23
        - Operational #20
        - Non-operational #3
    - International airports #17
      - Operational #17
    - Custom airports #10
      - Operational #10
  - Private airports #12

- All the privately owned operational airports in India are international airports and AAI has some share in each
- Over and above, there are #327 other airports/airstrips in India which do not handle regular commercial passenger flight
- Total capacity of airports in India stand at about 370 million passengers per year and capacity utilisation was 92% in FY20

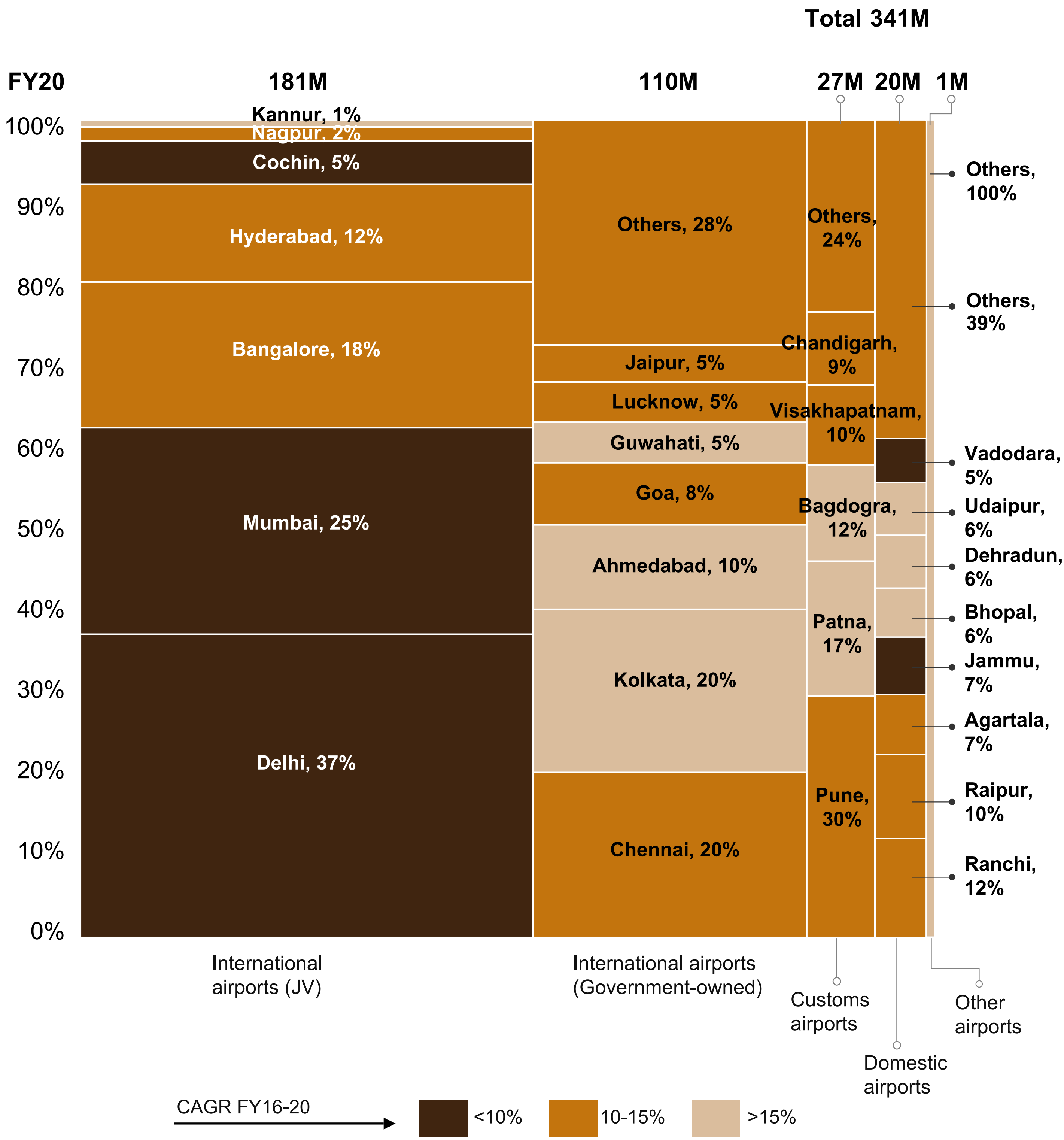
Major airports and terminal capacity (million pax per year) for the below 5 airports cater to about 55% of the entire capacity

Airport	Capacity
Delhi (DIAL)	75M
Mumbai (MIAL)	53M
Bangalore (BIAL)	28M
Kolkata	26M
Hyderabad (GHIAL)	21M

Note: # = No of airports
Sources: IBEF, AAI, secondary research

7 JV airports account for 53% of total passenger load in India; Kolkata, Ahmedabad and Guwahati are the fastest growing airports

Overview by # passengers
Domestic and International, FY20



Source: AAI, Praxis analysis

Aviation industry faced strong headwinds due to reduced air travel during COVID-19; increasing disposable incomes and propensity to travel act as levers for long-term growth

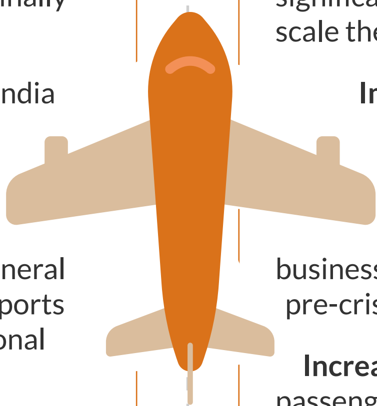
Headwinds

Unstable demand: Travel restrictions, including quarantines, has severly impacted demand. IATA estimates that travel (measured in revenue passenger kilometers or RPKs) will recover to 43% of 2019 levels over the year. This is a 26% improvement compared to 2020 but far from a complete recovery.

Slow pace of capacity return: Capacity is likely to recover at a slower pace than demand. Taking cargo and passenger traffic into account, the overall weighted load factor is expected to rise marginally a little to 60.3% in 2021.

Lack of international hub airport: India does not have an airport built on the lines of Singapore/Dubai airports to act as a transit hub. Lack of strong anchor airlines is one of the main reasons, and the general infrastructure at Delhi/Mumbai airports is insufficient to act as a major regional hub.

Ambitious capacity design: Ambitious projections have been made for traffic growth at smaller airports and their capacity has been augmented. However a number of airports have not been able to utilize their increased capacity.



Tailwinds

UDAN scheme and growing income: Government's initiative to connect smaller cities with air connectivity has enabled strong growth in smaller airports and increasing income levels have enabled people living in smaller cities to use air transport for travel.

Strong PPP plans in airports: The Government is actively working on increasing private participation in airport construction and operations. 6 airports have been recently privatized and the government ultimately plans to bring more under the ambit, thereby creating significant opportunity for private players to scale their operations.

Improved cargo performance: Cargo has outperformed passenger business throughout the crisis. That trend is expected to continue for few more years down the line. This puts the cargo business in positive territory compared to pre-crisis levels.

Increase in #aircraft: Significant growth in passenger demand has led to increase in number of aircraft. About 900 aircrafts are expected to be delivered over the next decade, which will lead to increased parking demand and higher aero revenues for airport operators.

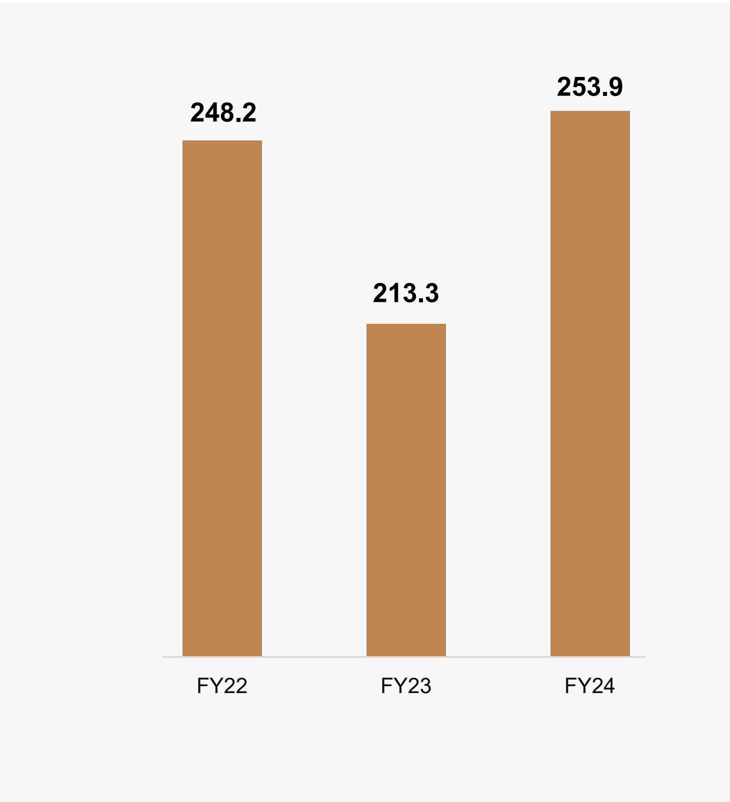
Steps towards digital competency: The acceleration of digital competency across demographic cohorts has helped in reducing the lead time at airports and reduced number of touchpoints which has helped in improving the customer relationship as well as the safety of travelers.

Digital penetration: Digital adoption has led to a reduction in lead time and touchpoints at airports resulting in greater safety for travelers.

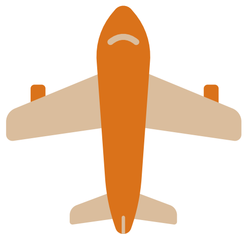
Sources: Secondary research, Praxis analysis

Government has budgeted INR 600B investments for airports over the next 2-3 years under schemes such as RCS-UDAN to boost airport infrastructure

Planned annual capital expenditure for airports FY22-24, INR B



RCS-UDAN plan update as of July 2021



- **99** Airports planned
- **52** Airports operational
- **780** Routes planned
- **363** Routes operational
- **33** Heliports planned
- **5** Heliports operational
- **12** Water aerodromes planned
- **2** Water aerodromes operational

Notes: RCS-UDAN – Regional connectivity scheme – UdeDeshkaAamNagrik; The NIP spent is for existing as well as new airports: Data captured is up to UDAN round 4.
Sources: National Infrastructure Pipeline (NIP), secondary research, Praxis analysis

Key trends to look out in the airports sectors

Passenger centric solutions:

Airports are implementing technologies that can help accelerate passengers' transactional activities such as check-in, baggage screening, security and customs. In turn, the positive travel experience is leading to a surge in non-aeronautical revenues for airports and their stakeholders.

Focus on blockchain:

Moving beyond the role in fintech sector, blockchain technology is being explored by airlines and airports to improve safety and aviation security operations. This includes recording and storing bookings, aircraft parts census and spares tracking.

Data on cloud:

The “cloudification” of business processes to streamline efficiencies, reduce upfront capital investments and offer elasticity to adapt to passenger demand is increasingly being considered by airports and airline companies.

Air traffic management:

Going forward, as air traffic grows, digitalizing air-traffic control will be the focus to improve transport safety and align with airports’ aim of running flight operations on time and improving passenger throughput.

Green airport:

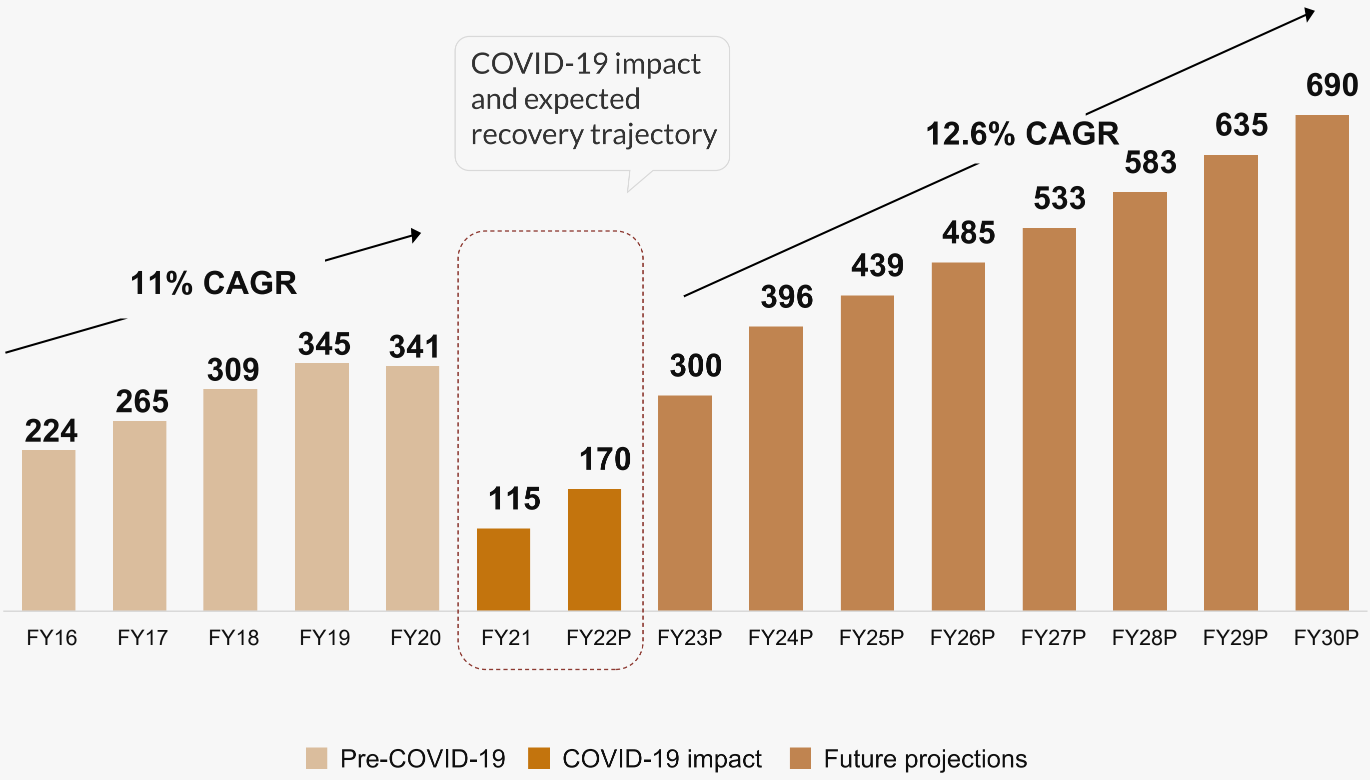
Steps towards managing the ecological footprint by reducing waste and improving efficiencies through technology will be another area of focus for airports as the industry implements 'going green' initiatives.

Sources: Secondary research, Praxis analysis

Praxis analysis: Passenger traffic is projected to reach 690M by 2030 based on GDP and travel regression

- Passenger traffic witnessed steady growth till FY20 and dropped by 66% due to COVID-19 restrictions in FY21
- Air traffic is on the road to recovery and expected to reach near pre-COVID-19 levels in FY23
- Passenger traffic is projected to grow at 12.6% CAGR between FY23-30

Passenger traffic trend (M)

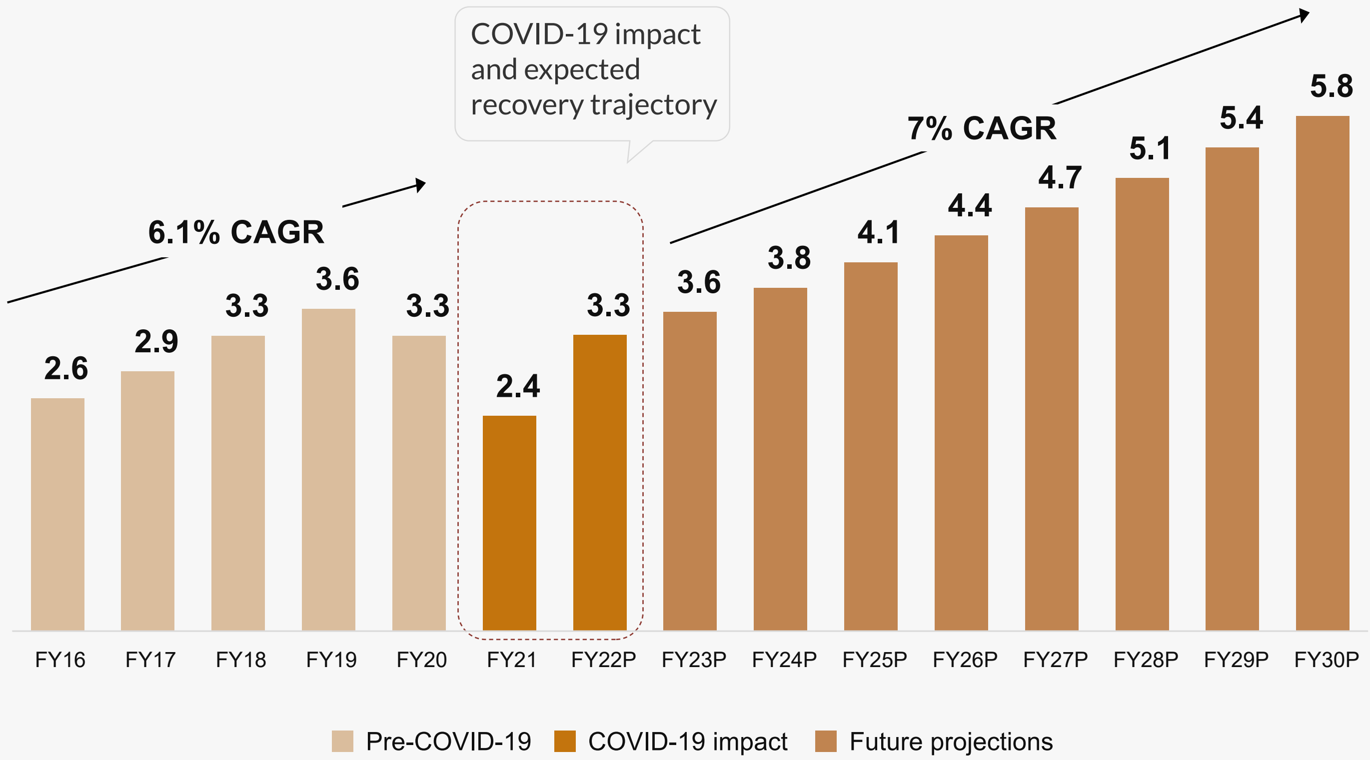


Notes: Recovery expected from FY23 to pre-COVID-19 levels
Sources: CAPA India, Secondary research, Praxis analysis

Praxis analysis: Freight traffic is expected to reach 5.8 MMT by FY30

- Freight traffic witnessed steady growth till FY20 and dropped by 27% due to COVID-19 in FY21
- It is on road to recovery in FY22. It is expected get back to pre-COVID-19 levels in FY23 and projected to grow at 7% CAGR between FY23-30

Freight traffic trend (MMT)

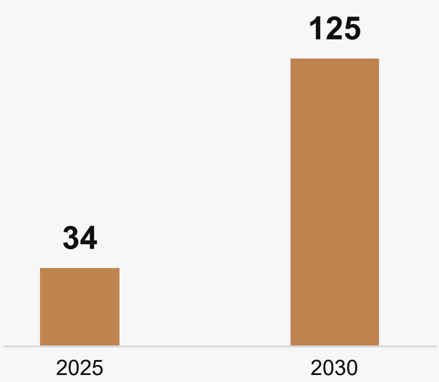


Notes: Recovery expected from FY23 to pre-COVID-19 levels
Sources: IBEF, Praxis analysis

India will require construction of 34 greenfield airports* by 2025 and about 125 by 2030 to address the projected traffic demand

Projected number of airports

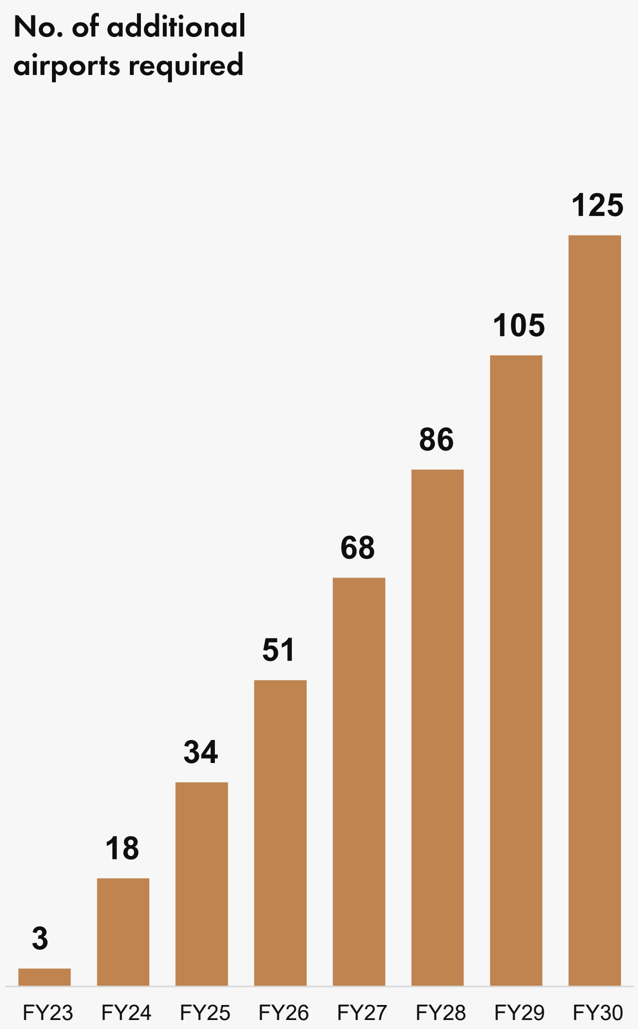
Number of additional airports required

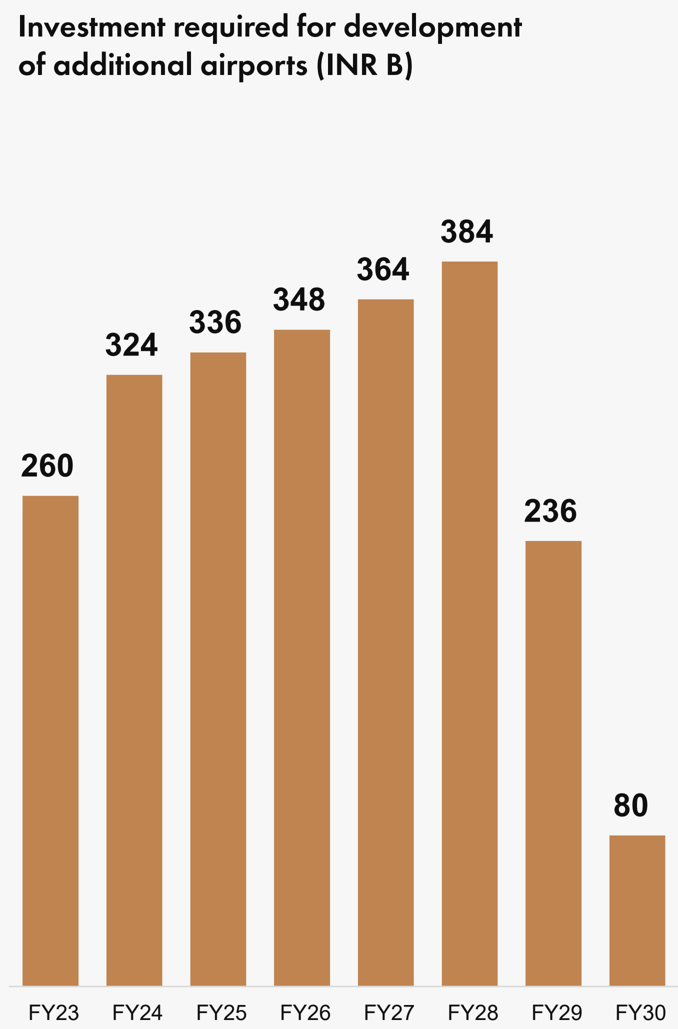


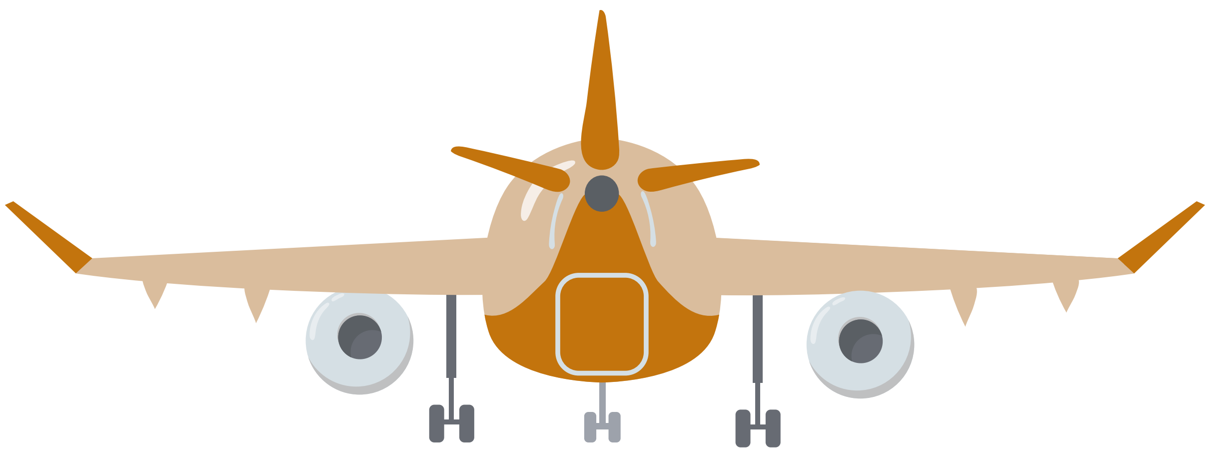
- Additional 350-400 million passengers to be added by 2030
- With present capacity, India needs an additional 34 airports by 2025 and about 125 airports by 2030
- This translates to about 150,000 acres of land for development
- Total capex requirement by FY25 would be INR 900B and by FY30 would be INR 2,300B

Notes: *Airports with capacity to handle 3M passengers annually; commissioning an airport with one runway and one terminal is estimated at 1,250 acres of land in India (Average of 3-4 mid-sized airports in India)
Sources: Secondary research, Praxis analysis

The greenfield opportunity size for airports in India by 2030 translates to about INR 2.3T





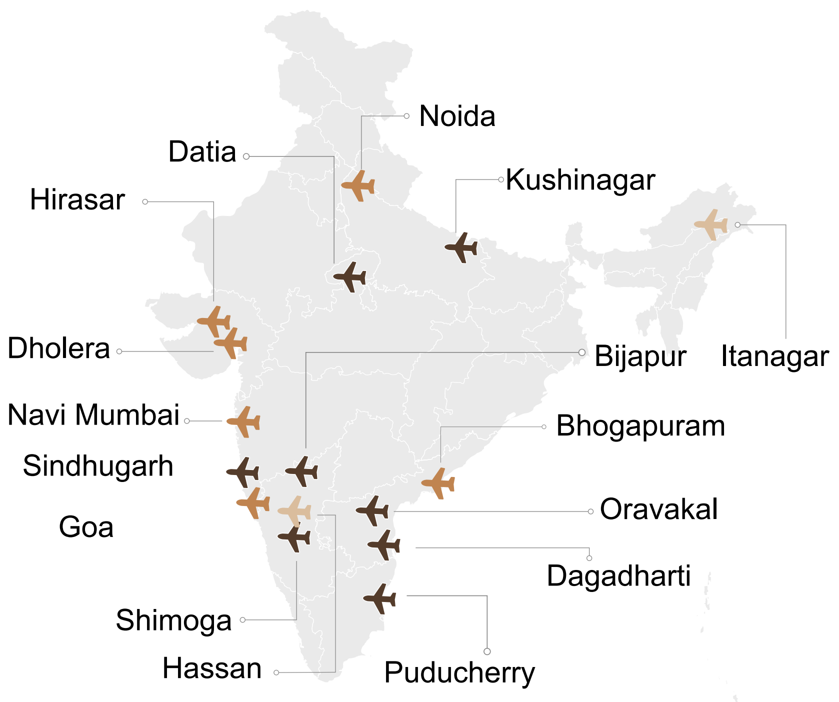


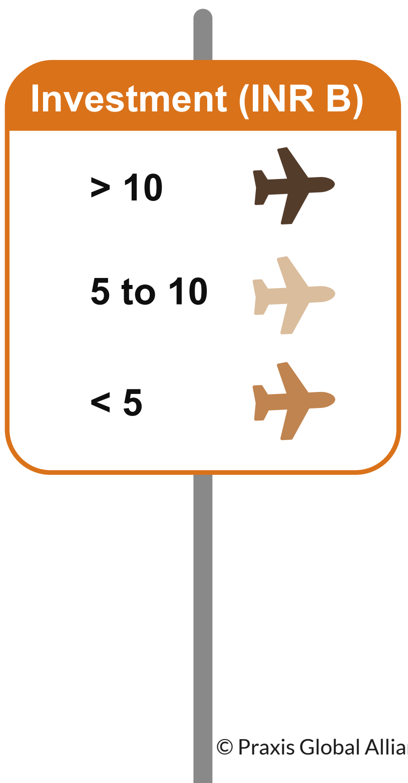
Notes: We have considered 2.5 years for development of an airport and investment considered as 4:4:2 ratio for 2.5 years. The average cost of airport development is estimated at INR 20B in India, average taken for 3-4 mid sized airports in India.
Sources: Secondary research, Praxis analysis

The Government has identified 16 greenfield projects with investment worth INR 500B and given in-principle approval

- In-principle approval given for 16 greenfield airports in India with total investment of INR 500B
- 6 airports are large sized projects with planned investment ranging from INR 14B to INR 167B

City	State	Region	Planned Investment (INR B)
Mopa	Goa	West	31.0
Navi Mumbai	Maharashtra	West	167.0
Sindhugarh	Maharashtra	West	4.5
Bijapur	Karnataka	South	1.5
Hassan	Karnataka	South	5.9
Shimoga	Karnataka	South	0.4
Datia (Gwalior)	Madhya Pradesh	Central	2.0
Kushinagar	Uttar Pradesh	North	4.5
Noida	Uttar Pradesh	North	157.5
Dholera	Gujarat	West	56.6
Hirasar	Gujarat	West	14.1
Karaikal	Puducherry	South	0.5
Dagadharti	Andhra Pradesh	South	3.7
Bhogapuram	Andhra Pradesh	South	42.1
Oravakal	Andhra Pradesh	South	1.4
Hollongi	Itanagar	East	9.6



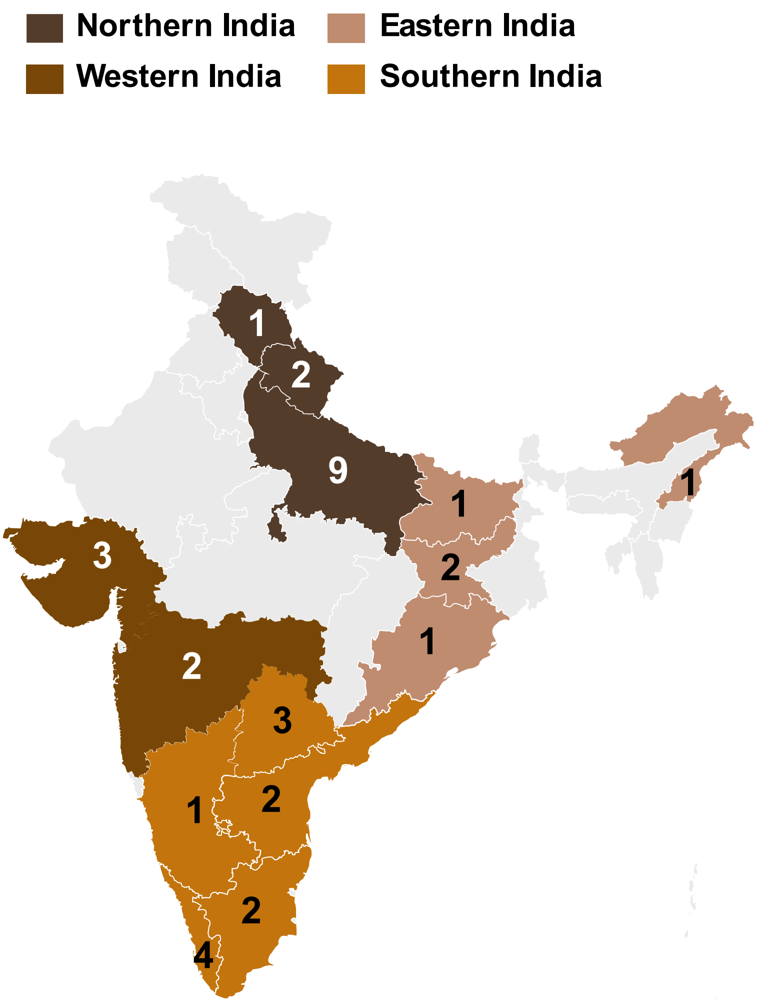


Sources: National Infrastructure Pipeline (NIP), Praxis analysis

Further, 34 destinations have been shortlisted for development of new airports with focus on Northern and Southern parts of the country

List of cities shortlisted for development of new airports in future

City	State	Region
Kuppam	Andhra Pradesh	South
Nellore	Andhra Pradesh	South
Bihata	Bihar	East
Ankleshwar	Gujarat	West
Rajkot	Gujarat	West
Rajpipla	Gujarat	West
Mandi	Himachal Pradesh	North
Deoghar	Jharkhand	East
Dhalbhumgarh	Jharkhand	East
Karwar	Karnataka	South
Bakal	Kerela	South
Sabarigiri	Kerela	South
Sabarimala	Kerela	South
Thiruvambady	Kerela	South
Chandrapur	Maharashtra	West
New Pune	Maharashtra	West
Aligarh	Uttar Pradesh	North
Azamgarh	Uttar Pradesh	North
Bareilly	Uttar Pradesh	North
Chitrakoot	Uttar Pradesh	North
Faizabad	Uttar Pradesh	North
Jhansi	Uttar Pradesh	North
Moradabad	Uttar Pradesh	North
Muirpur	Uttar Pradesh	North
Shravasti	Uttar Pradesh	North
Dhamra	Odisha	West
Mahe	Puducherry	South
Yanam	Puducherry	South
Kothagudem	Telangana	South
Nizamabad	Telangana	South
Ramagundam	Telangana	South
Chaukhutia	Uttarakhand	North
Gauchar	Uttarakhand	North
Kohima	Nagaland	East



Notes: Recovery expected from FY23 to pre-COVID-19 levels
Sources: CAPA India, Secondary research, Praxis analysis

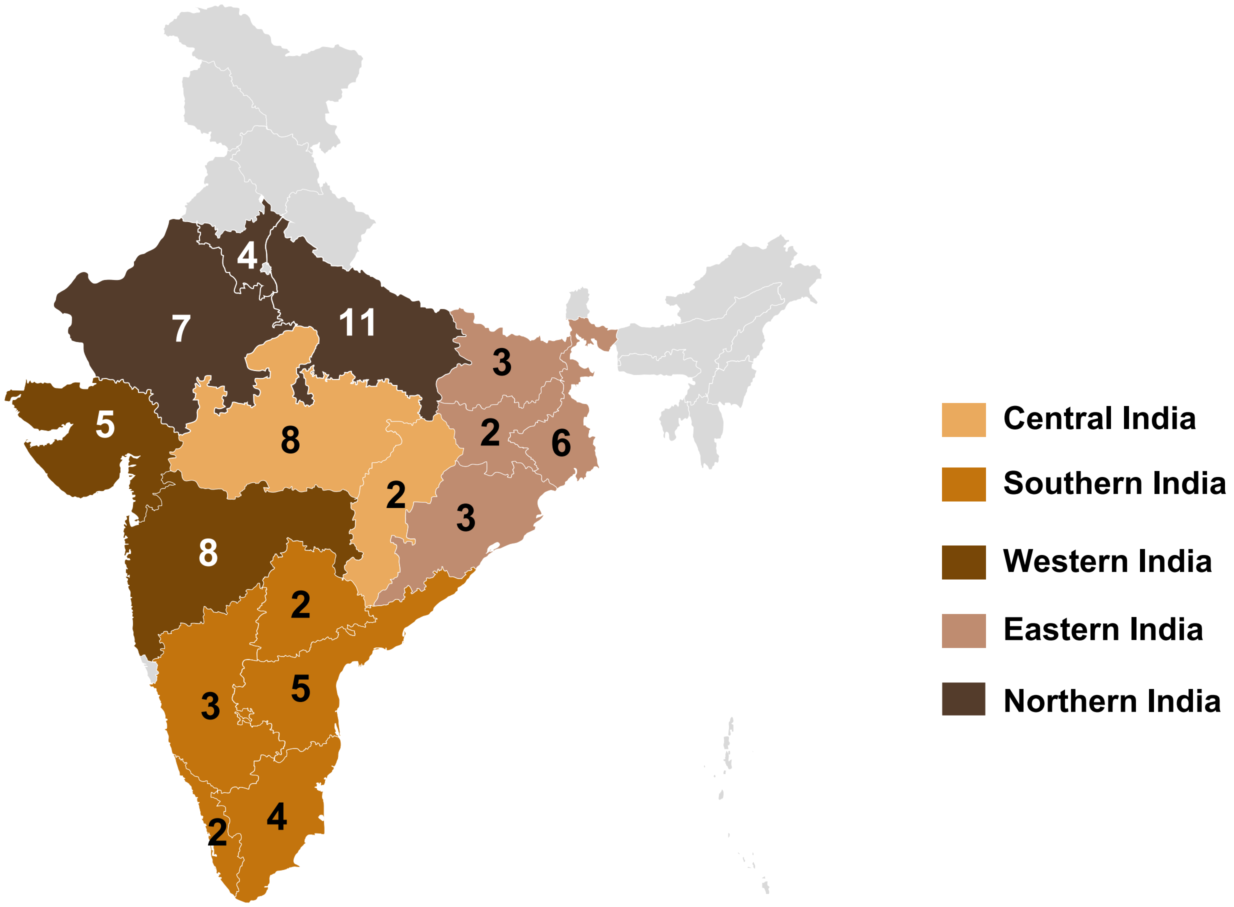
Given the demand for 125 airports by 2030 and Government undertaking to build 50 airports, there is a shortfall of 75 airports. Net new investments are INR 1.1T

Opportunity potential	No of airports	Investment (INR B)
Demand for airports by 2030 (based on the hypothesis for GDP growth)	**125**	**2,300**
Supply - Airports under construction stage	**16**	**500**
Supply - Airports announced/ in planning stage	**34**	**680**
Further potential of airports as per unmet demand	**75**	**1,120**

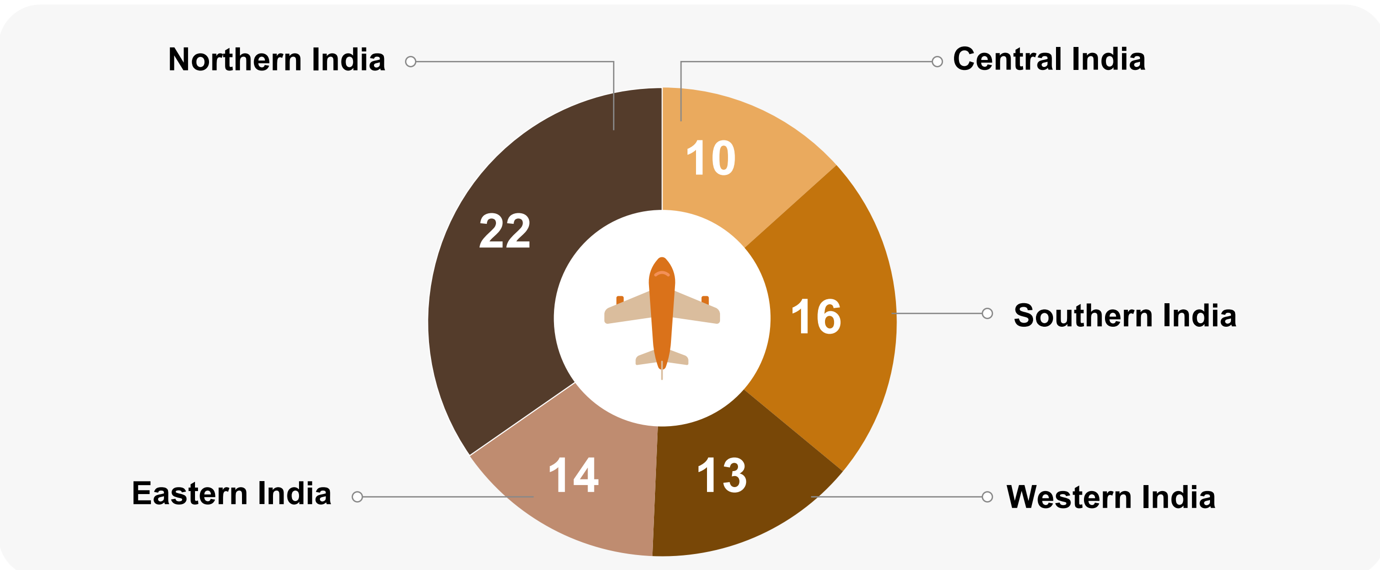
- As the Government focus is on privatization/PPP, this greenfield investment would be largely centered around private players investing in the sector
- In addition, the monetization of brownfield airports under National monetization pipeline (NMP), presents a significant opportunity for private players and private equity funds
- Building scale and regional focus would be the key areas of development for the private sector

Notes: The average cost of airport development is estimated at INR 20B in India based on the average of 3-4 mid sized airports in India. As we move to tier 2 and tier 3 cities, the average cost estimated is INR 15B
Sources: Praxis analysis

Out of the 75 new airports, the North India region is projected to witness the maximum number of new airports to cater to the unmet demand in future



Region wise new airports



Source: Praxis Global Alliance

Key cities identified for potential new airports

Region	State	Cities
Central India	Madhya Pradesh	Ujjain, Ratlam, Rewa, Katni, Dhar, Burhanpur, Bhind, Shivpuri
	Chhattisgarh	Surguja, Durg
Southern India	Karnataka	Davanagere, Tumkur, Hospet
	Andhra Pradesh	Guntur, Kakinada, Anantpur, Ongole, Nandyala
	Telangana	Karimnagar, Khammam
	Kerala	Thrissur, Palakkad
	Tamil Nadu	Tirunelveli, Mamandur, Tiruppur, Nagercoil
Western India	Gujarat	Kutch, Junagadh, Morbi, Banaskantha, Sabarkatha
	Maharashtra	Gondia, Bhiwandi, Satara, Sangli Miraj Kupwad, Malegaon, Ahmednagar, Parbhani, Bhusawal
Eastern India	West Bengal	Nadia, Birbhum, Kharagpur, Haldia, Berhampore, Raiganj
	Bihar	Bihar Sharif, Begusarai, Katihar
	Jharkhand	Hazaribagh, Palamu
	Odisha	Ganjam, Sambalpur, Balasore
Northern India	Haryana	Rohtak, Panipat, Yamunanagar, Sirsa
	Uttar Pradesh	Saharanpur, Aligarh, Mathura, Shahjahanpur, Biznor, Maunath Bhanjan, Hapur, Sambhal, Fatehpur, Orai, Bahraich
	Rajasthan	Ajmer, Bhilwara, Alwar, Bharatpur, Sikar, Pali, Ganganagar

Specific practitioner expertise

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Managing Partner & Co-Founder

Suman Jagdev
Partner
Infrastructure

Savio Monteiro
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Milan Banthiya
Associate
Infrastructure

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Investment Advisory
Commercial due diligence, Target scan, Post-deal value creation

Enablement & Implementation
MVP/Pilot Implementation, New business incubation

Connect with us

We will be happy to share perspectives

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