Grant Thornton

IAMAI
Internet And Mobile Association Of India

Travel Tech 2.0

The next phase of digitally empowering the Indian traveller

Content

Foreword

I am delighted to welcome you to the 'Travel Tech 2.0: The next phase of digitally empowering the Indian traveller' – a comprehensive analysis of online travel and its impact on ground transportation services in India. As the Indian travel space undergoes a rapid transformation, this report offers valuable insights into the role of technology in driving accessibility, efficiency, and growth within the industry.

The Indian travel sector stands as a vital pillar of our economy, contributing significantly to GDP and generating millions of jobs. This growth is fuelled by the rise of domestic and international travel, and online travel agencies (OTAs) have emerged as key catalysts in this transformation. By leveraging technology, OTAs have made travel more accessible to a wider audience, simplifying bookings and enhancing the overall experience.

This report, compiled by the Internet and Mobile Association of India (IAMAI) and Grant Thornton Bharat as the knowledge partner, delves deep into the impact of OTAs on ground transportation services, specifically focusing on the bus sector. It highlights the remarkable growth witnessed in this domain, driven by a combination of factors:

- **Government initiatives:** The continuous development of infrastructure and the entry of major private players have significantly improved accessibility and connectivity.
- **Consumer adoption:** Increased mobile penetration and smartphone usage have empowered consumers to readily embrace digital booking platforms.
- **OTA partnerships:** Collaborations between OTAs and bus service providers have streamlined booking processes and offered greater convenience.

While the report celebrates the progress achieved, it also acknowledges the untapped potential that lies ahead. The survey findings reveal that a significant portion of bus ticket bookings still happen offline, despite widespread mobile ownership. This underscores the need to address existing barriers and encourage digital adoption further.

The report serves as a valuable resource for:

- **Industry leaders:** Gain insights into consumer preferences and evolving trends to shape future strategies and services.
- **Policymakers:** Understand the impact of technology on ground transportation and formulate policies that foster innovation and growth.
- **Travel enthusiasts:** Gain valuable information about the latest technology and booking platforms to enhance their travel experiences.

This report is not merely an analysis; it is a call to action. It encourages us to embrace innovation, bridge the digital divide, and work collaboratively to shape the future of ground transportation in India. By harnessing the power of technology and tradition, we can create a travel landscape that is accessible, efficient, and enjoyable for all.

On behalf of IAMAI, I invite you to explore the report and engage in the conversation. Let us work together to unlock the full potential of travel technology and ensure that every journey in India is a journey of discovery and delight.

Vikash Jalan

Chair, Travel Tech Committee, IAMAI
Chief Business Officer, Paytm Travel

Online travel agencies (OTAs) are not just platforms, they are a catalyst for shaping a vibrant travel ecosystem. By giving the power of choice in the hands of the end user, OTAs have democratised travel and become the modern travellers' trusted companions to craft their ideal journeys with a few taps on a screen. However, the opportunity is massive as the penetration of OTAs for last-mile travel through buses and rail continues.

Picture this: It's the early 1990s and you want to take a trip to the south of India. You would probably reach out to a travel agent face-to-face or spend hours, sometimes days, to book your tickets, hotel, etc. Cut to 2024, you can plan a local or international trip end-to-end within hours online.

Over the past decade, India's OTA market has experienced remarkable growth on the back of factors such as increasing internet penetration, widespread smartphone adoption, and a burgeoning middle-class population with disposable income. These aggregators act as facilitators, providing a unified online platform for booking various travel-related services, from flights and hotels to transportation and holiday packages. The ease and seamlessness offered by OTAs have redefined the travel experience, turning them into indispensable tools for millions of discerning travellers.

India's commitment to robust transportation infrastructure, exemplified by its extensive road network, plays a pivotal role in this evolution. Buses and trains, integral components of the nation's mobility landscape, complement the advancements brought about by OTAs, contributing to the seamless connectivity of diverse destinations

In this report, we delve into the multifaceted dynamics of the travel and tourism industry, examining how technology, consumer preferences and innovative platforms, such as OTAs, interconnect. Digital transformation has become a cornerstone, for industry stakeholders, policymakers, and enthusiasts alike, guiding us toward a future where innovation and tradition harmoniously coexist, shaping a #VibrantBharat.

Deepankar Sanwalka

Senior Partner,
Grant Thornton Bharat

Executive summary

In the heart of the Indian subcontinent, a dynamic economic surge is driving India to leap from the fifth to the third-largest global economy by 2027. With over 68,000 kilometres of routes and transporting more than 2.3 crore passengers daily, the travel sector is not just a mode of transit but a cornerstone of the Indian economy, contributing around 5% to the GDP. Indian railways, the world's fourth-largest network, annually transports over 850 crore passengers, forming the backbone of industrial and agricultural supply chains. Modernization initiatives, including dedicated freight corridors and high-speed rail projects, enhance efficiency. The extensive bus network, ranging from daily commutes to long-distance pilgrimages, fulfils diverse travel needs. The sector's evolution, marked by private players and luxury segments, alongside government initiatives, is transforming the transportation landscape.

The emergence of online travel aggregators (OTAs) has significantly transformed India's travel and tourism industry. Over the last decade, robust growth in the OTA market has been propelled by factors like increased internet penetration, widespread smartphone adoption, and a burgeoning middle-class with disposable income. Serving as intermediaries, OTAs play a pivotal role by offering a unified online platform for booking various travel services, including flights, hotels, transportation, and holiday packages. With technology evolving, consumer preferences have shifted towards the convenience and efficiency provided by these platforms, making OTAs a critical and integral component of the contemporary travel landscape in India.

The analysis of the bus sector indicates that the Stage-carriage bus industry in India is anticipated to reach a valuation of INR 104,000 crore by 2026, exhibiting a CAGR of 6.15% for State Transport Undertakings (STUs) and 7.19% for private buses. The top five states with the highest Total Addressable Market (TAM) from state-run buses are projected to be Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh, and Uttar Pradesh. Similarly, the top five states with the highest TAM for privately operated buses are expected to be Uttar Pradesh, Maharashtra, Rajasthan, Punjab, and Haryana. The primary survey, spanning eight cities including seven metros (Ahmedabad, Bengaluru, Chennai, Delhi, Kolkata, Mumbai, and Pune) and one non-metro (Indore), focused on equal proportions of intercity and intracity travellers. Among the 1,400 respondents, 90% possessed smartphones, while only 10% utilized feature phones. Surprisingly, despite widespread smartphone ownership, a mere 36% of respondents favoured mobile apps for ticket booking, indicating a substantial untapped potential in the market. Notably, the predominant mode of ticket procurement remains offline, with 66% opting for physical counters, while 34% utilize various online methods. The survey underscores user preferences, with 64.34% emphasizing the significance of real-time seat availability and reservation features. Transparency in pricing emerges as a key concern, as 77.89% of users express apprehensions about additional fees.

The analysis of the rail sector reveals a negligible growth in the passenger traffic. It is yet to fully recover from COVID-19 Pandemic. However, freight traffic remains resilient against pandemic disruptions. Over the last six years, gross revenue from reserved tickets exhibits growth at 6-7%, while unreserved tickets reflect a negative CAGR of 6%. The average revenue per passenger for both reserved and unreserved categories has witnessed scant growth, suggesting limited adjustments in fare structures. In overall ticket bookings, online transactions display a robust 12% CAGR (excluding pandemic years), with OTA/agents constituting 33% and IRCTC's Rail Connect app securing a significant share at 47% in overall online reserved ticket booked. Despite a stagnant passenger count, online ticket bookings are on an upward trajectory. The projection for the next three years anticipates a 5% CAGR growth in passengers for AC classes, while total passenger figures are expected to show marginal growth at 1%.

Introduction

The interplay of travel, technology, and India's economic growth

India, a land of vibrant tapestry, stands poised on the precipice of a dynamic economic surge. As the fifth largest economy in the world, and projected to be the third by 2027, its internal growth engine – the travel sector – hums with immense potential. The bus and train travel sector, with its deep-rooted connections to India's vast landscape and diverse populace, stands at the cusp of a transformative era.

Historically, buses and trains have been the lifeblood of Indian travel, weaving threads of connection across bustling cities, remote villages, and everything in between. They are not mere modes of transportation; they are arteries of opportunity, pulsating with the dreams and aspirations of millions.

Indian railways, the world's fourth largest network, carried over 850 crore passengers annually (pre-Covid), connecting thousands of towns and cities across the vast expanse of the nation. Its freight movement serves as the backbone of India's industrial and agricultural supply chains. Modernisation initiatives such as dedicated freight corridors and high-speed rail projects are further amplifying its efficiency and reach.

India's vast network of intercity and intracity buses caters to billions of passengers annually. These affordable and accessible vehicles cater to diverse travel needs, from daily commutes to long-distance pilgrimages. The rise of private players and luxury segments, alongside government initiatives like smart bus systems, are transforming the sector's landscape.

The travel sector stands as a vital contributor to India's economic fabric. Direct and indirect contributions to GDP hovered around 5.2% reflecting a robust and significant contribution. Employment generation in the sector also witnessed positive trends, with direct and indirect jobs reaching 75.85 million in 2018-19, constituting 14.87% of total jobs.

However, the traditional travel landscape is rapidly changing in India. Technological advancements, dubbed 'Travel tech' are revolutionizing the way we experience these journeys. Online booking platforms have replaced serpentine queues, dynamic pricing algorithms offer personalized fares, and AI-powered chatbots answer queries with tireless efficiency. From e-wallets enabling seamless transactions to in-train entertainment options, travel tech is transforming the user experience, infusing convenience and comfort into every mile.

This growing symbiosis between the traditional travel giants and the innovative spirit of travel tech necessitates a deep dive into the sector's dynamics. A comprehensive report is crucial to unraveling the intricate tapestry of growth prospects, challenges, and opportunities. We must understand how travel tech is impacting the traditional players, how it is shaping consumer preferences, and where the future lies for this dynamic duo. Therefore, this report is an attempt to:

Unravel the growth prospects

Analyse the economic drivers and policy initiatives propelling the travel sector's growth, forecasting trends and future potential.

Decipher the travel tech landscape

Explore the various facets of travel tech, from booking platforms and dynamic pricing to AI-powered solutions and emerging trends.

Assess the impact on traditional players

Evaluate how travel tech is impacting the operations and business models of bus and train operators, identifying challenges and opportunities.

Uncover consumer preferences

Understand how travel tech is shaping user experiences and travel choices, highlighting future demands and expectations.

Chart the road ahead

Provide actionable insights and recommendations for stakeholders, investors, and policymakers to navigate the dynamic landscape of travel tech in the Indian bus and train sector.

India’s macro economic indicators and growth story

India's macro economic indicators and growth story

Particulars	Current status	Insights
GDP	USD 3732.22 billion (2023), 5th largest economy.	One of the largest travel tech markets in the world. Higher GDP often correlates with increased consumer spending and a growing economy. A robust GDP growth rate indicates economic expansion, leading to more disposable income for travel and tourism.
GDP growth rate	7.2 % (2022)	
Per capita GDP	2410.9 USD (2022)	Per capita GDP measures the average economic output per person. Higher per capita GDP generally implies a higher standard of living and increased affordability for travel and leisure activities.
Population	1.42 billion (2022)	Largest demographic in the world. A larger population can signify a larger potential market for travel services.
Population age	As of 2021, more than a billion population is aged 15 years or more, constituting three fourths (67.8%) of the total population.	Younger populations more inclined towards travel and technology adoption, influencing the demand for travel tech services.
Urban population	Over one in three (36%) Indians live in an urban location, as of 2022.	Urban areas and towns are likely to have higher connectivity, better transportation infrastructure, and a higher concentration of potential users for travel tech services.
No. of towns	According to Census 2011, the country has 5,705 towns (population up to 100,000), a massive base for the next wave of online travel adoption.	
Active internet users	Around 75.9 crore active Internet users in India as of 2022, Internet penetration stands at 52%.	The world's lowest data tariffs allow Indians across the socio-economic strata to access catena of public and private services on mobile devices. Greater Internet access leading to greater visibility, awareness, and discovery of online travel services.
Internet users' profile	Top 9 cities accounting for 33%, larger villages accounting for 82% concentration.	
Smartphone user base	In 2023, the penetration rate of smartphone in India reached 71%, and is estimated to reach 96% by 2040.	The proliferation of affordable smartphones has further catalysed the uptake of travel-tech services. A larger smartphone user base is likely to contribute to the growth of mobile-based travel solutions.

Particulars	Current status	Insights
Data cost	India is the one of the cheapest markets in terms of data cost, at USD 0.17 per GB in 2022.	Affordable and wireless data is essential for the widespread use of travel tech apps. Lower data costs may encourage more people to engage with online travel platforms, contributing to the growth of the sector.
UPI transactions	117,608 million transactions in 2023. 121.5 trillion worth of transactions in 2023.	India has established itself as a forerunner in digital payments, further accelerating the consumption of travel and ticketing.

Travel tech – Economic catalysts

Young and progressive demographic

Growing internet and broadband penetration

Affordable access devices

Per capita GDP growth - Affordability

Increased propensity for credit

Growth in digital transactions

Figure 1: Economic catalysts of travel tech

Travel sector and travel tech overview

Travel and tourism sector of India – An overview

The sector demonstrated a consistent upward trajectory in its contribution to GDP and employment from 2017-18 to 2019-20. Direct and indirect contributions to GDP hovered around 5.2% reflecting a robust and significant contribution. Employment generation in the sector also witnessed positive trends, with direct and indirect jobs reaching 75.85 million in 2018-19, constituting 14.87% of total jobs. The downturn can be attributed to the COVID-19 pandemic.

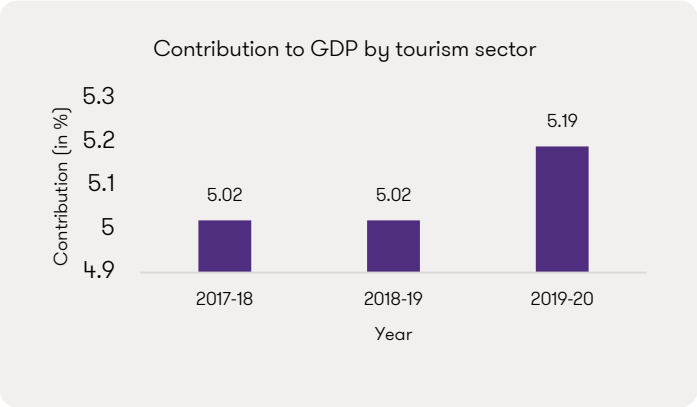


Figure 2: Contribution to GDP and Employment Generation by Tourism Sector

Contribution to GDP[1]

Year	2017-18	2018-19	2019-20
Share in GDP (in %):	5.02	5.02	5.19

Employment generation

Year	2017-18	2018-19	2019-20	2020-21
Direct + Indirect jobs due to tourism (in million)	72.69	75.85	69.44	68.07
Share in jobs (in %):	14.78%	14.87%	13.50%	12.91%
Direct (in %)	6.44	6.48	5.89	5.63
Indirect (in %)	8.34	8.39	7.61	7.28

The statistics given above reflects the robust growth and potential of the travel and tourism industry in India that has also put it on the global map. It is one of the top 10 travel and tourism markets in the world in terms of its contribution to the GDP.

1 Page 122: https://tourism.gov.in/sites/default/files/2023-02/MOT%20Annual%20Report_2022-23_English.pdf

Total contribution of travel and tourism as percentage of GDP

S. No.:	Country (G20 Nations)	% of GDP 2021
1	United States	5.5%
2	China	4.6%
3	Germany	6.4%
4	Japan	4.2%
5	Italy	9.1%
6	**India**	**5.8%**
7	France	6.5%
8	Mexico	13.1%
9	United Kingdom	5.7%
10	Spain	8.5%
11	Brazil	6.4%
12	Canada	4.4%
13	Australia	4.7%
14	Russia	3.7%
15	Turkey	7.3%
16	Saudi Arabia	6.5%
17	South Korea	2.7%
18	Argentina	7.0%
19	Indonesia	2.4%
20	South Africa	3.2%

The travel industry demonstrated a striking resurgence during the fiscal year 2023, rebounding significantly from the adverse effects of the pandemic. Projections indicate that this recovery is not just a temporary upswing but rather a trajectory set for exponential growth.

The data paints a vivid picture of India's travel landscape, showcasing not only a rebound from the challenges posed by the pandemic but also a robust trajectory towards becoming a major player in the global travel sector. **The country's allure as a tourist destination is evidently on the rise, with a promising outlook for continued growth in the years to come.**

The Indian government has acknowledged the significance of the travel and tourism sector, unveiling various initiatives and policy measures in recent years to bolster the industry.

- The Ministry of Tourism has overhauled the programme, introducing Swadesh Darshan 2.0 with a comprehensive mission to foster sustainable and responsible tourism destinations nationwide. Following a thorough assessment, the scheme has been revamped. Under the banner of 'vocal for local,' the revised initiative, **Swadesh Darshan 2.0,** is geared towards achieving 'Aatmanirbhar Bharat' by unlocking India's complete potential as a tourism destination.
- Launched in the fiscal year 2014-15, the **PRASAD (Pilgrimage Rejuvenation and Spiritual Augmentation Drive)**[2] initiative concentrates on the enhancement and identification of pilgrimage sites throughout India to enrich the religious tourism experience. Its objective is to systematically integrate pilgrimage destinations in a prioritised, well-planned, and sustainable manner, ensuring a comprehensive religious tourism experience.
- The **Nabh Nirman scheme**[3]**,** launched in 2018, is centred on advancing the development of airports and aviation infrastructure in India, emphasising enhanced connectivity and the promotion of tourism. This initiative aims to augment the number of airports and their operational capacity to accommodate increased air traffic. A primary focus of the scheme is to enhance passenger amenities and expedite the operational launch of 56 new airports under the UDAN initiative, ultimately enhancing regional connectivity and significantly improving passenger services.
- The **Incredible India 2.0 campaign** launched by the Ministry of Tourism, aims to position India as a global tourist destination, placing a strong emphasis on digital marketing and social media. This initiative represents a shift from generic global promotions to targeted marketing strategies and content creation. The campaign strategically targets key source markets for Indian tourism and emerging markets with substantial potential. A central focus of the campaign is expanding digital presence through widespread portals, specific genres, and leveraging social media platforms.

India's online travel market – The path so far

The travel and tourism industry in India has undergone a transformative journey in the digital era, with online OTAs playing a pivotal role in reshaping the landscape. As technology continues to evolve, consumer preferences have shifted towards the convenience and efficiency offered by online platforms, making the OTA market a critical component of the broader travel industry.

The OTA market in India has experienced robust growth over the past decade, driven by factors such as increasing internet penetration, smartphone adoption, and a growing middle-class population with disposable income. OTAs act as intermediaries, facilitating the booking of various travel-related services, such as flights, hotels, transportation, and holiday packages, through a unified online platform. These platforms provide consumers with a one-stop solution for planning and booking their travel itineraries, offering a seamless and efficient experience.

Historical perspective

Early pioneers and experimentation (2000s)

The advent of OTAs in India can be traced back to the early 2000s, when a handful of pioneering companies recognized the potential of online platforms to revolutionize travel bookings. During this period, experimentation with various business models and technological solutions laid the foundation for what would become a thriving industry.

Growth and market expansion (Mid-2000s to 2010s)

The mid-2000s marked a period of significant growth for OTAs in India. Increased internet penetration, coupled with a rising middle-class population, created a conducive environment for the expansion of online travel services. The proliferation of smartphones further accelerated the adoption of mobile apps, enabling users to access travel services on the go.

2 https://tourism.gov.in/prashad-scheme

3 https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1531634

During this phase, domestic players consolidated their positions and expanded their service offerings. The introduction of innovative features, such as dynamic pricing, loyalty programs, and user-friendly interfaces, enhanced the overall customer experience. Additionally, partnerships with airlines and hotels strengthened the position of OTAs in the travel ecosystem.

Emergence of international players (2010s)

The 2010s witnessed the entry of international OTAs into the Indian market. The competition intensified, leading to a diversification of offerings, competitive pricing strategies, and a focus on localization to cater to the unique needs of the Indian traveler.

The influx of international players not only intensified competition but also spurred technological innovation within the domestic market. This era saw the integration of advanced technologies, such as artificial intelligence and machine learning, to enhance personalization, recommendation engines, and overall user experience.

Regulatory challenges and adaptation (2010s)

The growth of the OTA market in India was not without its challenges. Regulatory issues, particularly related to pricing and commission structures, surfaced, leading to occasional friction between OTAs and service providers. The industry had to adapt to changing regulations and find ways to collaborate with stakeholders while maintaining a competitive edge.

Recent trends and future prospects (2020s)

As we transition into the 2020s, the Indian OTA market continues to evolve. The COVID-19 pandemic, while posing unprecedented challenges, has also accelerated digital adoption in the travel sector. OTAs have adapted to the new normal by introducing flexible booking options, enhanced safety measures, and a renewed focus on domestic travel.

Overview of OTA business model

Online travel agencies (OTAs) are businesses specialising in the sale of travel-related products and services, including the booking of air tickets, hotel rooms, travel packages, bus tickets, and railway tickets through their websites and applications. These entities, typically acting as third-party agents, resell products and services provided or organised by others in exchange for an agreed commission. In determining the size of the OTA industry, net revenues, representing typical commissions earned across segments (defined as gross bookings less procurement costs of relevant services and products for sale), have been taken into account. Additionally, metasearch engines function as search engines for travel needs across multiple sources, facilitating comparison, but unlike OTAs, they generally do not sell any inventory.

Despite still being in its early stages in India, OTA platforms have gained popularity and acceptance due to the widespread availability of internet services and smartphone usage. OTA players have enhanced their market share by offering a comprehensive platform for travel-related bookings at competitive prices. Investments in technology to enhance user-friendliness and partnerships with various banking and payment channels have contributed to increased customer loyalty. Looking ahead, the industry is expected to gain further traction, as online bookings across segments increase due to technological advancements, evolving traveller preferences, and improved security in online payment options.

Segment-wise analysis of key OTA service offerings

OTAs offer products and services online through websites and mobile applications and use data and analytics to personalise the customer experience on their websites and mobile applications, based on past searches and purchasing history, which is believed to increase engagement and likelihood of purchase.

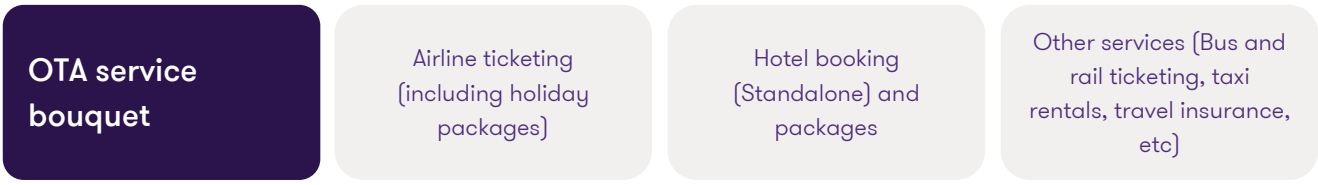


Figure 3: OTA Service Bouquet

Most of the leading OTAs have been able to develop relationships across their wide portfolio of suppliers for airlines, hotels, holiday packages, buses and taxis. They usually have dedicated teams managing their existing relationships and enhancing and developing new relationships with multiple stakeholders of the travel ecosystem.

OTAs products and services are organised primarily in the following segments:

- Airline tickets, which consists of the sale of airline tickets as well as airline tickets sold as part of the holiday packages.
- Hotels and holiday packages, which consists of standalone sales of hotel rooms as well as travel packages (which may include hotel rooms, cruises, travel insurance and visa processing); and
- Other services, which consists of rail tickets, bus tickets, taxi rentals and ancillary value-added services, such as travel insurance, visa processing and tickets for activities and attractions.

Investments in OTA market in India – Overview

The projected size of the Indian online travel market is approximately USD 17.24 billion in 2024, with an anticipated growth to USD 28.40 billion by 2029. Mobile applications have emerged as a pivotal platform for making travel bookings, with major travel firms in India introducing user-friendly mobile apps. These apps empower travellers to conveniently reserve tickets and accommodations while on the move.

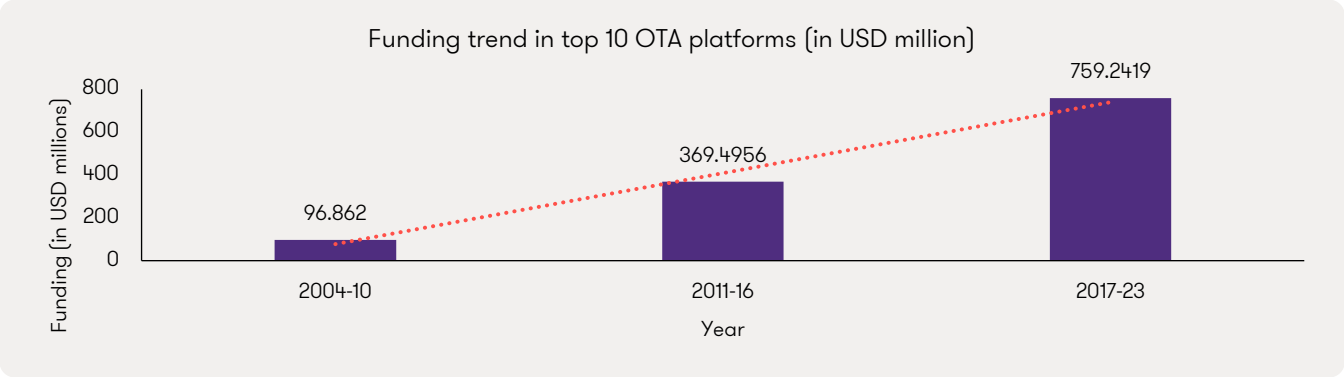


Figure 4: Funding trend in top 10 OTA platforms | Source: Public filings by OTAs & GT analysis

The evolution of the online travel sector over the years has been marked by distinct phases characterized by funding trends for top online travel agency (OTA) platforms. The funding landscape has played a pivotal role in shaping the growth and development of these platforms, reflecting the industry's response to changing consumer behaviours, technological advancements, and global market dynamics. The analysis done above delves into three significant periods: the early growth phase (2004-2010), the expansion era (2011-2016), and the maturation and scaling period (2017-2023).

Early growth phase (2004-2010):

This period marks the early growth phase of the online travel sector, with cumulative funding reaching USD 97.862 million.

Expansion era (2011-2016):

The years from 2011 to 2016 signify an expansion era for online travel platforms, characterised by a substantial increase in funding, reaching USD 369.496 million.

Maturation and scaling period (2017-2023):

This period represents the maturation and scaling phase of the online travel sector, with significant funding growth, reaching USD 759.2419 million. It reflects a stage where established players are scaling operations and new entrants are receiving substantial investments.


BOOKING
Destination
Arrival
Departure
SEARCH

Bus travel in India – Industry snapshot, analysis, and insights

Overview

India boasts the world's second-largest road network of a total length exceeding 63.31 lakh kilometres, that encompasses national highways, state highways, district roads, and rural arteries, facilitating vital connections across the nation.

Particulars	Length (in km)
National highways	144955
State highways	167079
Other roads	6019757
Total	6331791

Table 1: Length of State and Central Highways | Source: Ministry of Road Transport and Highways [4]

According to the National Sample Survey Office (NSSO) of the Indian Ministry of Statistics and Program Implementation, buses are the most popular means of transport in India, with 66% of households in rural areas and about 62% of households in urban areas reporting expenditure on buses and trams[5].

Buses are the single largest mode of public transport in India. Despite being the largest mode, the bus experience is at times unpredictable, with travellers not knowing when the bus will arrive at the bus stop. Technology in buses has started solving this for bus travellers. Live tracking, in particular, eliminates the unpredictability associated with a bus by showing the bus on a map to the passengers along with live arrival time. Digital ticketing makes it easy to pay for bus travel, without worrying about the hassle of cash or change. Some app-based players equip bus travellers to find the real-time location of their bus and also pay for their bus travel digitally.

From an operator/STUs perspective, end-to-end digitisation makes the bus operations more efficient and fare collection more streamlined. Operators also have access to real-time fare collection in the buses as well as insights about occupancy and demand that helps them streamline and optimise their operations.

It is evident that technology has the potential to attract, retain and accelerate adoption of bus travel among masses. This in kick starts a virtuous circle, where happier commuters translate to more rides, which in turn, means more revenue for bus operators, which leads to more investments in buses, and thus even better services for all commuters.

Growth of private and public sector buses

Figure 7 highlights the dominance of the private sector in terms of the number of buses. Private buses herein include entire bus segments, including stage buses, contract buses, school buses and staff transportation. Despite the public sector having a consistent presence, the private sector maintains a significantly larger fleet throughout the years. The faster growth rate of the private sector suggests a strong influence of the private sector in expanding transportation infrastructure. Also, the projections for the years 2023 to 2026 indicate a continued growth in the number of buses for both sectors, with estimated 2,656 thousand buses in the private sector and 183 thousand buses in the public sector, with 93.5% share led by private sector buses.

4 Page 7: https://morth.nic.in/sites/default/files/MoRTH%20Annual%20Report%20for%20the%20Year%202022-23%20in%20English.pdf

5 https://economictimes.indiatimes.com/industry/transportation/buses-most-preferred-mode-of-transport-in-india-survey/articleshow/52973799.cms

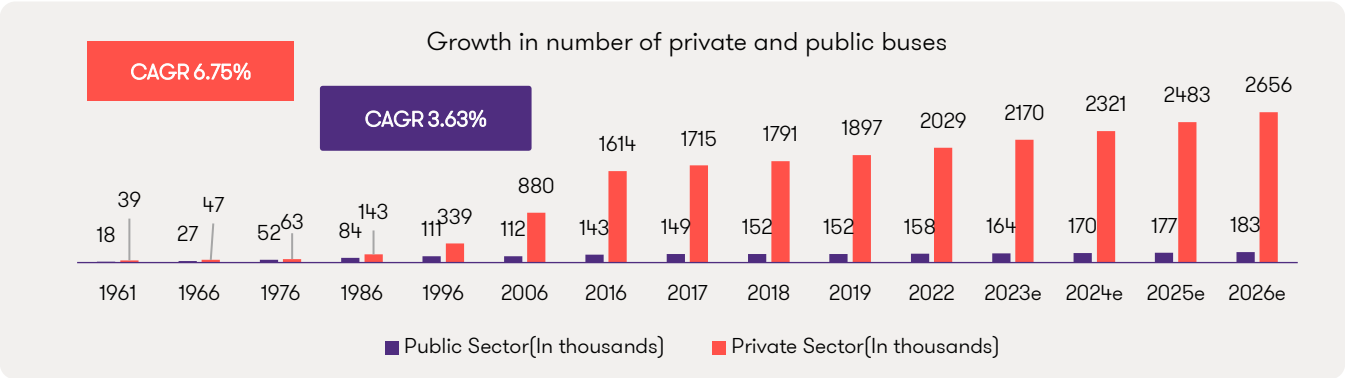


Figure 5: Growth in number of private and public buses | Source: Ministry of Road Transport and Highways

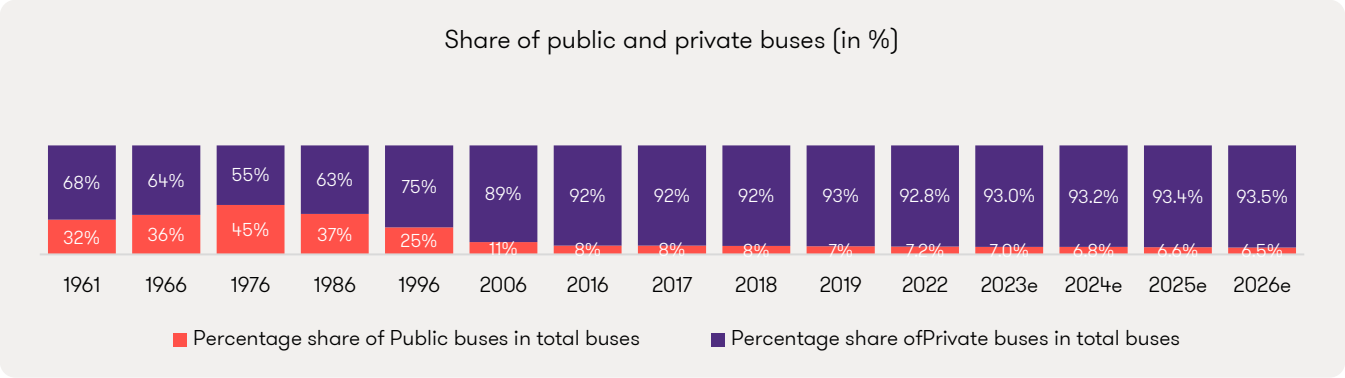


Figure 6: Share of Public and Private Buses (in %) | Source: https://morth.nic.in/sites/default/files/RTYB-2017-18-2018-19.pdf

Inter-state and inter-city bus transport among all segments

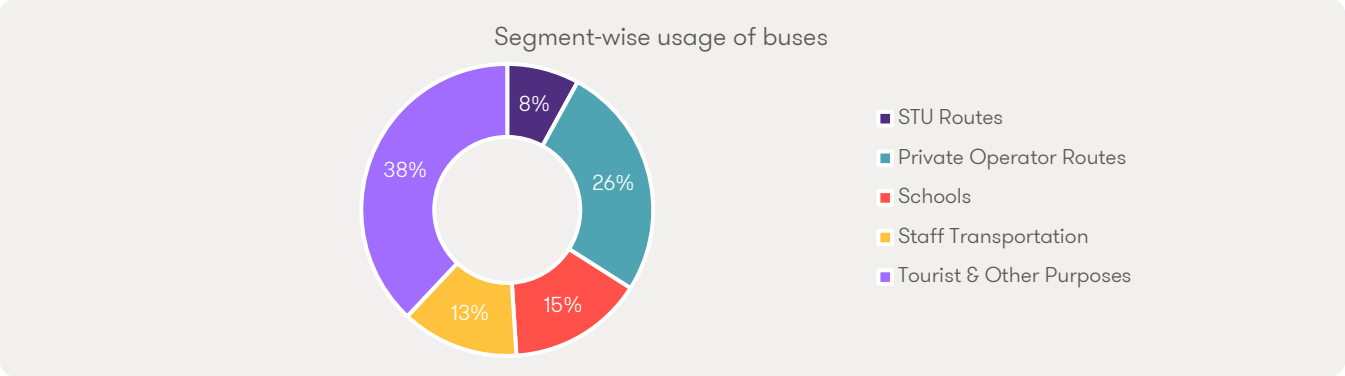


Figure 7: Segment-wise usage of buses | Source: Ministry of Road Transport and Highways

The diagram highlights the dominance of buses used for tourist and other purposes, comprising 38% of the total bus universe, followed by private operator routes at 26%. Schools and staff transportation represent substantial portions at 15% and 13%, respectively.

Bus availability per 1,000 persons

The total number of buses available for per 1,000 persons has increased over the years. There has been a greater increase in the private sector than the public sector.

Year	1961	1966	1976	1986	1996	2006	2016	2017	2018	2019	2022	2023e	2024e	2025e	2026e
Public sector buses	0.04	0.05	0.08	0.11	0.11	0.10	0.11	0.11	0.11	0.11	0.11	0.11	0.12	0.12	0.12
Private sector buses	0.09	0.09	0.10	0.18	0.34	0.75	1.20	1.27	1.31	1.37	1.43	1.52	1.61	1.71	1.81
Total	0.13	0.14	0.18	0.28	0.46	0.85	1.31	1.38	1.42	1.48	1.54	1.63	1.73	1.83	1.93

Table 2: Total number of buses available per 1,000 persons | Source: Ministry of Road Transport and Highways, GT Analysis

*The total number of buses has increased over the years where the private sector has shown a rapid growth than the public sector.

Categorisation of bus travel in India

The breakdown of bus travel in India distinguishes between stage and contract buses:

- **Stage buses** are vehicles categorised under stage carriages as per the Motor Vehicles Act of 1988. They are designed to transport more than six passengers for a fee, with the flexibility to pick up and drop off passengers along a designated route.
- **Contract buses** means a motor vehicle that carries passenger(s) and is engaged under a contract for the use of entire such vehicle as a whole for the carriage of passengers mentioned. Such contract buses cannot stop to pick up or set down passengers not included in the contract anywhere during the journey.

For the purpose of this study, only stage buses are taken into consideration, as only these buses play a vital role for OTAs, as they facilitate transportation services for travellers, ensuring efficient connectivity and accessibility to various destinations.

Under the Stage buses category, these are further divided into inter-state/city and intra-city sub-categories. In the inter-state/city segment, services are provided by state governments, private operators, and online aggregators for inter-state and inter-city trips. Meanwhile, intra-city travel encompasses urban travel within city limits and managed majorly by state authorities, with small private operators share. This overview highlights the dual nature of bus travel in India, spanning both government and private sectors to meet diverse transportation needs.

State-led bus travel / State transport undertakings (STU)

State transport undertakings (STU), managed by state governments, play a crucial role in providing public bus transportation services across various states in India. These buses typically serve diverse purposes, including intra-city and inter-city travel, catering to the transportation needs of millions of passengers daily.

(For the purpose of this report, STU includes all buses run by state government/UT-led bodies, including state road transport undertakings, state-run corporations and companies, municipal undertakings and state-run SPVs)

State transport focus on affordability and not on profitability

One of the key contributions of STUs was their focus on affordability. By regulating fares, they made bus travel significantly cheaper than trains and private vehicles, offering an economical option for daily commutes and intercity journeys. This not only increased mobility but also opened up avenues for social and economic opportunities for people across income brackets. STUs further catered to diverse travel needs and budgets by introducing various bus categories, ranging from ordinary to express and sleeper coaches, ensuring inclusivity and convenience.

State transport's focus on providing connectivity between urban and rural India:

However, their impact wasn't limited to urban centres. Recognising the critical need for rural connectivity, STUs prioritised reaching remote villages and towns. This bridged the gap between rural and urban areas, allowing villagers access to essential services, markets, and educational opportunities, fostering their integration into the broader economic and social fabric

Private bus operator (Fleet owner and apps)

While bus transportation is primarily overseen by the state, policies and regulations have been implemented to facilitate the engagement of privately-owned buses in order to address the public transport demand. From an economic perspective, the growth of private bus ownership has created opportunities for entrepreneurship and employment. The private sector's involvement has stimulated economic activities related to the transportation industry, including bus manufacturing, maintenance, and ancillary services. This has contributed to job creation and economic development in these associated sectors.

Total addressable market (TAM) for stage buses in India

Total bus market expected by 2026 (in 000' crore in INR)

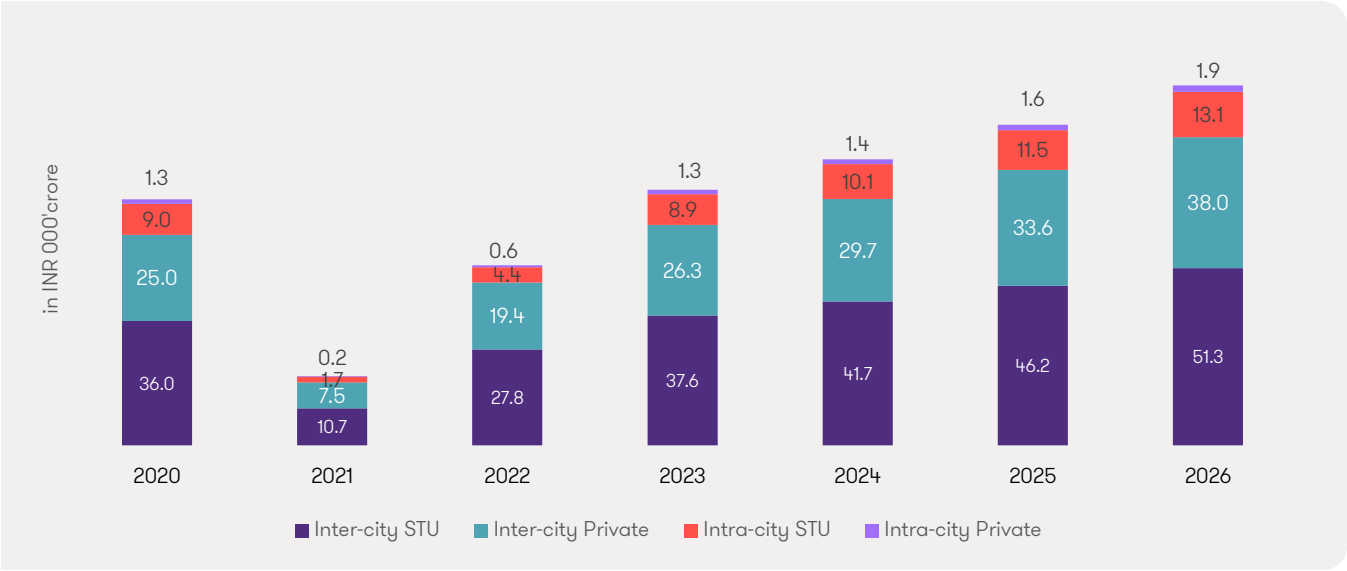


Figure 8: Expected TAM over the years | Source: Ministry of Road Transport and Highways, GT Analysis

Total bus market expected by 2026 (in 000' crore in INR)

The bus industry in India is projected to achieve a value of INR 104,000 crore in 2026, with a compound annual growth rate (CAGR) of 6.36% for STUs and 7.37% for private buses. The data indicates a significant downturn in 2021 due to the effects of the COVID-19 pandemic, with STUs and private markets experiencing negative growth of 72% and 71%, respectively. However, post-2021, the bus market has shown a remarkable recovery, with growth rates three times higher than the previous year. Overall, the compound annual growth rate for the entire bus market stands at 6.64%.

Furthermore, the TAM of inter-city STU buses is highest throughout the period 2020-26, and it is followed by inter-city private buses. Figure 9 showcases the annual growth rate of STUs and private buses.

Annual TAM growth rate for STU and private sector (2021-2026)

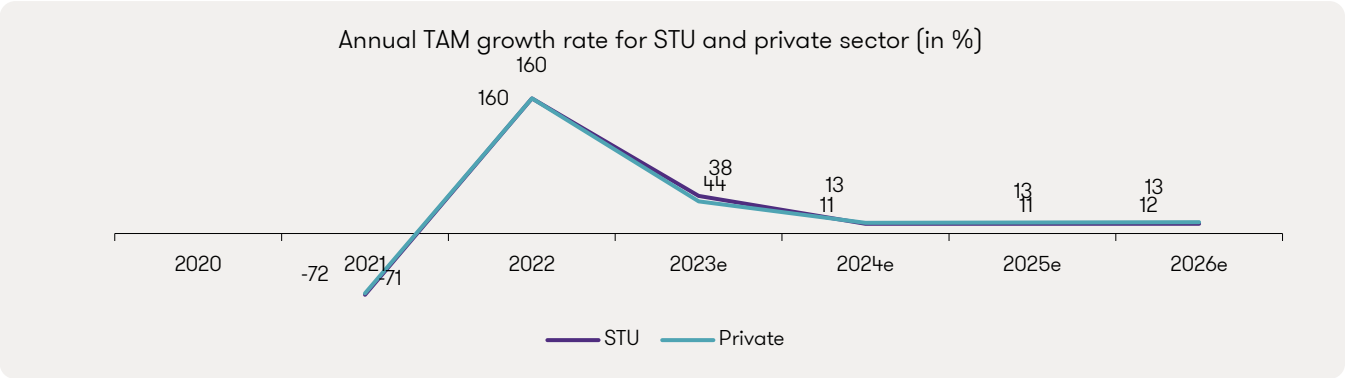


Figure 9: Annual TAM growth rate for STU and private sector (2021-2026) | Source: Ministry of Road Transport and Highways, GT Analysis

TAM of top 6 states in STUs from 2020-26 (in crore)

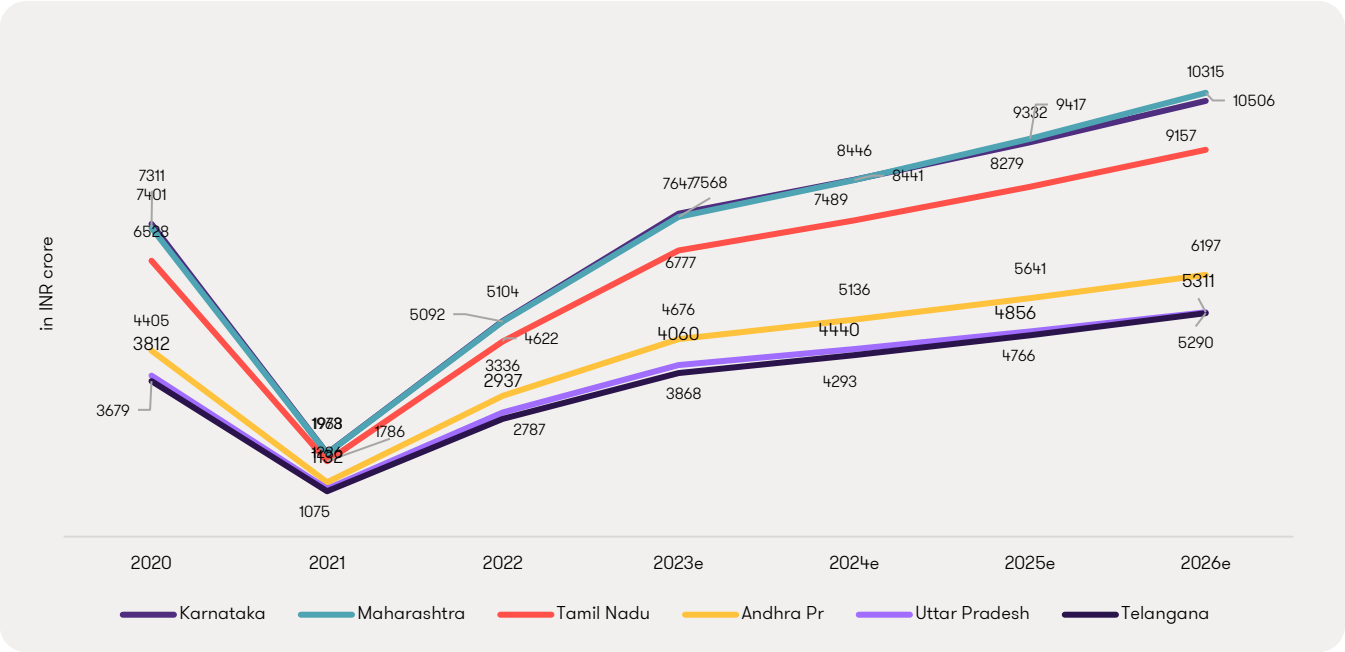


Figure 10: TAM of top 6 states in STUs (in crore) | Source: Ministry of Road Transport and Highways, GT Analysis

State	% Share	TAM	Inter-city	Intra-city
Maharashtra	16.3	10506	7452	3054
Karnataka	16.0	10315	6980	3335
Tamil Nadu	14.2	9157	6719	2438
Andhra Pr	9.6	6197	5653	544
Uttar Pradesh	8.20	5311	5084	227
Telangana	8.24	5290	4834	456

Table 3: Estimated market share (in %) | Source: Ministry of Road Transport and Highways, GT Analysis

The above graphical representation and table illustrates Karnataka's prominent position in the (TAM) for the years 2020-2023. However, it is anticipated that Maharashtra will surpass Karnataka to claim the largest share in TAM for STUs, with Karnataka closely following. Notably, Uttar Pradesh consistently held the 5th position, but Telangana is projected to surpass Uttar Pradesh in STU TAM by 2025. Consequently, Karnataka, Maharashtra, Tamil Nadu, Andhra Pradesh, Telangana, and Uttar Pradesh emerge as the principal markets in STUs, constituting nearly 70% of the market share.

TAM of top 5 states in private from 2020-26 (in crore)

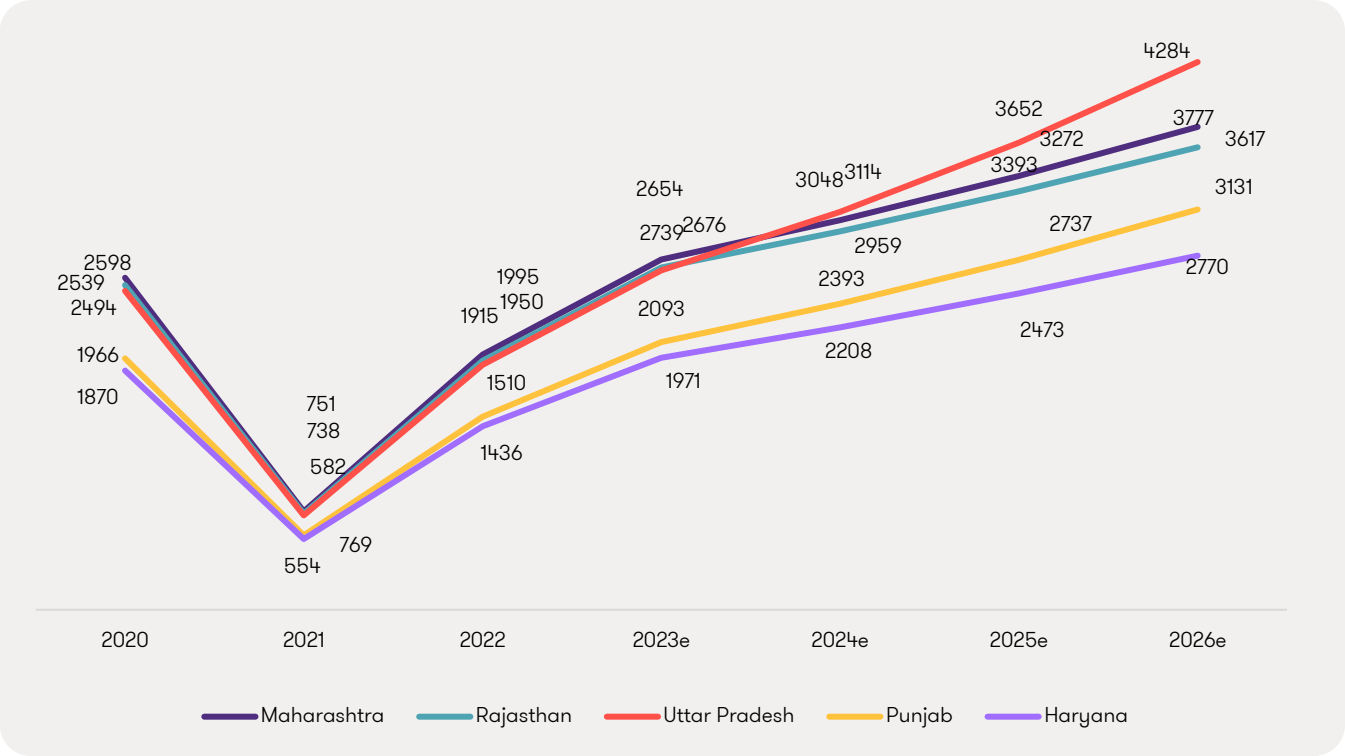


Figure 11: TAM of top 5 states in private buses (in crore) | Source: Ministry of Road Transport and Highways, GT Analysis

Estimated private buses market share of top 5 states in 2026 (Both inter-city and intra-city) in INR crore

State	TAM	Inter-city	Intra-city	% market share of total private bus market
Uttar Pradesh	4284	4077	207	10.74
Maharashtra	3777	3593	184	9.47
Rajasthan	3617	3451	166	9.07
Punjab	3131	2979	152	7.85
Haryana	2770	2635	135	6.94

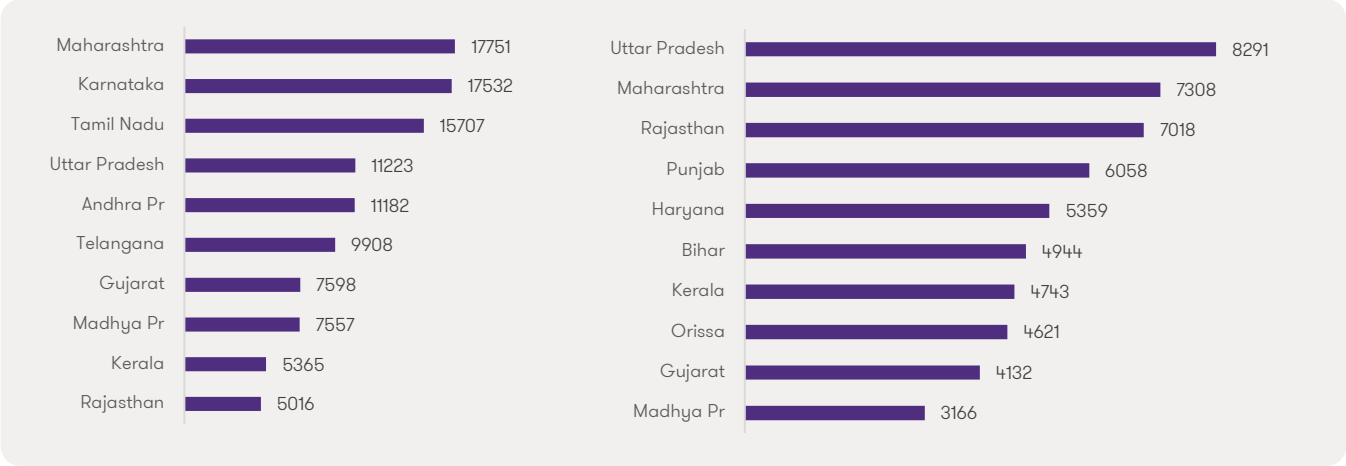
Table 4: Estimated market share (in %) | Source: Ministry of Road Transport and Highways, GT Analysis

The graph indicates that Uttar Pradesh holds the lead in the anticipated TAM for private buses from 2020 to 2026. Following closely behind Uttar Pradesh are Maharashtra and Rajasthan. Remarkably, despite a dip in TAM during the COVID-19 pandemic, the recovery was swift compared to (STUs). The top five states in TAM for private buses are Uttar Pradesh, Maharashtra, Rajasthan, Punjab, and Haryana, which are expected to account for around 45% share by 2026.

Inter-city buses

Inter-city bus travel serves as a vital component of public transportation infrastructure, offering affordable and accessible mobility options for passenger. A brief on the major players and ticket booking is shared in below table:

Expected number of private and STU-run inter-city buses for top 10 states in 2026



Expected number of STU inter-city buses in 2026

Expected number of private inter-city buses in 2026

STU inter-city buses

Total STU inter-city buses in India (in '000)

	2020	2021	2022	2023	2024	2025	2026
Total state-owned inter-city buses ("000)	106	107	108	112	117	122	127
Annual growth rate		0.94%	0.93%	3.70%	4.46%	4.27%	4.10%

Table 5: Total state-owned inter-city buses (in '000) | Source: Ministry of Road Transport and Highways, GT Analysis

The total number of inter-city state-owned buses is expected to increase from 1,06 lakh in 2020 to 1.27 lakh in the year 2026, with an expected CAGR as 2.99%.

STU inter-city city bus market share of states

State	Insights
Maharashtra, Karnataka, Tamil Nadu, Uttar Pradesh, Andhra Pradesh, Telangana, Gujarat and Madhya Pradesh	These states are having >5% market share (expected in 2026) and together contribute around 65% of total buses owned by the states, varying with a margin of 1-1.5% over the years (2020-2026).
Kerala, Rajasthan, Haryana, Himachal, Punjab and West Bengal	The individual contribution of these states varies from 1-5%
Other states	These states contribute <1% in the inter-city buses owned by states/STUs

Table 6: STU Inter-city City Bus Market Share of States | Source: Ministry of Road Transport and Highways, GT Analysis

Private inter-city buses

Total private inter-city buses in India (in '000) with annual growth rate (2020 – 2026)

	2020	2021	2022	2023	2024	2025	2026
Total private inter-city buses (in '000)	59	59.3	59.9	62.5	67	71.9	77.4
Annual growth rate		0.5%	1.0%	4.2%	7.0%	7.2%	7.5%

Table 7: Total private inter-city buses in India (in '000) with annual growth rate | Source: Ministry of Road Transport and Highways, GT Analysis

Insights

- The total number of private inter-city buses in India is predicted to increase steadily from 2020 to 2026, with a CAGR of 4.54%.
- Annual growth rates are expected to accelerate, ranging from 0.5% in 2021 to 7.5% in 2026.

By 2026, the forecasted total number of private inter-city buses is projected to reach 77,400, indicating substantial growth over the period.

Trend of top 5 states with highest private inter-city bus market share (2020 – 2026)

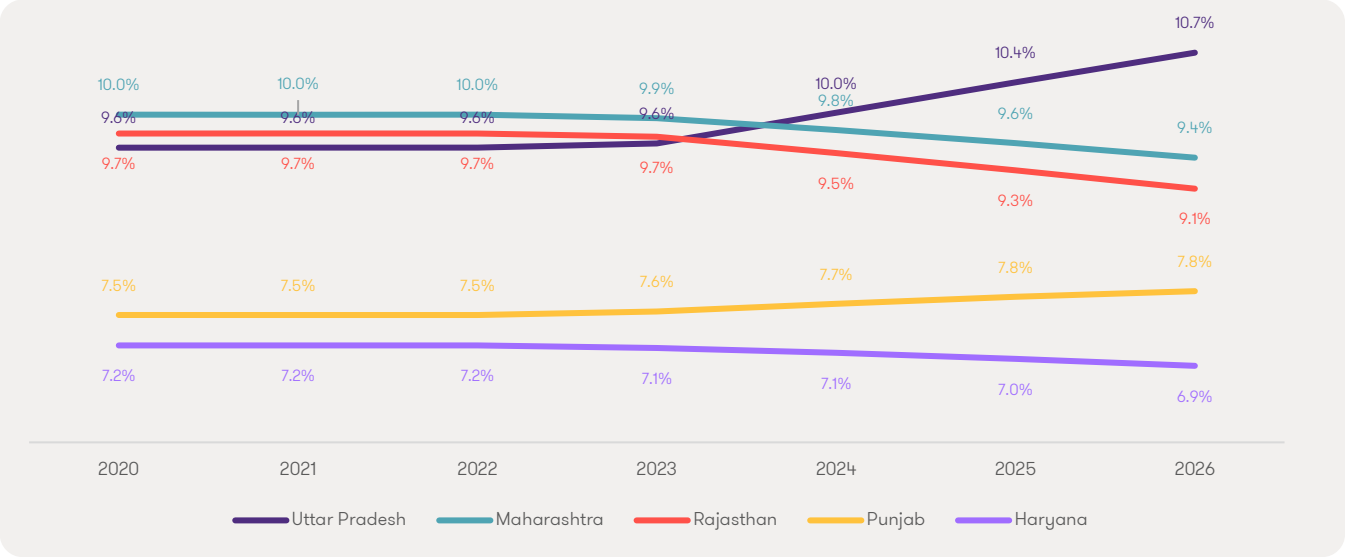


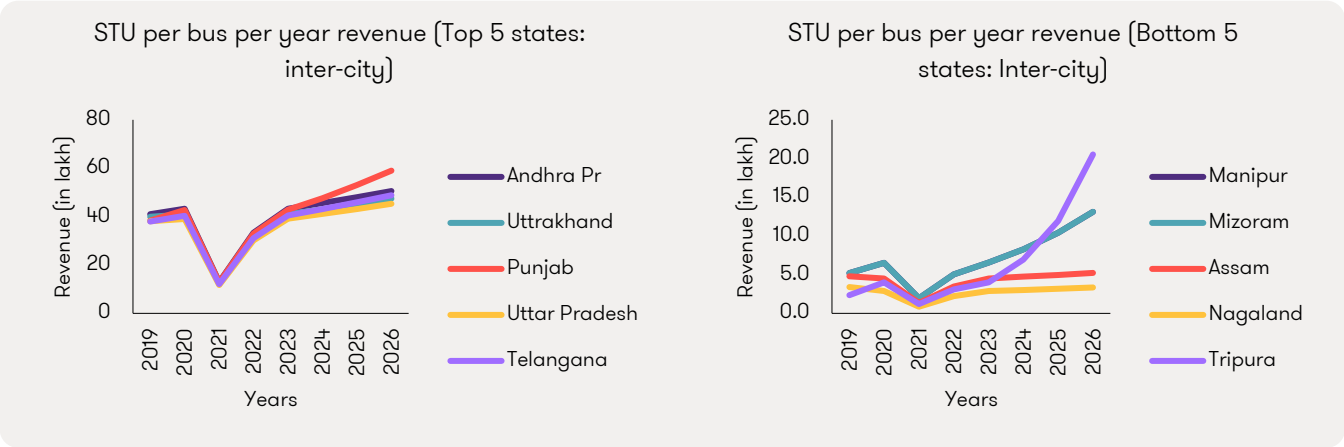
Figure 12: Trend of top 5 states with highest private inter-city bus market share | Source: Ministry of Road Transport and Highways, GT Analysis

The graph forecasts market share trends of inter-city private buses in the top 5 states of India from 2020 to 2026. Uttar Pradesh, Maharashtra, Rajasthan, Punjab, and Haryana are the key states identified. Uttar Pradesh is expected to experience a steady increase from 10.0% in 2024 to 10.7% in 2026. Maharashtra's growth rate is predicted to decline from 9.8% in 2024 to 9.4% in 2026, a trend similar to Rajasthan, which is anticipated to fall from 9.5% in 2024 to 9.1% in 2026. Punjab's growth rate is expected to slightly increase from 7.7% in 2024 to 7.8% in 2026, while Haryana's growth rate is projected to gradually decrease from 7.1% in 2024 to 6.9% in 2026. These projections suggest potential shifts in market dynamics, necessitating ongoing monitoring and adaptation by industry stakeholders.

STU - Per bus/Year revenue

The inter-city or government carriage revenue data provides a comprehensive overview of the financial performance of inter-city bus services across a spectrum of states from 2019 to 2026. This analysis encompasses both the top 10 and bottom 10 states, shedding light on the per bus revenue trends within the public transportation sector.

Per bus per year revenue for inter-city STU buses



Top 5 states

Bottom 5 states

Figure 13: STU/Govt carriage - Per bus/Year revenue (Inter-city- Top 10) | Source: Ministry of Road Transport and Highways, GT Analysis

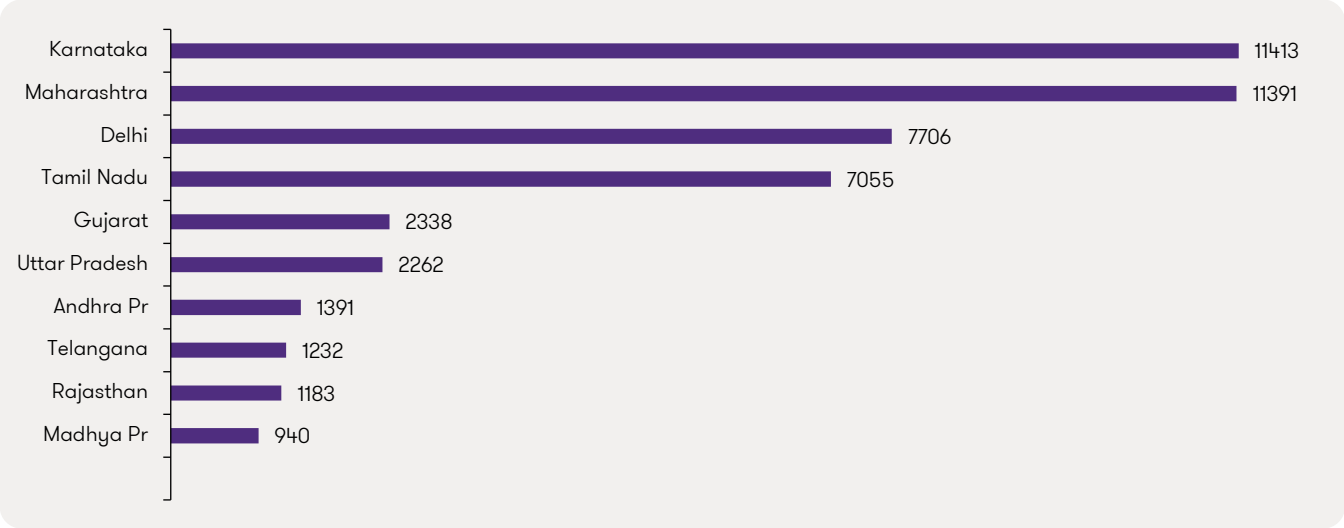
The STUs (Inter-city) revenue data reveals positive growth trends across the top five states, i.e., Andhra Pradesh, Uttarakhand, Punjab, Uttar Pradesh, and Telangana. Notably, a dip in revenue in 2021, consistent with the global COVID-19 impact, affected travel and transportation sectors. Despite this, the top five states exhibit a recovery and continuous growth in subsequent years, with Punjab showing the maximum growth in 2026.

The data highlights varying growth patterns, influenced by factors such as regional demand, infrastructure development, and economic conditions. The five states with the lowest per bus/per year revenue are Manipur, Mizoram, Assam, Nagaland, and Tripura. These states demonstrate a gradual increase in revenue, indicating a positive trend in inter-city bus services. States like Tripura and Mizoram show steady increase from the year 2024 to 2026.

Intra-city bus travel

Intra-city bus travel majorly has state government local buses like the DTC buses in Delhi, private. Apart from this, there exists app-based service providers. These allow the passengers to directly book their seats through their apps, majorly for State-run buses.

Expected number of private and STU-run intra-city buses for top 10 states in 2026



STU buses: Intra-city bus transport

The total number of inter-city state-owned buses is expected to increase from 46,948 buses in 2020 to 62,620 buses in the year 2026. The number of absolute increase in buses is expected to be 15,672 and the CAGR of the state-owned intercity buses is expected to be 4.92%.

	2020	2021	2022	2023	2024	2025	2026
Total STU intra-city buses ("000)	38.9	39.1	39.5	41.2	43.3	46.8	50.5
Annual growth rate		0.51%	1.02%	4.30%	5.10%	8.08%	7.91%

Table 8: Total state-owned intra-city buses (in '000) | Source: Ministry of Road Transport and Highways, GT Analysis

The total number of intra-city state-owned buses is expected to increase from 38.9 thousand in 2020 to 50.5 thousand in 2026, with an expected CAGR of 4.45%.

STU intra-city city bus market share of states

State	Insights
Maharashtra, Karnataka, Tamil Nadu, Uttar Pradesh, Delhi and Gujarat	These states account for >5% share each, with together contributing around 90% of total buses operated by the states, varying with a margin of 1-1.5% over the years.
Andhra Pradesh, Kerala, Madhya Pradesh, Rajasthan, Chandigarh and Telangana	The individual contribution of these states varies from 1-5%
Other states and UTs	<1% Market share

Table 9: STU intra-city city bus market share of states | Source: Ministry of Road Transport and Highways, GT Analysis

Insights of primary survey of users across eight cities in India

Overview

The fragmentation and disorganization of secondary sources of data on bus ridership and the adoption of digital ticketing apps present significant challenges for obtaining comprehensive insights. Secondary sources, often lack uniformity in data collection methods, reporting formats, and coverage areas, resulting in incomplete or inconsistent datasets. In such circumstances, conducting a primary survey emerges as a valuable tool for gaining deeper insights into bus ridership and digital ticketing app adoption. On these lines, a primary survey was conducted across eight cities across India. The survey involved live interaction with 1400 respondents. The entire sample base was further divided in Intracity travelers (50% of respondents) and Intercity travelers (50% of respondents). The busiest Intercity bus terminus was considered for Intracity survey while the local bus terminus was considered for Intracity survey.

The survey aimed to gather comprehensive insights into the preferences, behaviours, and challenges faced by the users of bus booking applications in the present travel tech landscape. Details of the survey objective, scope and methodology is enclosed under Appendices.

Profile of respondents

The primary survey was conducted in 8 cities, 7 metros and 1 non-metro. A sample of 1,400 people was collected which included 1,161 males and 239 females. Females roughly constituted 17% of the total data collected.

Gender

Gender	Frequency	Percentage
Female	239	17.07
Male	1161	82.93
Grand total	1,400	100

Income

Income	Frequency	Percentage
<10,000	303	21.64
10,000-30,000	758	54.22
30,000-50,000	280	20.03

50,000-75,000	43	3.07
>75,000	16	1.14
Grand Total	1400	100

Age group

The age of the respondents was divided into four categories: (i) 18-25 (ii) 26-40 (iii) 40-60 (iv) 60, and above. Respondents whose age was in the age group of 26-40 years formed the major portion (47.21%). Senior citizens (60 and above) barely form 1.4% of the travellers. The age group 18-25, which mostly comprise of students, form the second biggest portion after the 26-40 age group.

Age group (in years)	Frequency	Percentage
18-25	509	36.36
26-40	661	47.21
40-60	210	15
60 and above	20	1.43
Grand total	1400	100

Primary purpose of travel

Primary purpose of travel	Frequency	Percentage
Work	744	53.14
Family obligations	405	28.93
Leisure and recreation	136	9.71
Social engagement	80	5.71
Others: Education, medical visit, personal	35	2.50
Grand total	1400	100.00

Out of 1,400 respondents, more than 50% of the respondents travel for work and around 30% travel for family obligations. It is interesting to note that the share of leisure and recreation travel is just 10%. The high share of work travel also points towards the use of public buses, as they are more affordable.

Frequency of travel

Frequency of travel	No. of respondents	Percentage
Monthly	439	31.36
Occasionally	422	30.14
Weekly	301	21.5
Daily	238	17
Grand total	1400	100

Out of the 1,400 respondents, only 17% travel daily, whereas the highest share is of the people who travel monthly. Roughly 70% of respondents travel at least once a month (includes daily, weekly, monthly). Thus, highlighting that travel is an integral part of most respondents' lives.

Frequency of travel	Frequency	Percentage
Inter-city		
Daily	56	7.90%
Monthly	250	35.26%
Occasionally	284	40.06%
Weekly	119	16.78%
Grand total	709	100.00%
Intra-city		
Daily	182	26.34%
Monthly	189	27.35%
Occasionally	138	19.97%
Weekly	182	26.34%
Grand total	691	100.00%

Preferred mode of transport

Preferred mode of transport	Frequency	Percentage
Public bus	848	60.57
Private bus	306	21.85
Local train/Metro	121	8.64

Personal car	59	4.21
Two-wheeler	41	2.92
Taxi/Auto	22	1.57
Others	3	0.21
Grand total	1400	100

Out of 1,400 respondents, 60% (n=848) of the respondents prefer public bus and approximately 22% prefer private bus. The share of other modes of transport is merely 18%, which includes personal car, metro/local train, taxi/auto, and others. It can be inferred that there is a huge dependency on bus services, be it public or private.

Adoption of OTA apps for bus ticketing

Prefer using mobile apps for booking bus ticket	Frequency	Percentage
No	898	64
Yes	502	36
Grand total	1400	100

Out of 1,400 respondents, 64 % (n=898) respondents did not use any mobile app for the booking of bus tickets. Only 36% (n=502) respondents relied on mobile apps for booking bus tickets. This clearly highlights an untapped market that needs to be catered to. The data on age highlights that roughly 84% of the respondents are between 18-40 years of age yet are not using mobile apps for booking bus tickets.

City	Frequency
Ahmedabad	15
Bengaluru	43
Chennai	80
Delhi	67
Indore	46
Kolkata	40
Mumbai	153
Grand Total	502

Mumbai shows to have the largest user base, who are using mobile-based bus ticketing for their travel, while Ahmedabad is the laggard in this respect.

Usage of more than one app for bus ticket booking	Frequency	Percentage
No	312	62.15%
Yes	190	37.85%
Grand total	502	100.00%

Most respondents, constituting 62.15%, reported using a single app for bus ticket booking. This suggests that a significant portion of the surveyed population prefers a streamlined experience, possibly finding one app sufficient for their needs. Nearly 38% of respondents indicated that they use more than one app for bus ticket booking. This reveals a section of users who are possibly not satisfied with their initial choice of app, hence, looking at alternatives.

Access device categorisation

Device ownership	Frequency	Percentage
Keypad phone	135	9.64
Smart phone	1265	90.36
Grand total	1400	100

Out of the 1,400 respondents, 90% of the respondents had a smart phone and only 10% used feature phone. This highlights that despite having access to a smartphone, only 36% of the respondents used mobile apps for booking ticket, further strengthening the claim that the market for apps is huge and untapped.

City-wise breakup of device categorisation	Frequency
Ahmedabad	16
Bengaluru	12
Chennai	19
Delhi	20
Indore	33
Kolkata	21
Mumbai	04
Pune	10
Grand total	135

Analysing city-wise penetration of features phones, it is Indore that has the highest percentage while Mumbai has the lowest penetration of feature phones.

Preferred mode of booking

Mode of booking	Frequency	Percentage
Counter of travel agencies or state transport	920	66%
Website of online travel aggregator	48	3%
Mobile app of travel agency	27	2%
Travel website of travel agency or government transport agency	20	1%
Mobile app of online travel aggregator	385	28%
Through kiosks	0	0%
Grand total	1400	100%

The share of mobile OTA apps is around 28%. The least share is of kiosks, which is almost negligible at 0.07%. The above insights again highlight that despite smartphone access, people depend on either offline booking (which is more cumbersome) or travel agencies instead of OTAs.

Key apprehensions against adoption of travel apps

The following insights try to delve further into the reasons as to the exact reason why travellers who opt to buy their tickets offline, still do not prefer to use any online mode of booking.

Reasons for opting out of online booking	Frequency	Percentage
Find the booking app too complicated	162	18.04%
Language barriers	134	14.92%
Not aware of online ticketing apps	110	12.25%
Do not have internet access	81	9.02%
Do not have access to digital payment	66	7.35%
Do not have any specific reason / habit	389	43.32%

A very high proportion of the respondents revealed that they do not have any specific reason for not using online apps for ticket booking. They just continue to use offline modes, as they have been habitually using the same for a very long time. Around 15% of the respondents said they would prefer the OTA apps to have the interfaces in their native language. Around 7% of the respondents cited their inaccessibility to modes of digital payment as the reason for not using online ticketing.

(Note: This is a multiple-choice question where users could respond with more than one response, therefore frequency count may be different than the number of respondents)

Concerns of travel app users

Particulars	Frequency	Percentage
Additional fees (including 5% additional GST)	391	77.89%
No confirmation of seats	178	35.46%
App failures	176	35.06%
Lack of quality grievance Redressal	173	34.46%
App not convenient to use	160	31.87%

A significant percentage (77.89%) of users express concerns about additional fees highlighting the importance of transparency in pricing. **A significant proportion of these users expressed concerns about levy of 5% additional GST on online bus bookings.**

(Note: This is a multiple-choice question where users could respond with more than one response, therefore frequency count may be different than the number of respondents).

List of good-to-have features

The data provided reveals the factors influencing users' decisions when opting for bus ticket booking through travel apps. Out of 1,400 respondents, the largest share is still the offline booking mode where 66% of the respondents still prefer to buy tickets from physical counters, while 34% booking is being done by various online modes.

Particulars	Frequency	Percentage
Seat availability and reservation	323	64.34%
Low cost	209	41.63%
Exclusive deals and discounts	171	34.06%
Wide range of options	127	25.30%
Competitive pricing	122	24.30%
View user reviews, feedback, and ratings	87	17.33%

Most users (64.34%) consider seat availability and reservation as the most desirable feature in the app. This highlights the significance of ensuring real-time information on seat availability and providing a seamless reservation process. A significant percentage (41.63%) of users prioritize low-cost options. Competitive pricing strategies and promotions that highlight affordability can attract and retain price-sensitive customers. Over a third of users (34.06%) are influenced by exclusive deals and discounts. Providing special promotions and discounts can be an effective strategy to attract users seeking cost-effective options.

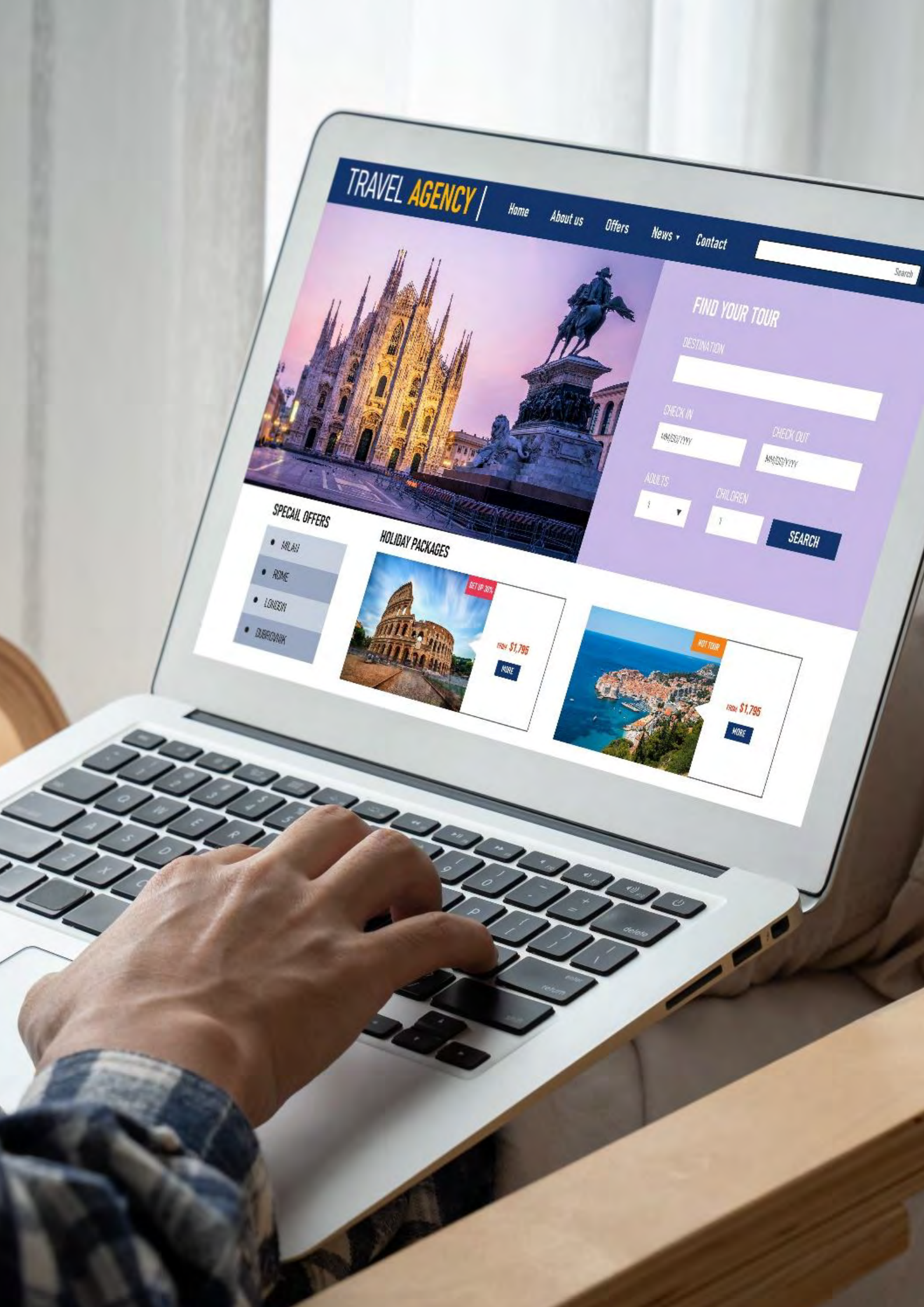
Nearly a quarter of users (24.30%) emphasise competitive pricing. This reiterates the importance of keeping pricing in line with or lower than competitors to remain attractive to cost-conscious consumers. A portion of users (17.33%) relies on user reviews, feedback, and ratings. This highlights the significance of building and maintaining a positive online reputation to instil confidence in potential customers.

(Note: This is a multiple-choice question where users could respond with more than one response, therefore frequency count may be different than the number of respondents)

Preference to USSD-based ticket booking app

About 47%, i.e., nearly half of the respondents, expressed a preference for booking tickets through simple SMS/USSD messages. This signifies a substantial demand for a straightforward and uncomplicated ticket booking process.

Preference to book tickets through simple SMS / USSD messages	Frequency	Percentage
No	744	53.14%
Yes	656	46.86%
Grand total	1400	100.00%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Offers
News
Contact
Search
FIND YOUR TOUR
DESTINATION
CHECK IN
CHECK OUT
ADULTS
CHILDREN
SEARCH
SPECAIL OFFERS
MILAN
ROME
LONDON
DUBROVNIK
HOLIDAY PACKAGES
SET UP 30%
FROM $1,795
MORE
HOT TOUR
FROM $1,795
MORE

Rail travel in India – Industry snapshot, analysis, and insights

Overview

The Indian railways is the fourth largest railway system in the world, with a total track length of 128,305 km and 7,308 stations as of FY 2022. The average daily track laying has reached 14.4 km per day, the highest-ever commissioning.

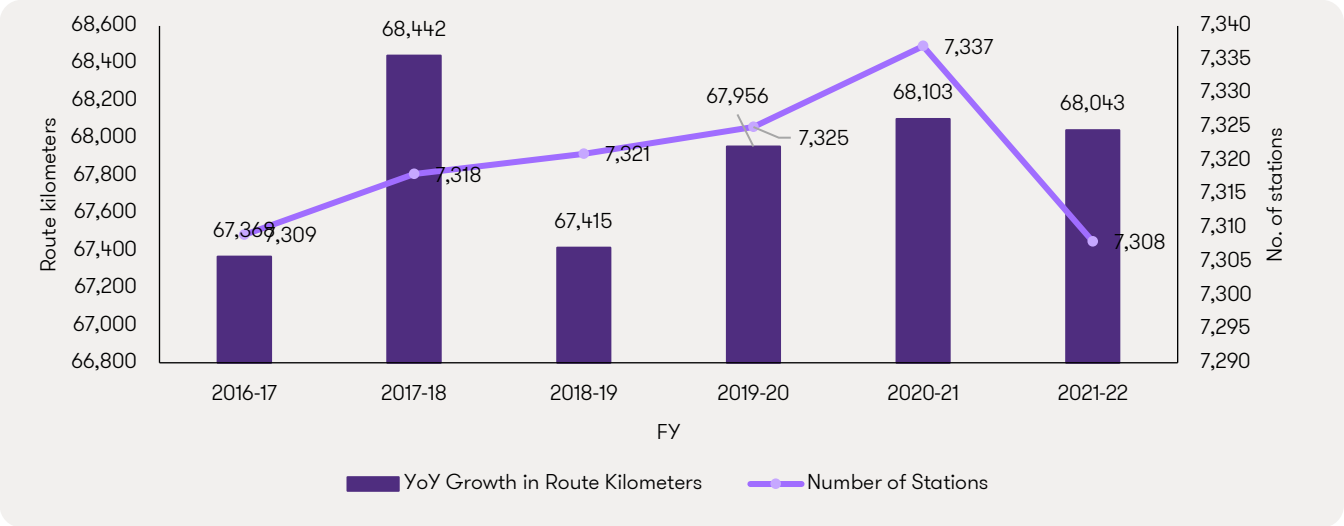

Figure 14: YoY growth in route kilometres and number of stations | Source: Ministry of Railways

The figure below provides a snapshot of passenger traffic in the railway sector over the fiscal years 2015-16 to 2021-22. The passenger traffic originating from the railways shows a stagnant trend with insignificant year-on-year growth. The sharp decline in FY 2020-21 is in line with global trends, as lockdowns and travel restrictions were imposed to curb the Covid-19 pandemic. In the subsequent FY, there is a notable increase in passenger traffic, indicating a substantial recovery from the pandemic-induced low in the previous fiscal year.

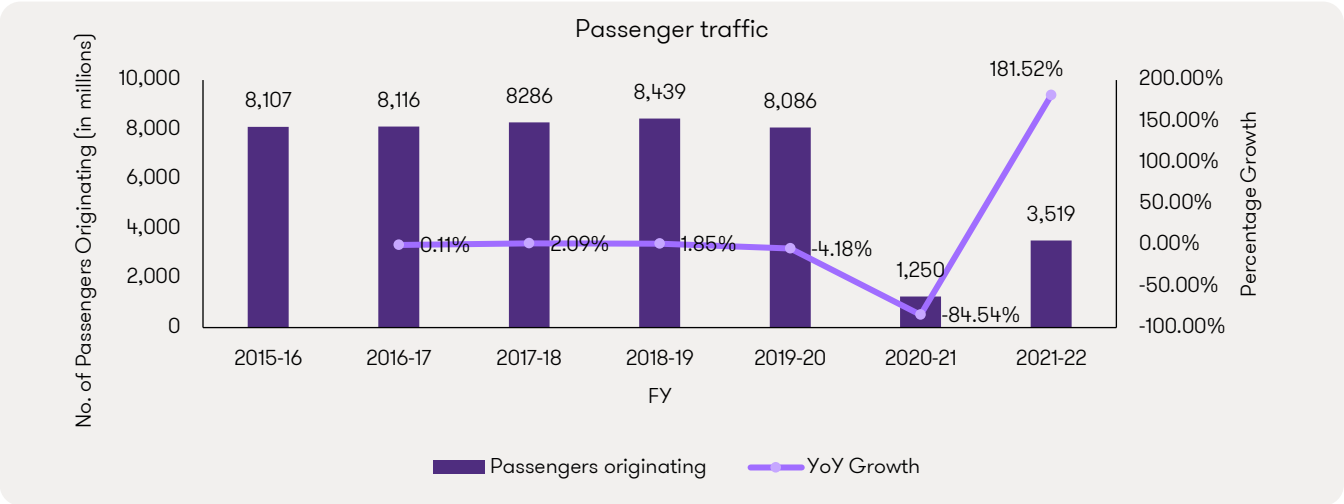

Figure 15: YoY growth in route kilometres and number of stations | Source: Ministry of Railways

To analyse the trend in growth of passenger traffic, it would not be logical to simply calculate the CAGR based on the above data due to the significant impact of the Covid-19 pandemic during FY 2019-20 and FY 2021. Even during FY 2021-22, the passenger volume had not touched the pre-Covid levels. It would be more logical to look at past data sourced from the IRCTC to get better insights into growth in traffic:

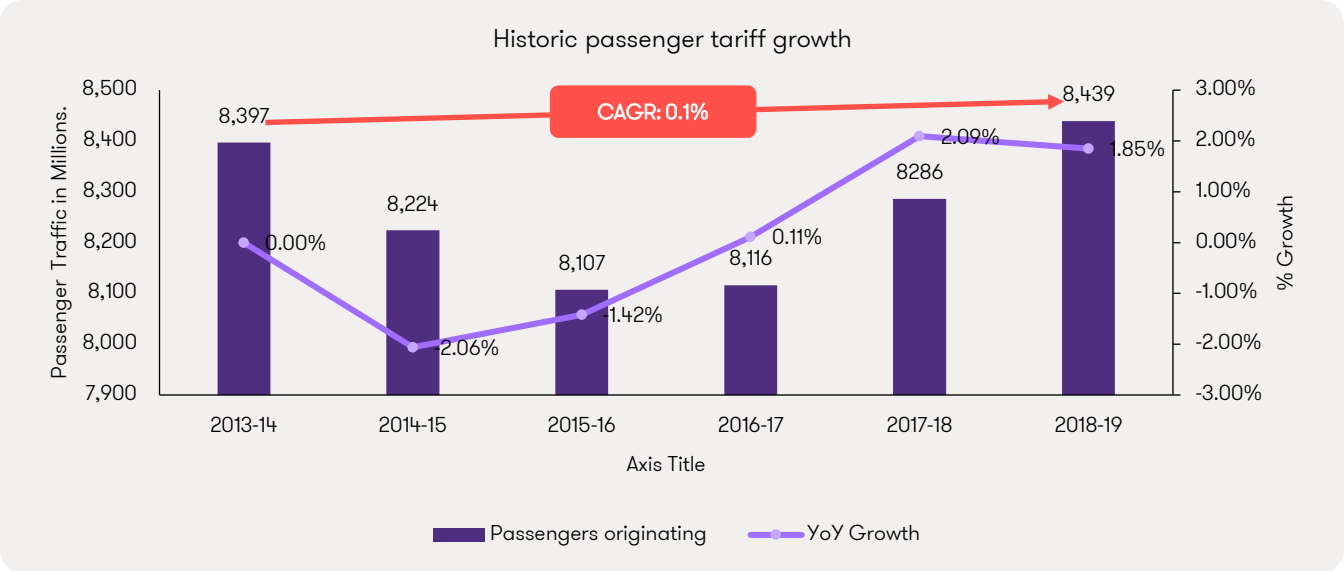

Figure 16: Passenger traffic during FY 2013-14 to FY 2018-19 | Source: IRCTC DHRP & GT analysis

Considering the passenger traffic data from the railways itself[6], passenger tariff has remained consistent over a period of five years. Beyond FY 2018-19, the impact of Covid-19 distorts the data even more. Suburban passenger traffic constitutes around 58% of the total traffic.

Indian railway revenue sources

Railway revenue

Figure 17: Passenger traffic during FY 2013-14 to FY 2018-19

01 From passenger fares

- Reserved tickets
- Unreserved tickets
- Seasonal/platform tickets

02 Freight revenue

03 Other revenue

- Parcel and luggage
- Tourism and special trains
- Subsidies, grants

6 Page 91: Indian Railways DHRP

Two main sources of revenue for the Indian railways are passenger fares and revenue from freight. Historically, the revenue from freight services has been the largest contributor, amounting to around 68% (average of last five years), while passenger revenue contributed to around 24% of total revenue. Rest all sources contribute the remaining 8%.

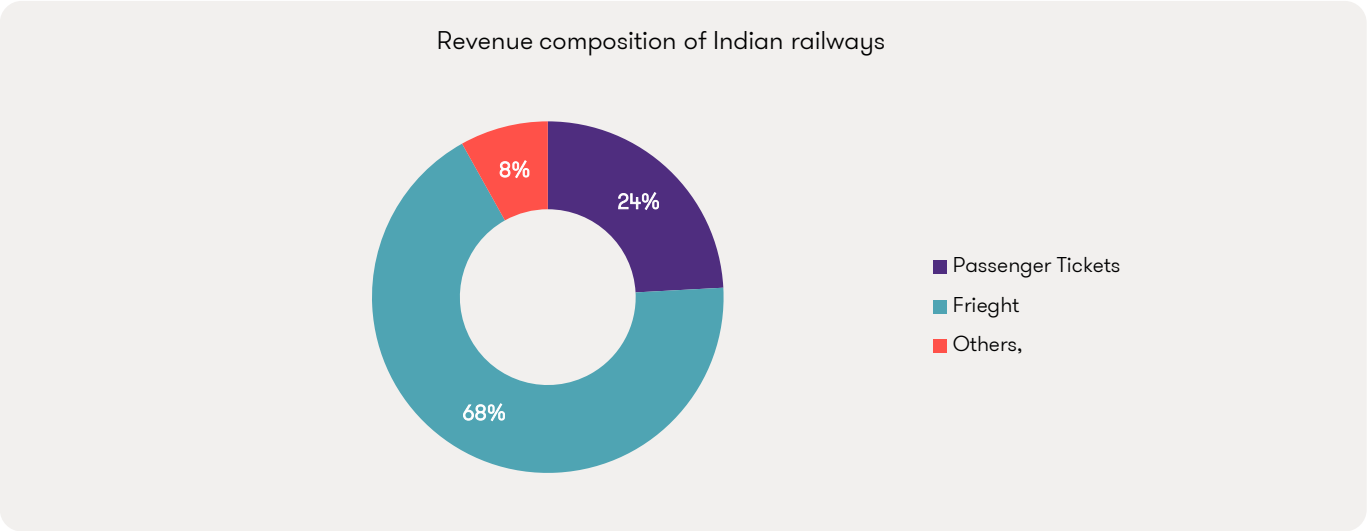

Figure 18: Revenue composition of Indian Railways | Source: Ministry of Railways & GT analysis

Revenue growth and impact of Covid-19 pandemic on railway operations

The figure below provides insights into the revenue structure of the railways over fiscal years. Freight revenue, a significant contributor, has shown consistent growth over the years. Despite the challenges posed by the Covid-19 pandemic in 2020-21, freight revenue maintained an upward trajectory, underlining its resilience and importance to the railway sector. The railways' revenue growth is evident, driven by steady and consistent growth of both passenger and freight revenue, showcasing the sector's adaptability and resilience. While passenger revenue faced challenges, particularly in 2020-21, there was a recovery in 2021-22, contributing to the overall positive trend in total revenue. During the period FY 2016-17 to FY 2021-22, overall revenue has shown a CAGR of 3%. Revenue from passenger ticketing has shown a negative CAGR of 3%, mainly due to the restrictions on account of the Covid-19 lockdowns. However, the growth in freight revenue with a CAGR of 6% (even considering the Covid-19 lockdowns) managed to offset the loss of revenue in passenger ticketing.

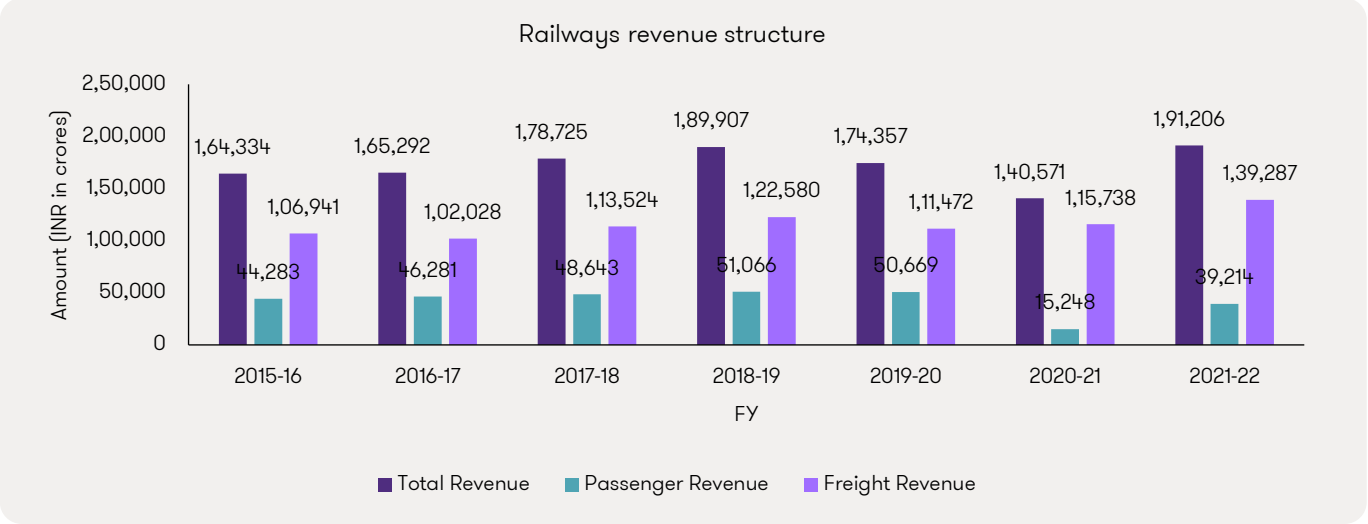

Figure 19: Revenue composition of Indian Railways | Source: Ministry of Railways & GT analysis

As of the end of FY 2021-22, the aggregate revenue of the Indian railways exceeded the pre-pandemic level, showing a CAGR of 3% (considering FY 2015-16 as the base year).

While the revenue from passenger ticketing witnessed a sharp drop of 70% during FY 2020-21, the revenue from freight services displayed a 4% growth. It is interesting to note that the revenue from passenger ticketing witnessed a sharp growth of 157% (compared to last FY) after the lockdown was relaxed in the subsequent FY.

Analysis of category-wise and class-wise contribution to Indian railways

Diving deeper into the bifurcation of total passenger revenue into reserved and unreserved shows that the reserved category shows a healthy and steady growth and recovered the impact of the Covid-19 pandemic. Growth in the reserved category witnessed a CAGR of 7%. However, the situation is entirely different for the unreserved category. This category witnessed a massive fall due to the Covid-19 lockdown and is yet to recover to pre-pandemic levels. Unreserved ticketing revenue shows a CAGR of -6% that is again a testimony that the lower socio-economic levels in India suffered a massive economic setback, which significantly impeded their ability to travel on trains. Considering the average of the last 6 years, the revenue contribution of reserved passengers stands at 70%, which corresponds to only 12% passengers carried in terms of volume. Whereas 88% unreserved passengers contributed to only 30% of the revenue to the Indian railways.

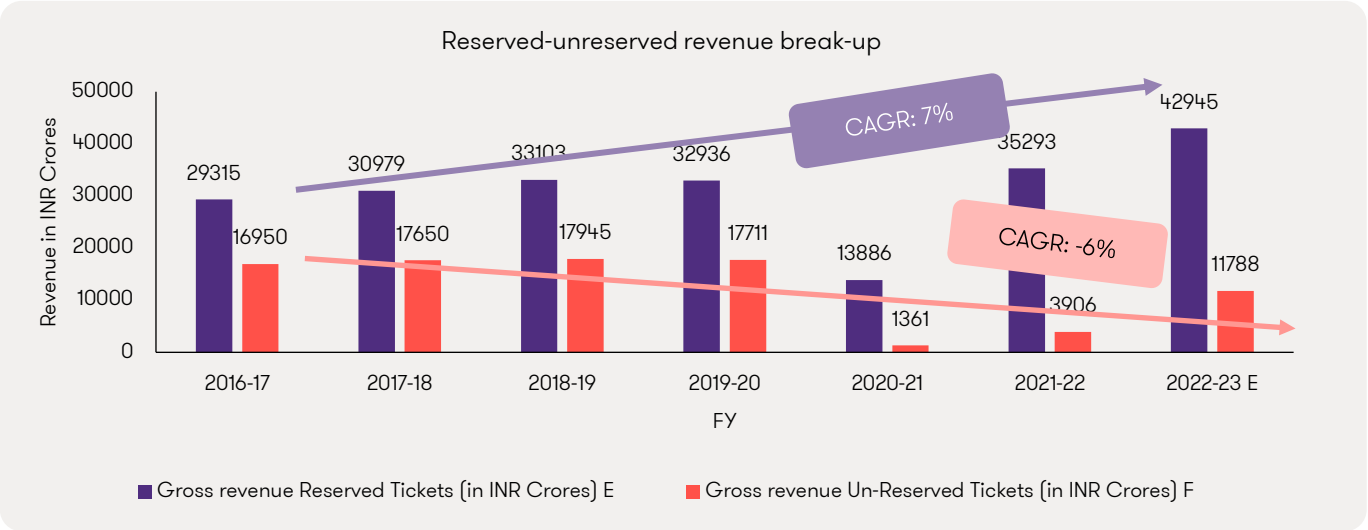

Figure 20: Revenue composition of Indian Railways | Source: Ministry of Railways Annual Statistics & GT analysis

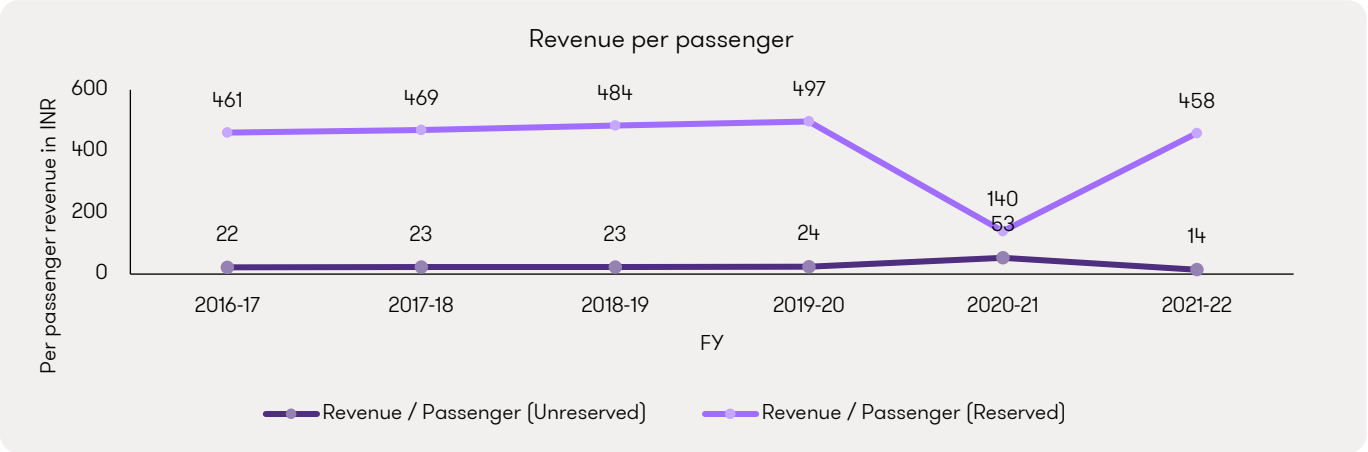

Figure 21: Per passenger revenue | Source: Ministry of Railways Annual Statistics & GT analysis

The average revenue per passenger from reserved tickets is INR 418 vis-à-vis INR 27 for the unreserved category. It is important to note that excluding the Covid-19 impact of FY 2020-21 and FY 2021-22, there is hardly any escalation / growth in average revenue per passenger. The average revenue per passenger from the unreserved category has grown with a CAGR of 2%, while the same for the reserved category sees a CAGR of 3%, thereby indicating very minimal increase in passenger fares by the Indian railways.

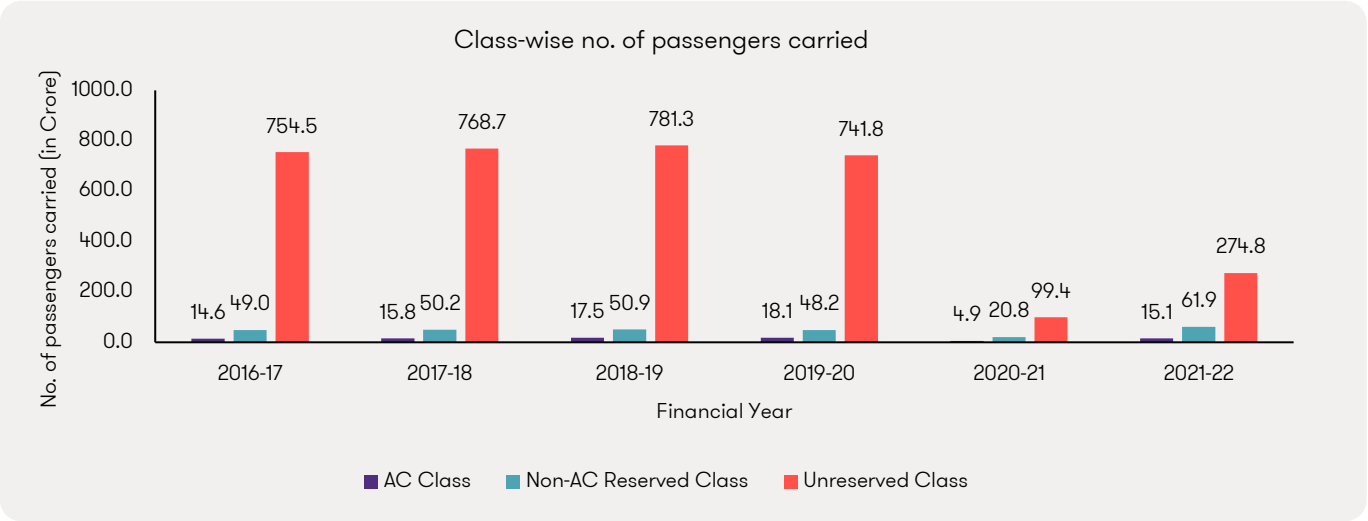

Figure 22: Per passenger revenue | Source: Ministry of Railways Annual Statistics & GT analysis

Observing the percentage growth patterns across AC and non-AC reserved classes, some trend of upgradation is visible:

Passengers carried (% growth)	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
AC class		8%	11%	3%	-73%	212%
Non-AC reserved class		3%	1%	-5%	-57%	197%
Unreserved class		2%	2%	-5%	-87%	176%

During FY 2019-20 (excluding FY 2020-21 and FY 2021-22, which are outliers due to the Covid-19 impact), it may be observed that there is a gradual uptake in the AC class with a corresponding decline in on-AC reserved class, thereby indicating a trend of changing user preferences. With growing economic affordability, the passengers travelling in non-AC reserved classes are slowly migrating to AC class.

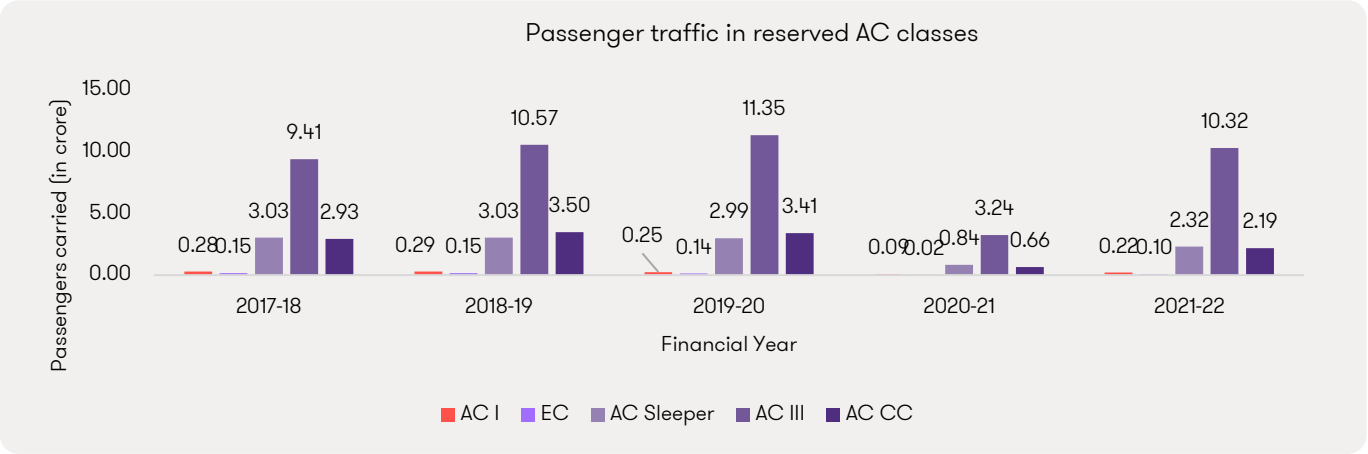

Figure 23: AC reserved passenger traffic | Source: Ministry of Railways Annual Statistics & GT analysis

Digitisation of railway ticketing

Since 1986, Indian railways has undertaken incrementally significant steps to digitise railways ticketing.

1986-1995	Introduction of computerised reservation system (CRS) in 1986. CRS was rapidly expanded across India till 1995.
1999	The Indian Railway Catering and Tourism Corporation (IRCTC) was established as a subsidiary of Indian Railways, launching the first online ticket booking portal, allowing passengers to book tickets remotely via the internet.
2007	The Indian railways introduced mobile ticketing services, allowing passengers to book unreserved tickets through SMS and mobile applications.
2014	The Indian railways launched the UTS (Unreserved Ticketing System) mobile app, enabling passengers to purchase and display unreserved tickets digitally via smartphones.
2016	The IRCTC launched the 'IRCTC Rail Connect' mobile app, offering a more user-friendly interface for booking reserved tickets and managing bookings on smartphones.
2017	The Indian railways integrated Aadhaar, India's biometric identification system, with ticket booking processes to enhance security and prevent fraud.
2018	The Indian railways expanded digital payment options on online and mobile platforms, integrating various payment gateways to facilitate seamless transactions.

The IRCTC has played a pivotal role in digitising railway ticket booking in India. Established in 1999 as a subsidiary of the Indian railways, the IRCTC is primarily responsible for catering, tourism, and online ticketing operations. In recent years, IRCTC decided to allow private OTAs to allow reserved ticket booking through secure API integration.

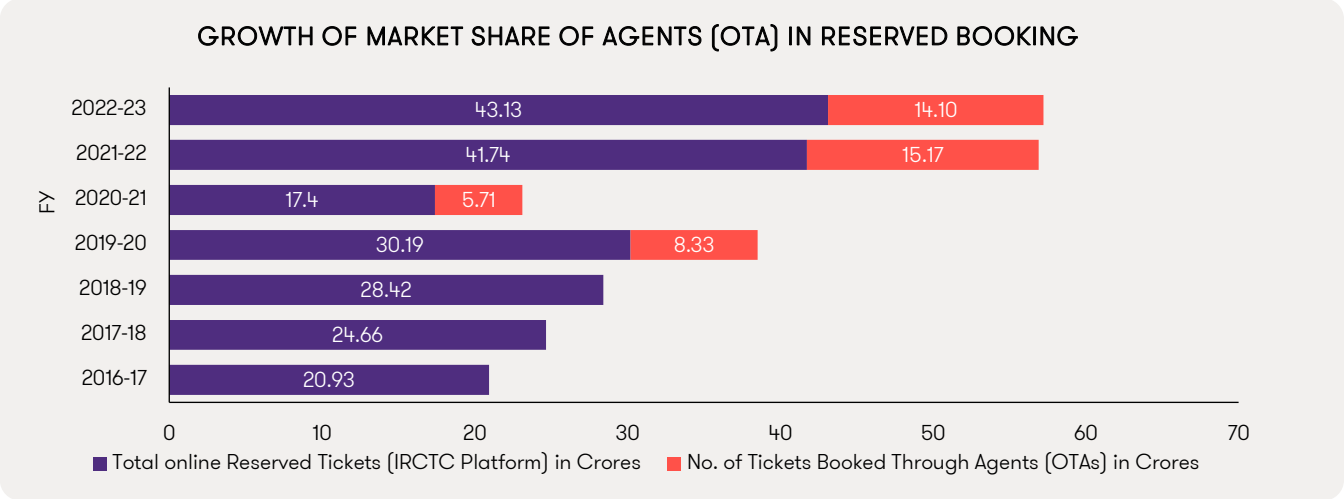

Figure 24: Reserved ticket booking statistics | Source: IRCTC Annual Report & GT Analysis

Reserved ticket booking (number of tickets booked) on the IRCTC platform shows a healthy 6-year CAGR of 12% (excluding Covid-19 years). This is especially significant considering that the overall growth of passenger traffic is quite stagnant (CAGR is less than 1%), which means that a growing proportion of travellers are shifting ticket booking from offline to online channels. Share of bookings through OTAs / agents have more or less remained consistent during the last four years with average share of 33%.

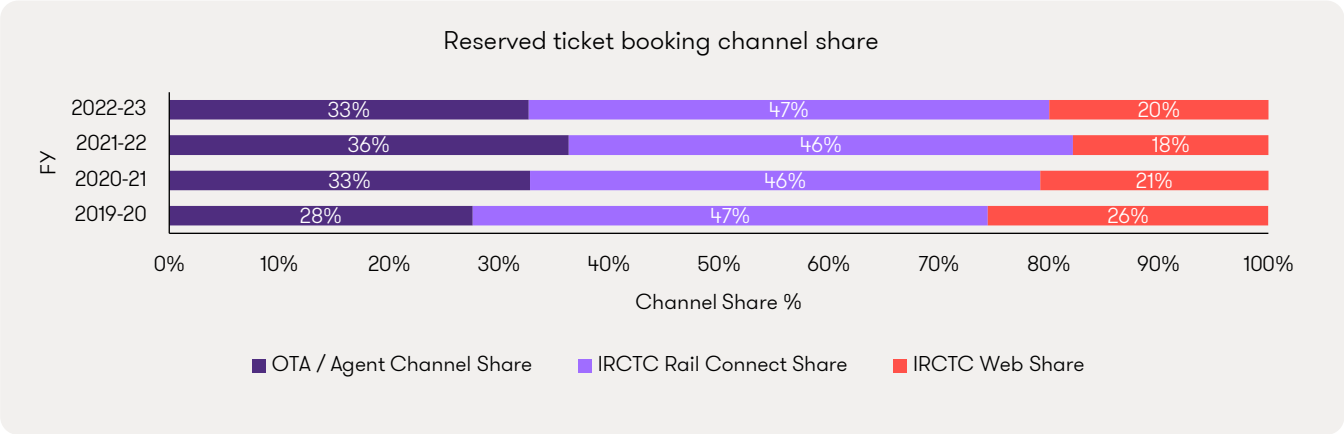

Figure 25: Reserved ticket booking statistics | Source: IRCTC Annual Report & GT Analysis

With increasing penetration of affordable smartphones, there is a marked shift in online ticket booking from computer web-based booking to smart phone-based booking (OTA apps + IRCTC Rail Connect app).

Interestingly, the IRCTC's own application has a significantly higher channel share than all agents / OTA combined, thereby implying a significant potential for private OTAs to gain market share.

Online reserved ticket booking projection and opportunity sizing for OTAs

Reserved ticketing projection and market sizing

The IRCTC launched its rail e-booking services in 2002, which helped the rail booking segment gain significant ground in e-booking penetration. The IRCTC is the only entity authorized to provide rail e-booking facility, with other OTAs routing their rail e-booking transactions through the IRCTC's booking engine. In essence, OTAs may be considered a class of 'Agents' acting on behalf of the IRCTC in offering reserved ticket booking services to end users. In fact, all users need to have a pre-existing account created on the IRCTC. OTA net revenue from reserved ticket booking is realized in the form of a convenience fee, which is typically INR 20 per non-AC PNR and INR 40 per AC PNR. It is important to note that the OTA revenue is on per PNR / ticket booked and not per passenger. Therefore, it is important to look at historical trend of ticket booking and the online / offline share. By collating data from various sources, including the IRCTC DHRP, the following trend is visible:

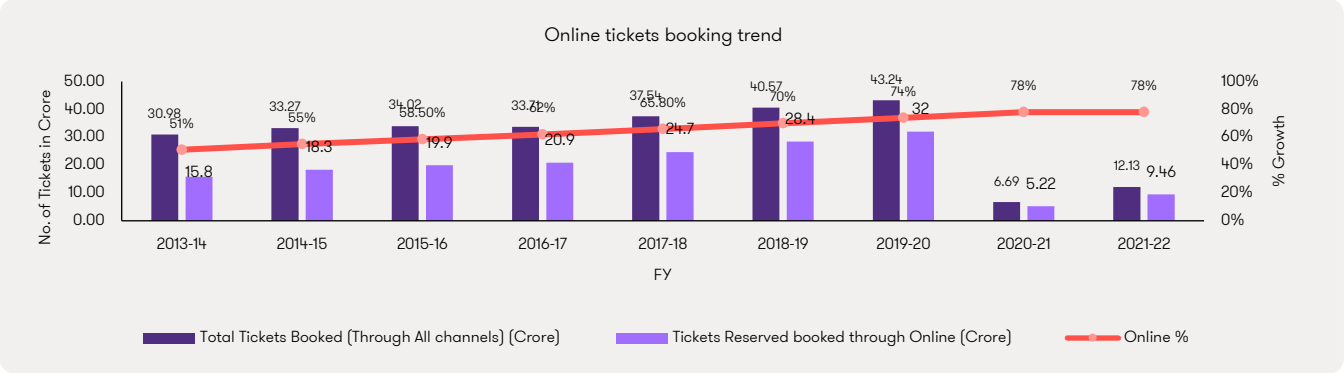

Figure 26: Reserved ticket booking statistics | Source: IRCTC Annual Report, IRCTC DHRP & GT Analysis

Note: Above excluded suburban tickets

Key observations

- There is insignificant increase in total passengers carried (CAGR is less than 1%).
- However, there is a very healthy growth in the percentage of tickets being booked online, which shows a CAGR of 12% (excluding the Covid-19 pandemic years).

Projections of passenger traffic for next three years

As has been highlighted earlier, railway traffic was hit significantly due to the Covid-19 pandemic. The impact has specifically been much more profound in the unreserved category. Even overall, the aggregate passenger traffic is yet to recover to pre-Covid levels. Therefore, any projection cannot simply ignore the impact of the Covid-19 dip in numbers. The most logical methodology would be to consider the CAGR of the three years immediately preceding the Covid-19 pandemic and apply the same on the base of FY 2021-22 when recovery from the pandemic has been seen to some extent. Applying this logic, the following trend is visible:

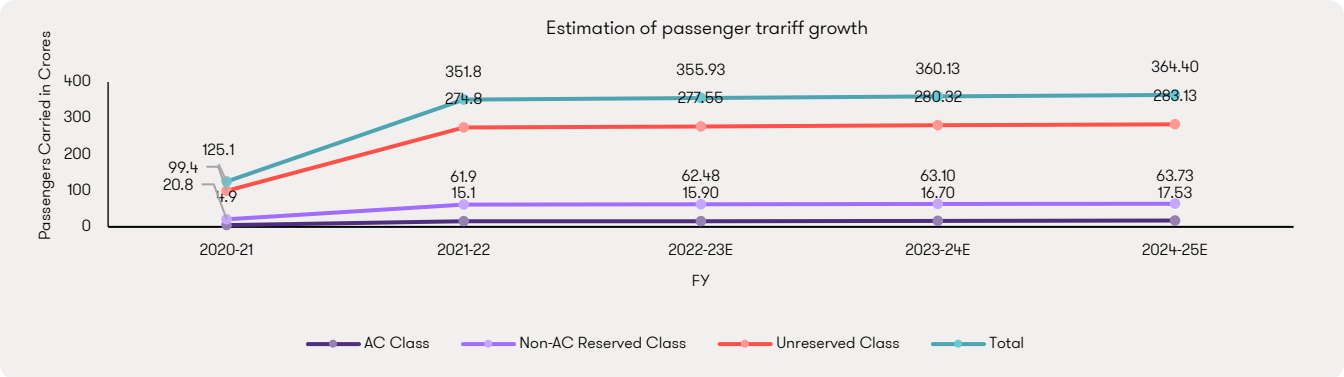

Figure 27: Passenger traffic estimation | Source: GT Analysis

Passengers carried (in crore)	2020-21	2021-22	2022-23E	2023-24E	2024-25E	CAGR	ADG CAGR
AC class	4.9	15.1	15.90	16.70	17.53	5.5%	5%
Non-AC reserved class	20.8	61.9	62.48	63.10	63.73	-0.4%	1%
Unreserved class	99.4	274.8	277.55	280.32	283.13	-0.4%	1%
Total	**125.1**	**351.8**	**355.93**	**360.13**	**364.40**	**-0.3%**	**1%**

Key insights:

- The AC reserved class is the only class where some growth can be expected with an estimated CAGR of 5%. This is primarily due to two key reasons. The Indian railway's initiative of launching premium-super fast trains where only reserved AC travel is permitted. Second, is the overall increase in the disposable income of Indians allowing them to afford AC class travel. Yet another possibility could be a certain section of airline travellers choosing rail travel due to recent increase in air fares.
- The non-AC reserved, and un-reserved categories may see no growth, and therefore, the adjusted CAGR of 1% has been considered.

- Overall, the number of passengers expected to see very flat growth in the next few years. However, there is still a substantial chunk of passengers (around 20%) who are still booking offline, which presents a significant market opportunity for private OTAs considering that there is a steady shift from offline to online as has been discussed earlier.

Projections of revenue through agents/OTA channel for next three years

Passengers carried (in crore)	2020-21	2021-22	2022-23E	2023-24E	2024-25E
AC class	4.9	15.1	15.90	16.70	17.53
Non-AC reserved class	20.8	61.9	62.48	63.10	63.73
Unreserved class	99.4	274.8	277.55	280.32	283.13
Total	125.1	351.8	355.93	360.13	364.40

Estimated tickets / PNR booked (in crore)	2020-21	2021-22	2022-23E	2023-24E	2024-25E
AC class	2.3	7.1	7.4	7.8	8.2
Non-AC reserved class	9.7	28.9	29.2	29.5	29.8
Unreserved class	46.5	128.4	129.7	131.0	132.3
Total	58.5	164.4	166.3	168.3	170.3

Estimated revenue opportunity (in crore)	2020-21	2021-22	2022-23E	2023-24E	2024-25E
AC class (Considering 78% online)	NA	NA	297.3	312.1	327.7
Non-AC reserved class (Considering 78% online)	NA	NA	583.9	589.8	595.7
Total	NA	NA	881.2	901.9	923.4

Reserved ticketing presents a market opportunity of around INR 900 – 920 crore per year during FY 2023-26 for OTAs/Agents.

Assumptions

- About 78% share of online booking during the estimation period.
- Convenience fee / Commission of INR 40/AC reserved ticket and INR 20/Non-AC reserved ticket.
- The above excludes suburban and unreserved traffic.
- Average 2.3 passengers travelling per ticket / PNR.

Un-reserved online ticketing

The Indian railways devised the unreserved ticketing system (UTS) in 2001-02, initially piloting it at 23 locations in Delhi. The Centre for Railway Information System (CRIS) oversaw hardware procurement and software development, commencing in August 2002. UTS has since been implemented across all Indian railways zones.

- While the decision made by the CRIS to introduce a mobile application for unreserved ticketing marked a significant milestone, it is essential to highlight that **the remarkable success witnessed in reserved ticket bookings through the IRCTC, in conjunction with private OTAs integrated with the IRCTC, has not been replicated by the UTS application.**
- One of the primary reasons contributing to the subdued uptake of the UTS application is the CRIS's strategic **choice to restrict private OTAs from integrating with CRIS for facilitating unreserved ticket bookings** through their platforms. Unlike the seamless collaboration seen in the reserved ticket booking realm, this decision has posed a hindrance to the widespread utilisation of the UTS application.
- As a result, despite the pivotal nature of the decision to launch the UTS application, its full potential is yet to be realised, and addressing the limitations associated with the non-involvement of private OTAs in unreserved ticketing could prove instrumental in unlocking greater success for this mobile ticketing solution.

Real-time access to OTAs for Tatkal booking

Tatkal reservation booking holds significant importance for travellers in India, offering a crucial option for securing last-minute train tickets. This service caters to individuals facing sudden travel needs or those who couldn't plan in advance. Whether for urgent business trips, medical emergencies, or unforeseen circumstances, Tatkal reservations provide a lifeline, ensuring access to train travel even when regular quotas are full.

However, private OTAs have been allowed delayed access to facilitate Tatkal reservations. Because of this restriction, users of OTAs are required to wait for 30 minutes beyond the commencement time (10:30 am and 11:30 am for AC classes and non-AC classes, respectively). Tatkal reservation being extremely time sensitive, this delay essentially makes it meaningless for end-users. It is, therefore, essential that this limitation be reviewed so that end-users may get non-discriminatory access to Tatkal booking through OTA apps.

Conclusion

The travel sector in India is a vibrant and dynamic industry consistently contributing around 5% to the nation's GDP over the past few years. India's expansive bus network and fourth largest railway network intricately support industrial and agricultural supply chains and connect bustling cities and remote villages. Facilitating the daily transit of more than 2.3 crore passengers, the sector transcends its conventional role as a mere mode of transit, emerging as a cornerstone of the Indian economy by generating 75.85 million jobs in 2018-19, constituting 14.87% of total jobs.

India's robust commitment to an extensive road network, the world's second largest, spanning over 63.31 lakh kilometres, speaks volumes about its dedication to a strong transportation infrastructure. This vast network, comprising national highways, state highways, district roads, and rural arteries, serves as a crucial backbone for nationwide connectivity. Beyond merely facilitating the movement of goods and people, the growth in road transport plays a vital role in supporting economic activities and is instrumental in addressing urbanisation challenges, contributing significantly to sustainable development. The stage-carriage bus industry in India is poised for substantial growth, showcasing a promising trajectory with a projected value of INR 104,000 crore in 2026. This optimistic forecast reflects the industry's robust performance with STUs and private buses anticipating a commendable CAGR of 6.15% and 7.19% respectively. The advent of online bus ticket booking has been a transformative force in the travel industry, offering unparalleled convenience to users by enabling them to book tickets from the comfort of their homes or offices, thereby eliminating the need for long queues. This digital shift has significantly increased the popularity of buses as a mode of transport in India. However, the recent imposition of a 5% GST on e-commerce operators facilitating non-airconditioned bus ticket sales poses challenges. This tax burden impacts affordability, particularly for economically constrained individuals who favour non-AC buses. Moreover, this raises equity concerns, hindering digital accessibility for those who would benefit most from online platforms.

The primary survey further provides valuable insights into the dynamics of bus booking application usage in the contemporary travel technology landscape. A significant revelation is the entrenched habit of offline booking among users, with habituality being the predominant reason for resistance to online adoption. Language preference emerges as a key factor, emphasising the need for interfaces in users' native languages. Accessibility to digital payment modes remains a hurdle for a notable segment. The findings highlighted the substantial impact of the 5% GST levy on online bus bookings as more than 70% of the expressed concerns about additional fees.

Desired features in OTA apps include real-time seat availability, low-cost options, exclusive deals, and positive user reviews. Surprisingly, almost half of the users (47%) expressed a preference for simple SMS/USSD-based ticket booking, emphasising the demand for straightforward and uncomplicated processes. These findings underscore the importance of addressing user habits, language preferences, and pricing transparency to enhance the effectiveness and appeal of bus booking applications.

The rail sector emerges as a critical linchpin in India's transformative economic landscape. As the nation strives to ascend from the fifth to the third-largest global economy by 2027, the railways play a foundational role in shaping the country's connectivity and economic resilience. The extensive network, ranked as the world's fourth largest, not only facilitates the annual movement of crores of passengers but also forms an integral backbone for industrial and agricultural supply chains. The rail sector shows immense resilience as the freight traffic remains largely unimpacted even during Covid-19 pandemic years. The shift towards digitalization in the sector is evident in the robust 12% CAGR in online ticket bookings, excluding pandemic years, with OTA/agents commanding a one third of the share and IRCTC's rail connect app contributing almost half of the overall reserved ticket bookings. Thus, it can be concluded that private OTAs are a key driver in the growth of online ticketing. Amid these dynamics, the potential for incorporating unreserved ticketing into the OTA booking realm emerges as a strategic avenue for India's railway ticketing landscape. With unreserved passengers constituting a substantial portion of the total passenger count, collaboration between CRIS and private OTAs emerges as a transformative opportunity. The shift to digital ticketing not only reduces operational burdens for the Indian Railways but also offers private OTAs an avenue to innovate tariff structures and enhance user convenience. This synergy holds the potential to elevate the passenger experience, alleviate infrastructure strain, and foster a symbiotic relationship, yielding efficiency gains for the railway system and expanded market opportunities for the private sector.

Appendices

Key objectives, location, scope and methodology of primary survey

The key parameters explored:

Demographic information

Understanding essential demographic information such as age, gender, and city is essential for creating a nuanced profile of users and extracting meaningful insights related to technology adoption and travel behaviour.

Economic profile

The financial parameter in the survey serves as a crucial dimension for understanding the economic diversity among respondents. It offers insights into the financial capacities and constraints that users may experience.

Travel behaviour

Understanding users' travel behaviour involves exploring the primary purpose of travel, preferred modes, and average travel distance. This information provides valuable insights into users' diverse travel needs and preferences and understanding if the current OTA services are matching varying expectations and demands.

Booking preferences

Examining users' preferred modes of booking tickets, including online platforms and mobile apps, unveils the evolving landscape of travel technology.

Internet and mobile usage

Analysing users' experiences with mobile apps, including reasons for usage or non-usage, duration of usage, and preferred platforms, provides a comprehensive understanding of their interaction with digital ticketing services. This data helps identify digital penetration trends across all demographics.

Factors influencing app choice

Exploring the reasons behind users' preferences for specific mobile apps uncovers key drivers of app adoption. The analysis allows the study of aspects that resonate most with users and contribute to app loyalty.

Expectations and challenges

Ranking user expectations and identifying challenges during ticket booking on mobile apps offers valuable insights into user priorities and pain points. This information is crucial to understand user satisfaction by addressing concerns and aligning services with customer expectations.

Financial fraud awareness

Exploring users' awareness of and experiences with financial fraud while booking tickets online adds a layer of security and trust considerations to the analysis. Understanding these concerns delves into the importance of building robust security measures, reassuring users and building trust in digital transactions.

Future adoption

Assessing users' willingness to embrace alternative booking methods, such as SMS/USSD messages, gauges openness to innovative approaches in the travel technology landscape. This insight helps anticipate future trends and alignment of strategies with emerging technologies, ensuring continued relevance and user engagement.

Key objectives:

01	02	03	04
Assess technology adoption across demographics	Evaluate user experiences, factors driving ticketing decisions	Identifying catalysts and impediments to online ticketing	Evaluating travel frequency, purpose and habits

Figure 28: Key objectives of primary research

Geographic locations of survey

This survey aimed to comprehensively explore the dynamics of bus travel technology adoption and user behaviour among individuals commuting both inter-city and intra-city in India. The scope encompassed a diverse user base, considering the distinctive travel patterns and preferences associated with these two categories. By conducting the survey across key metropolitan cities, namely, Delhi, Mumbai, Kolkata, Chennai, Bengaluru, Indore, Ahmedabad, and Pune, the research aims to capture a representative sample reflecting the diversity of bus app users in diverse urban landscapes. The inclusion of both inter-city and intra-city travellers ensures a holistic understanding of how users engage with digital ticketing services in different travel scenarios.

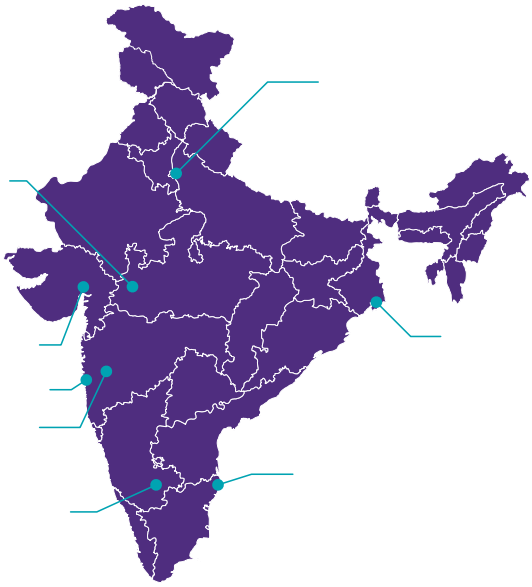

Figure 29: Indicative map of survey locations

The structured questionnaire has been meticulously designed to extract relevant insights from **1,400 bus travellers,** with an equal division between those travelling inter-city and intra-city. This sample size is aimed at providing statistically significant data that can be used to understand broader trends and patterns. The chosen cities represent major hubs with high population density and diverse socio-economic backgrounds, ensuring a rich dataset that encapsulates the varying dynamics of bus travel technology adoption. Through this survey, the goal is to uncover nuanced insights into users' preferences, challenges, and expectations, enabling travel service providers to tailor their offerings to meet the diverse needs of bus travellers in both inter and intra-city scenarios.

Approach and methodology of the survey

Overview of questions of the survey

The survey is designed to gather a comprehensive understanding of bus travel technology adoption and user behaviour among the respondents in the major metropolitan cities of India, ensuring equal representation from inter-city and intra-city travellers. The questionnaire encompasses diverse facets of the user experience, beginning with demographic profiling, including age, gender, and city of residence. It further delves into economic considerations by assessing individual income, followed by an exploration of technology adoption patterns, such as mobile device ownership and internet access reliability. Travel behaviour is extensively examined through inquiries about the primary purpose of travel, preferred modes, and average travel distances. Additionally, the survey addresses users' booking preferences, experiences with mobile apps, factors influencing app choice, expectations, challenges, awareness of financial fraud, and openness to alternative booking methods.

This comprehensive questionnaire aims to extract nuanced insights, providing a holistic perspective on the evolving landscape of bus travel technology in India.

Survey collection methodology (software platform)

The survey adopts a random stratified methodology, with data collection outsourced to a primary survey collection agency. Conducted on the field through one-to-one interactions with bus app users, the survey spans major bus terminals in eight metropolitan cities of India, including:

- Delhi's ISBT Kashmere Gate
- Mumbai Central ST Bus Stand
- Kolkata's SBSTC Bus Terminus
- Chennai's Kilambakkam Bus Terminus
- Bengaluru's Kempegowda Bus Station
- Indore's Sarwate Inter-State Bus Terminus
- Ahmedabad City Bus Terminal, and
- Pune Station Bus Stand

To ensure robust data authenticity, the agency's secure data collection app, Surveykshan, has been utilised, while the actual interaction with the respondent has been done through face-to-face interactions. During the survey, the app was configured to capture real-time geolocation of the survey. Qualified field investigators, who were specifically trained for this survey, were physically deployed at all locations.

Checks and balances implemented

The survey incorporates a robust set of checks and balances, leveraging an automated process facilitated through an Android application developed by the primary survey agency. The Surveykshan app, secured with passwords, initiates the survey process by digitising the questionnaire, which is then uploaded to a central server. Surveyors access the application on their mobile phones, logging in with unique username IDs, and undergo a verification process before conducting interviews. Throughout the interviews, the app meticulously tracks crucial details such as the date and time of the interview, voice recordings, and geolocation. These parameters are securely stored in a manner that prevents any potential edits, ensuring the authenticity and integrity of the collected data.

Furthermore, an analytical engine processes the gathered information, assessing voice tone, duration, and the confidence level of respondents. This multi-layered authentication mechanism enhances the credibility of the dataset by detecting inconsistencies or potential biases in the responses. The final dataset, refined through these checks, is then shared, thereby providing a reliable and accurate foundation for analysis.

Data collation and analysis methodology

The data collation and analysis process follow a meticulous methodology to derive meaningful insights from the collected information. Initially, the data collection app would organise the raw data systematically, allowing for seamless collation. The collected data is then subjected to rigorous validation checks to identify and rectify any inconsistencies or errors. Subsequently, a detailed statistical analysis is conducted, employing both descriptive and inferential techniques to interpret patterns, trends, and correlations within the dataset. The analysis incorporates stratified views to understand variations across different demographic segments and geographic locations.

Glossary

ACCC	Air-Conditioned Chair Car	**NSSO**	National Sample Survey Office
API	Application Programming Interface	**OCR**	Optical Character Recognition
ATVM	Automatic Ticket Vending Machine	**OTA**	Online Travel Aggregator
BEST	Brihanmumbai Electric Supply and Transport	**PAT**	Profit After Tax
CAGR	Compound Annual Growth Rate	**PNR**	Passenger Name Record
CGST	Central Goods and Services Tax	**PPP**	Purchase Power Parity
CoTVM	Cash-Coin & Smart Card operated Ticket Vending Machine	**PPP**	Public Private Partnership
CRIS	Centre for Railway Information Systems	**PRASAD**	Pilgrimage Rejuvenation and Spiritual Augmentation Drive
CRS	Computerized Reservation System	**PRICE**	People Research on India's Consumer Economy
CY	Calendar Year	**PRS**	Passenger Reservation System
DGCA	Directorate General of Civil Aviation	**PSV**	Private Service Vehicles
DTC	Delhi Transport Corporation	**SMS**	Short Message/Messaging Service
EC	Executive Chair	**SRTC**	State Road Transport Corporation
ECO	E-commerce operators	**STU**	State Transport Undertaking
G20	Group of Twenty	**TAM**	Total Addressable Market
GDP	Gross Domestic Product	**TC**	Ticket Collector
GST	Goods and Services Tax	**TTEs**	Travelling Ticket Examiners
GVA	Gross Value Added	**UDAN**	Ude Desh ka Aam Naagrik
IBEF	India Brand Equity Foundation	**UNIX**	Uniplexed Information Computing System
INR	Indian Rupee	**UPI**	Unified Payments Interface
IRCTC	Indian Railway Catering and Tourism Corporation	**USD**	United States Dollar
ISBT	Inter State Bus Terminal	**USSD**	Unstructured Supplementary Service Data
JTBS	Jan Sadharan Ticket Booking Seva	**UTS**	Unreserved Ticketing System
MoSPI	Ministry of Statistics and Program Implementation	**WTTC**	World Travel & Tourism Council
NeGP	National e-Governance Plan	**YoY**	Year on Year

About IAMAI

Established in 2004, the Internet and Mobile Association of India (IAMAI) is a not-for-profit industry body representing the digital industry. With 580 members, including Indian and multinational corporations, as well as start-ups, IAMAI has been instrumental in shaping India's digital economy. IAMAI advocates free and fair competition, and progressive and enabling laws for businesses as well as for consumers. The overarching objective of IAMAI is to ensure the progress of the internet and the digital economy. Its major areas of activities are public policy and advocacy, business to business conferences, research, and promotion of start-up.

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