

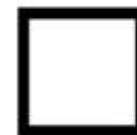


RAILWAYS



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EXECUTIVE SUMMARY

World's 3rd largest rail network

- Indian Railways has 13,452 passenger trains and 9,141 freight trains.
- On the commercial front, freight traffic of Indian Railways increased to 1,221.39 million tonnes in FY19. As of January 2020, freight traffic in FY20 (provisional) stood at to 999.51 million tonnes.

Growing public-private partnership (PPP)

- Private sector companies are being encouraged to participate in rail projects, which were largely in the public domain. The cabinet approved 'participative models for rail-connectivity and capacity augmented projects', which allowed private ownership of some railway lines.
- The second Tejas Express was flagged off in January 2020 on the Ahmedabad-Mumbai route.

Growth initiatives

- India will build its first railway station inside a tunnel at a height of 3,000 meters and length of 27 km on Bilaspur-Manali-Leh line in Himachal Pradesh.
- Under the Union Budget 2020-21, the Government allocated Rs 72,216 crore (US\$ 10.33 billion) to the Ministry of Railways.
- In June 2020, Railways created a new world benchmark by commissioning first high rise Over Head Equipment (OHE) with a contact wire height of 7.57 metre and successfully running double stack containers in electrified territory on Western Railway.
- Indian Railways plan to run on 100 per cent electricity by 2024 and become a net-zero emission network by 2030. In July 2019, the longest electrified tunnel was built between Cherlopalli and Rapuru stations.

Modernisation/ Technology upgradation

- India Railways has undertaken modernisation of railway stations under the Adarsh station scheme. Out of the total 1,253 railway stations identified under the scheme, over 1,050 railway stations have already been modernised.
- Various technologies such as electronic interlocking at all interlocked broad-gauge stations and automatic train protection (ATP) system have been introduced by Indian Railways.
- All electric locomotives have been provided with vigilance control devices (VCD) to check the alertness of loco pilots (LPs).
- The Government decided to manufacture only Linke Hoffman Bushce (LHB) type coaches from 2018-19 onwards and decided to adopt HOG system (Head on Generation technology) in all LHB Coaches trains in September 2019.

*Note: *Approximate*

Source: Make in India, Indian Railways, News Articles

ADVANTAGE INDIA



- Increasing urbanisation and rising income (both urban and rural) are driving growth in the passenger segment.
- Growing industrialisation across the country has increased freight traffic in the last decade.
- India is projected to account for 40 per cent of the total global share of rail activity by 2050.

Growing Demand

- Freight traffic is set to increase significantly due to rising investments and private sector participation.
- Metro rail projects are being envisaged across many cities over the next ten years.

Attractive Opportunities

ADVANTAGE INDIA

- FDI inflow in railway related components from April 2000 to March stood at US\$ 1.10 billion.
- Investment in Railway's infrastructure is estimated to increase from US\$ 58.96 billion in 2013-17RE to US\$ 124.13 billion in 2018-22E.^
- It is estimated that Railway's infrastructure would need an investment of Rs 50 lakh crores (US\$ 715 billion) between 2018-30.

Higher Investment

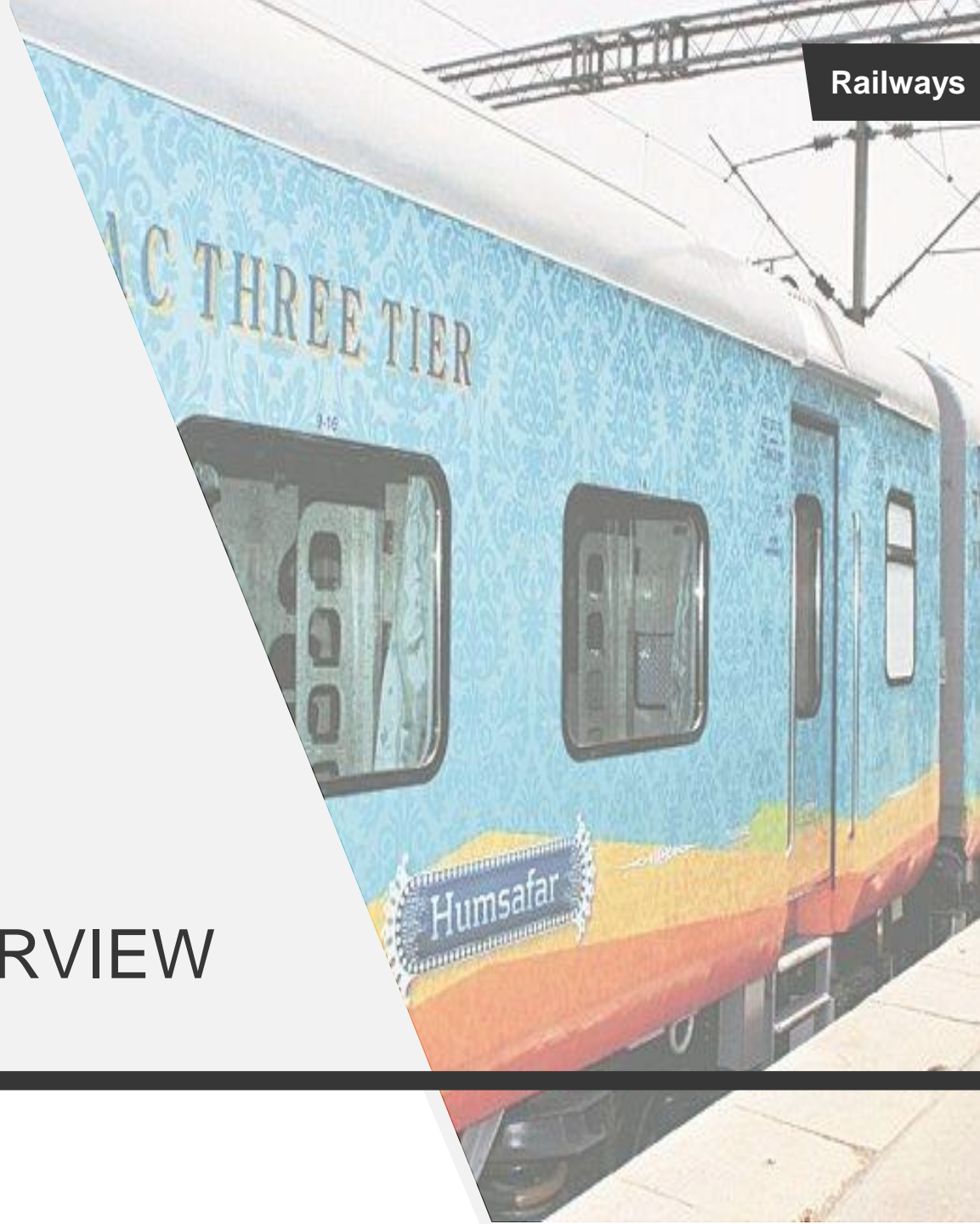
- The Government has increased the scope of PPP beyond providing maintenance and other such supporting roles. PPP is being utilised in areas such as redevelopment of stations, building private freight terminals and private container train operations.
- Government has allowed 100 per cent FDI in the railway sector.

Policy Support

Note: FDI - Foreign Direct Investment, ^As per CRISIL Infrastructure Yearbook 2017, RE – Revised Estimates, E - Estimate

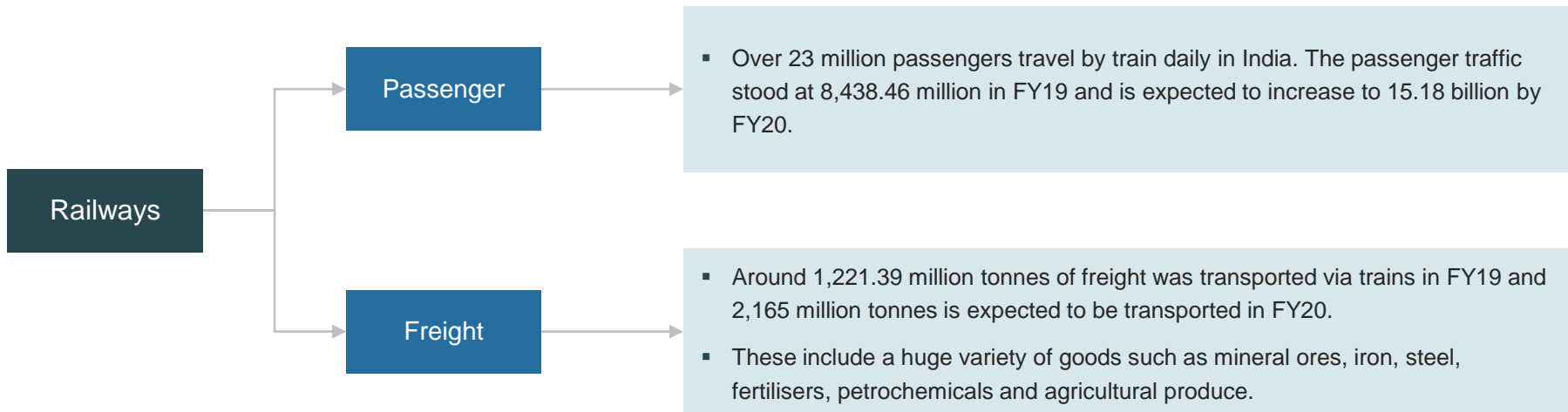
Source: Railway Budget 2019-20, Press Information Bureau, Department for Promotion of Industry and Internal Trade in source,, The Future of Rail Opportunities for energy report by International Energy Agency

MARKET OVERVIEW



INDIAN RAILWAYS HAS TWO MAJOR SEGMENTS

- Indian Railway (IR) is:
 - a departmental undertaking of the Government of India, which owns and operates most of India's rail transport.
 - overseen by the Ministry of Railways.
- As of 2017-18, IR had a total route network of about 68,442 kms.
- It operates more than 22,300 trains daily.
- It has 0.278 million wagons, 71,825 coaches and 11,764 locomotives.

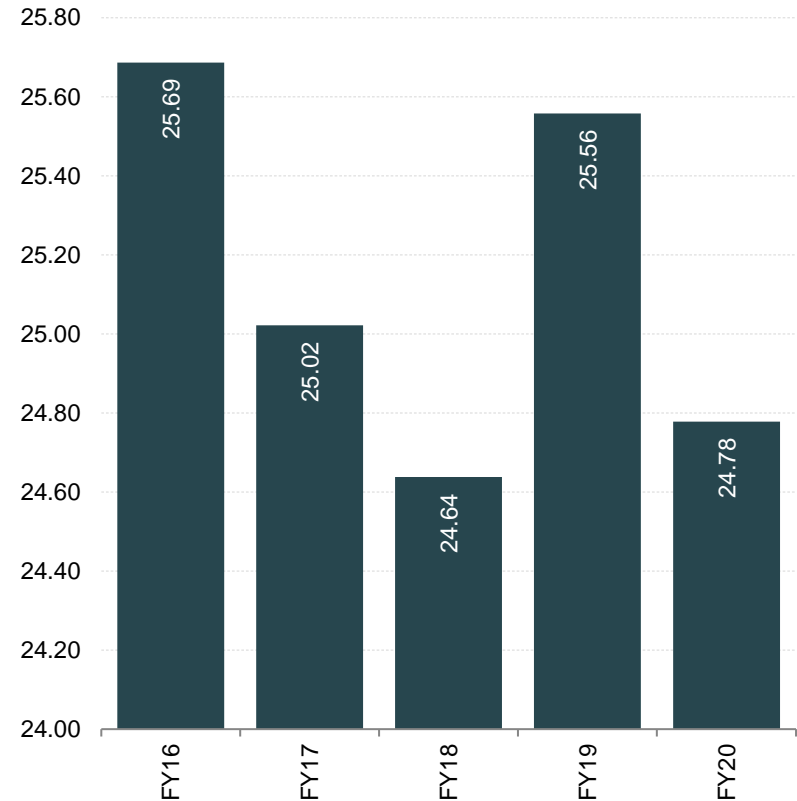


Source: Ministry of Railways, Make In India, Railway Budget 2019-20, Indian Railways Statistical Publications 2019-20

STRONG REVENUE GROWTH FOR INDIAN RAILWAYS

- Revenue growth has been strong over the years. Indian Railways' revenue reached US\$ 24.78 billion in FY20.
- Indian Railways has undertaken various measures to boost revenues including:
 - Passenger Earnings – introduction of new trains, operation of special trains during peak seasons, running premium special trains with dynamic pricing
 - Freight Earnings – reduction in distance of mini rakes, withdrawal of port congestion charge, rationalisation of Merry-go-Round policy
 - Parcel Earnings – leasing parcel space to private parties, liberalisation of parcel policy
 - Other Earnings – adoption of bulk advertising rights, vinyl wrapping of trains, right of way charges

Gross revenue trends over the years (US\$ billion)

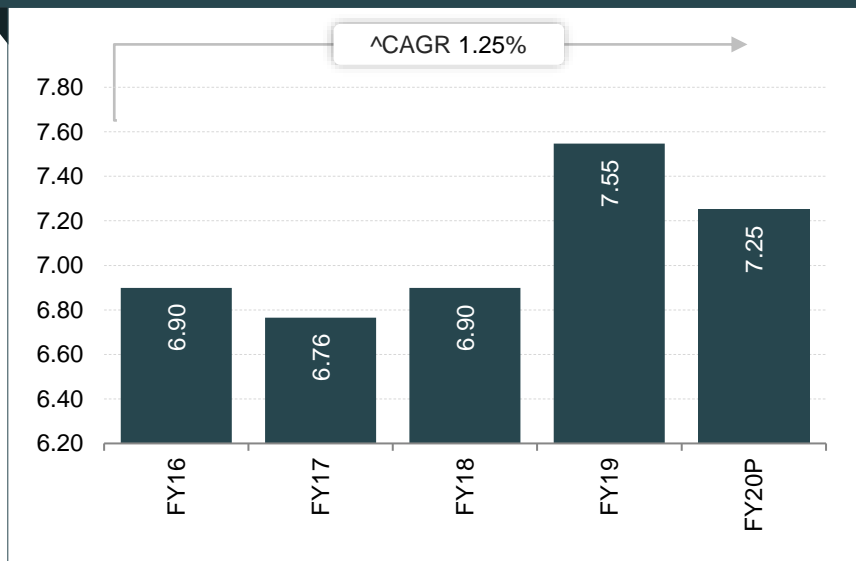


Note: CAGR – Compound Annual Growth Rate, E – Estimates, P – Provisional, FY – Indian Financial Year (April–March),

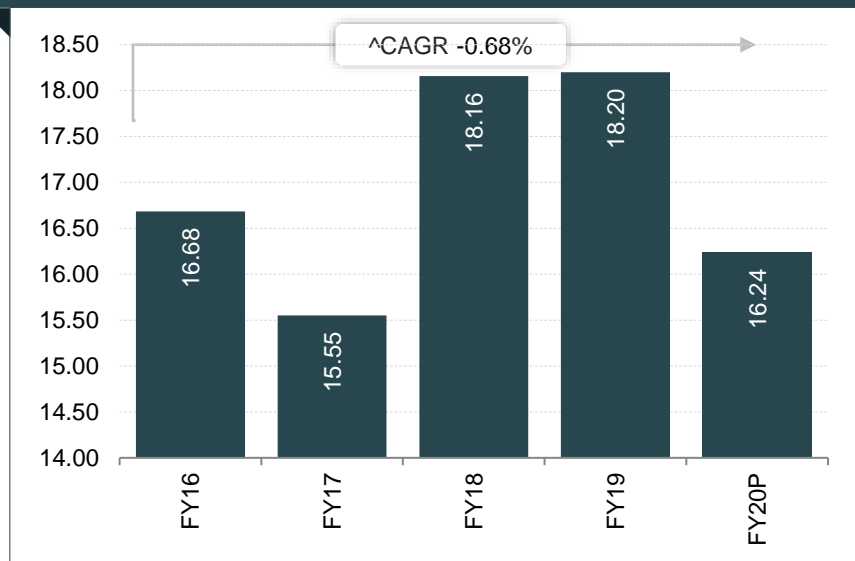
Source: Ministry of Railways

SEGMENT-WISE REVENUE GROWTH FOR INDIAN RAILWAYS

Passenger earnings (in US\$ billion)



Earnings from freight (in US\$ billion)



- Revenue from passenger segment of Indian Railways increased at a CAGR of 1.25 per cent to reach US\$ 7.25 billion in FY20 from US\$ 6.90 billion in FY16.
- Freight earnings stood at US\$ 16.24 billion in FY20.
- Increased carrying capacity, cost effectiveness, and improved service quality will see Railways incremental share from freight movement increasing from 35 per cent to 50 per cent by 2020.
- With 630 km of metro rail in 13 cities and over two dozen metro projects lined up, India's metro rail network is expanding at a fast pace.

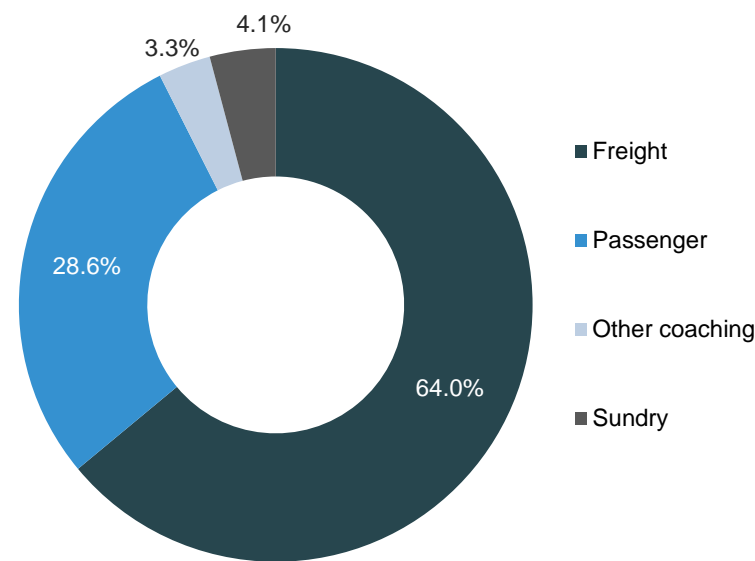
Notes: CAGR – Compound Annual Growth Rate, FY – Financial Year, Exchange Rates used are averages of the year, P – Provisional

Source: Ministry of Railways

FREIGHT ACCOUNTS FOR MORE THAN TWO-THIRDS OF RAILWAY'S REVENUES

- Freight business for Indian Railway is supported by 9 commodities, few of them being coal, iron, steel, iron ore, food grains, fertilizers, petroleum products.
- Indian Railways' freight business increased nearly seven times in the last fifty years – from 167.39 million tonnes in 1970-71 to 1159.55 million tonnes in 2017-18.
- Freight remains the major revenue earning segment for Railways, accounting for 64 per cent of the total revenue in FY20, followed by the passenger segment.
- Profit from the freight segment is used to cross-subsidise the passenger segment.
- Dedicated Freight Corridor Corp. of India Ltd (DFCCIL) is already building two freight corridors – Eastern Freight Corridor from Ludhiana to Dankuni (1,856 km), and Western Freight Corridor from Dadri to Jawaharlal Nehru Port (1,504 km), at a total cost of Rs 81,000 crore (US\$ 11.59 billion).
- A total of 1,231 freight customers are availing E-payment facility since November 2019.
- In November 2019, a pilot project was launched to study the feasibility of using Railways' parcel service for E-tail players
- On July 27, 2020, the average speed of freight trains was 46.16 kmph, which is more than double as compared to last year on the same date (22.52 kmph), and total loading stood at 3.13 million tonnes.

Revenue break-up by segment (FY20)



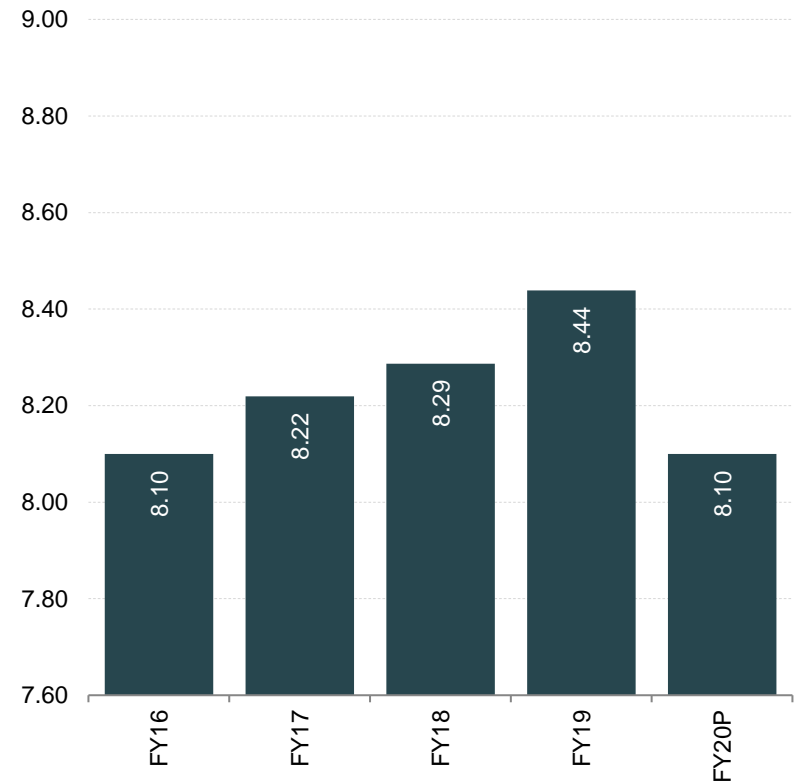
Note: Other Coaching includes service coaches such as pantry cars, parcel vans, mail vans, etc, * - Provisional

Source: Railway Budget 2019-20, Ministry of Railways

PASSENGER VOLUMES WITNESS HEALTHY GROWTH

- Train travel remains the preferred mean for long-distance travel for majority of Indians.
- Increase in the demand for passenger trains is supported by urbanisation, improving income standards, etc.
- The punctuality performance of Indian Railways for mail and express trains increased to 75.67 per cent during April-December 2019 as compared to 68.19 per cent in the same period last year.
- During FY20P, passenger traffic in the country reached 8.10 billion.

Trends in passenger volumes (in billions)

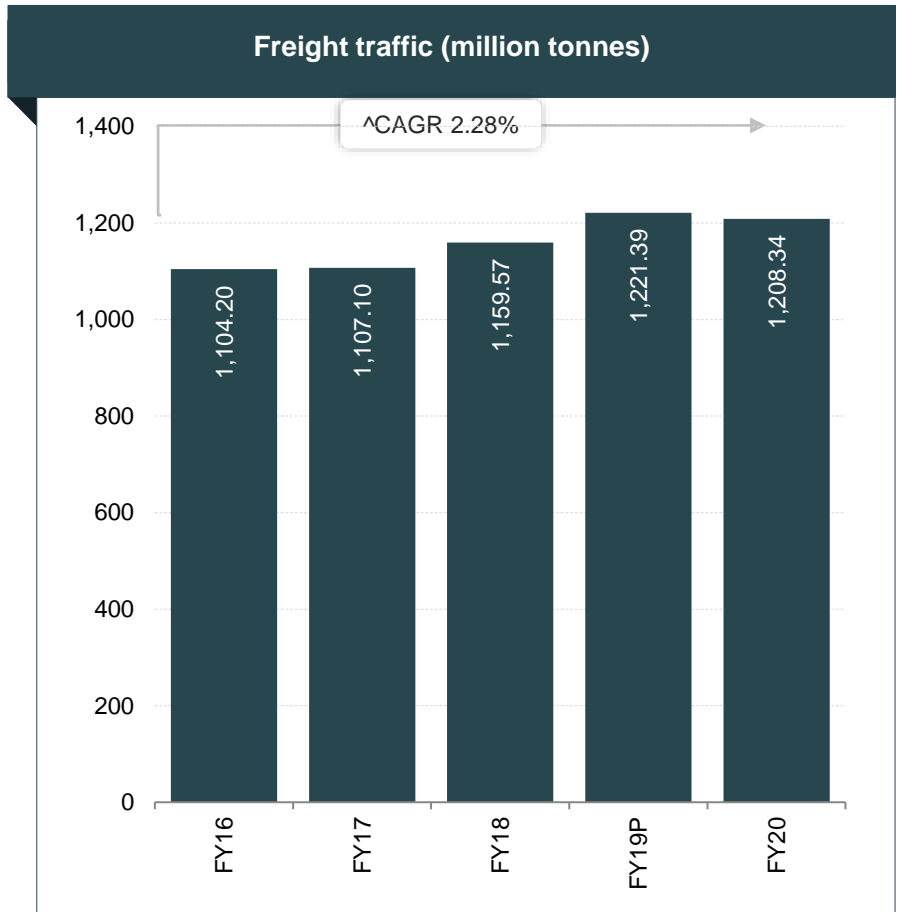


Note: CAGR – Compound Annual Growth Rate, E – Estimate, FY – Indian Financial Year (April–March), P – Provisional

Source: Make In India, Ministry of Railways

STRONG GROWTH IN FREIGHT TRAFFIC

- The Government is investing heavily in building rail infrastructure in the country.
- With increasing participation expected from private players, both domestic and foreign, due to favourable policy measures, freight traffic is expected to grow rapidly over medium to long term.
- Freight traffic carried by Indian Railways stood at 1,208.34 million tonnes in FY20.

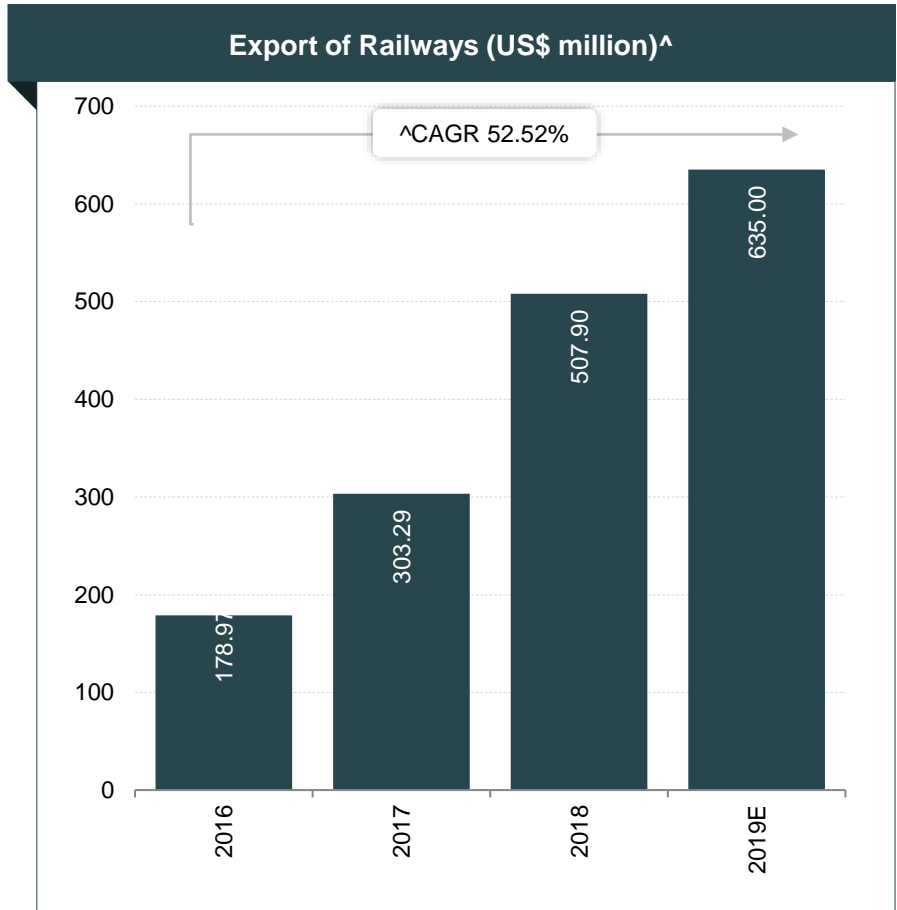


Note: CAGR – Compound Annual Growth Rate, FY – Indian Financial Year (April–March), P – Provisional,, ^CAGR is up to FY20

Source: Ministry of Railways, Vision 2020, Press Information Bureau

RISING EXPORT OF RAILWAYS SECTOR

- India was among the top 20 exporters of railways globally as of 2019.
- India's export of railways grew at a CAGR of 52.52 per cent during 2010-2019 to reach US\$ 635 million.
- In 2019, Train 18, Indian Railways' fastest engine-less self-propelled train, gained several queries for export.
- On July 28, 2020, Railways handed over 10 Broad Gauge (BG) locomotives to Bangladesh, under grant assistance from the Government of India.







Note: CAGR – Compound Annual Growth Rate, ^Exports of Railway, Tramway Locomotives, Rolling Stock, Equipment, Data is the latest available, E-Estimated

Source: UN Comtrade, News Articles

KEY PLAYERS SUPPORTING INDIAN RAILWAYS

Key organisations supporting Indian Railways

Company	Business description
 <p>कॉनकॉर CONCOR</p>	<ul style="list-style-type: none"> ▪ Navratna PSU under India's Ministry of Railways ▪ Carrier, terminal operator and warehouse operator
 <p>डेडीकेटेड फ्रीट कोरीडोर कॉर्पोरेशन</p>	<ul style="list-style-type: none"> ▪ SPV set up under the Ministry of Railways ▪ Undertakes planning and development; mobilisation of financial resources; construction, maintenance and operation of the Dedicated Freight Corridor (DFC)
 <p>रेल विकास निगम लिमिटेड Rail Vikas Nigam Limited (A Government of India Enterprise)</p>	<ul style="list-style-type: none"> ▪ SPV created by the Government of India ▪ Builds engineering works required by Indian Railways
 <p>रेलटेल RAILTEL</p>	<ul style="list-style-type: none"> ▪ Mini Ratna PSU with one of the largest neutral telecom infrastructure providers in the country ▪ Strives to modernise train control operation and safety system of Indian Railways

Notes: PSU – Public Sector Undertaking, DFC – Dedicated Freight Corridor, SPV – Special Purpose Vehicle

Source: Relevant Company Annual Reports and websBPM

RECENT TRENDS AND STRATEGIES



NOTABLE TRENDS IN INDIAN RAILWAYS...(1/2)

Demand for urban transport	<ul style="list-style-type: none">▪ There is a rapid increase in demand for urban mass transportation systems in the country. Several metro rail projects are in progress to improve connectivity within cities.▪ The central Government inaugurated the Pune Metro Rail project on December 24, 2016. The metro line would have 30 stations and the 1st phase would cover 31.25 km. The project is expected to be completed by 2021 at a cost of US\$ 1.67 billion. In January 2019, the Department of Economic Affairs (DEA) and the French Development Agency (AFD) signed a credit facility framework agreement to extend funding to Rs 20.27 billion (US\$ 280.96 million)
M-ticketing and E-ticketing	<ul style="list-style-type: none">▪ As of July 2018, Indian Railways decided to start accepting soft copies of documents placed in DigiLocker of customers. In May 2018, IRCTC introduced its mobile android app to be utilised by IRCTC E-wallet users to book E-rail tickets. In FY19, the internet ticketing segment contributed 12.35 per cent to IRCTC's revenue.▪ In October 2019, Indian Railway launched One Touch ATVM for fast ticketing at 42 suburban stations of Central Railway.
International investment	<ul style="list-style-type: none">▪ IR has attracted foreign investment through strategic alliances with various countries over the last few years.▪ In November 2019, Indian Railways entered into procurement cum maintenance agreement with Madhepura Electric Locomotive Pvt Ltd (MELPL), a joint venture (JV) of Indian Railways and France-based Alstom to manufacture 800 electric locomotives for freight service and its associated maintenance.
Travel Insurance Scheme	<ul style="list-style-type: none">▪ Railways rolled out its insurance scheme for passengers, under which they can buy a premium of 1.52 cents while booking a ticket to get an insurance cover of up to US\$ 1.5 thousand.
Semi high-speed train projects	<ul style="list-style-type: none">▪ IR intends to look for cost effective options to increase speed to 160–200 km per hour on existing routes such as Delhi-Chandigarh and Delhi-Agra.▪ In February 2019, the Government launched India's first semi-high-speed train, Vande Bharat Express, to run between Delhi and Varanasi. In October 2019, second semi-high-speed train called Delhi-Katra Vande Bharat Express was launched.

Notes: km/h – kilometre per hour

Source: Ministry of Railways, Railway Budget 2019–20

NOTABLE TRENDS IN INDIAN RAILWAYS...(2/2)

Bullet trains

- Studies are being commissioned for other high-speed routes in the diamond quadrilateral.
- India is keen on manufacturing and exporting bullet train coaches to possibly bring down the operating cost of Shinkansen trains.
- For the upcoming Mumbai-Ahmedabad bullet train project, 24 bullet train sets are planned to be acquired from Japanese companies through tendering process.
- Average speed of faster trains will increase from the existing 110-130 kmph to 160-200 kmph, respectively
- The estimated value of the project is US\$ 14.52 billion, which will reduce the duration of the journey by 2 hours. Construction of the corridor is expected to be completed by 2023.

High-speed trains projects

- Indian Railway has planned to build 7 high-speed rail corridors to provide faster rail connectivity across the country at a cost of US\$ 17 billion.
- 'Train 20' high speed next generation sleeper class train, which will replace Rajdhani Express, is expected to be rolled out by 2020.
- Indian Railway has collaborated with the Government of Japan for the construction of high speed passenger train corridor between Ahmedabad and Mumbai. The Government has set a target of commencing the train by 2023.

New services launched

- In February 2019, Indian Railways decided to launch food packets with QR codes and give live kitchen feed.
- Nearly 4,100 km of railway lines were to be commissioned in 2018-19,

Investment

- Under the Union Budget 2019-20, the Government allotted Rs 2,200 crore (US\$ 304.92 million) for gauge conversion, Rs 700 crore (US\$ 97.02 million) for doubling tracks, Rs 6,114.82 crore (US\$ 847.51 million) for rollingstock and Rs 1,750 crore (US\$ 242.55 million) for signalling and telecom.

*Notes: km/h – kilometre per hour
Source: Ministry of Railways, Railway Budget 2015–16, Railway Budget 2016–1*

STRATEGIES ADOPTED BY INDIAN RAILWAYS

Revenue-based strategies

- Provision of online rail bookings, hotel reservations and retiring rooms by IRCTC adds to revenue of Indian Railways. IR is focusing on international tourists and have also produced many tour packages for foreigners.
- Indian Railway has set a target of US\$ 5.95 billion in revenue from monetising railways in the next 10 years. By doing so, IR aims to increase earnings through traditional as well as non-traditional sources and reduce expenditure.

Turnaround strategies for passenger traffic

- Fare for premium classes were reduced to compete with airlines, luxury buses and personal transport vehicles.
- The length of popular trains was increased from 16-18 coaches to 24-26 coaches.
- Private participation is encouraged. Information Technology was used to make ticket reservation more feasible to passengers along with an airline-style upgradation facility from lower class to higher class.
- The speed is expected to be raised to 160 kmph on Delhi-Mumbai and Delhi-Howrah routes by 2022-23. The passenger trains have got approval to raise 60 per cent increase in average speed.
- Rajdhani train journeys will become fully overnight.

Turnaround strategies for freight traffic

- Axle load was increased from 20.3 tonnes to 22.9 tonnes and 25 tonnes for selected routes and freight discounts were offered to customers offering high tariffs.
- The average speed of freight trains would increase to 50 kmph and Mail/Express trains to 80 kmph by end of 2020.
- Freight rates on cement, coal, urea, kerosene, LPG and food grain and pulses have been hiked by 10 per cent to bring additional revenue of US\$ 655.1 million per year.

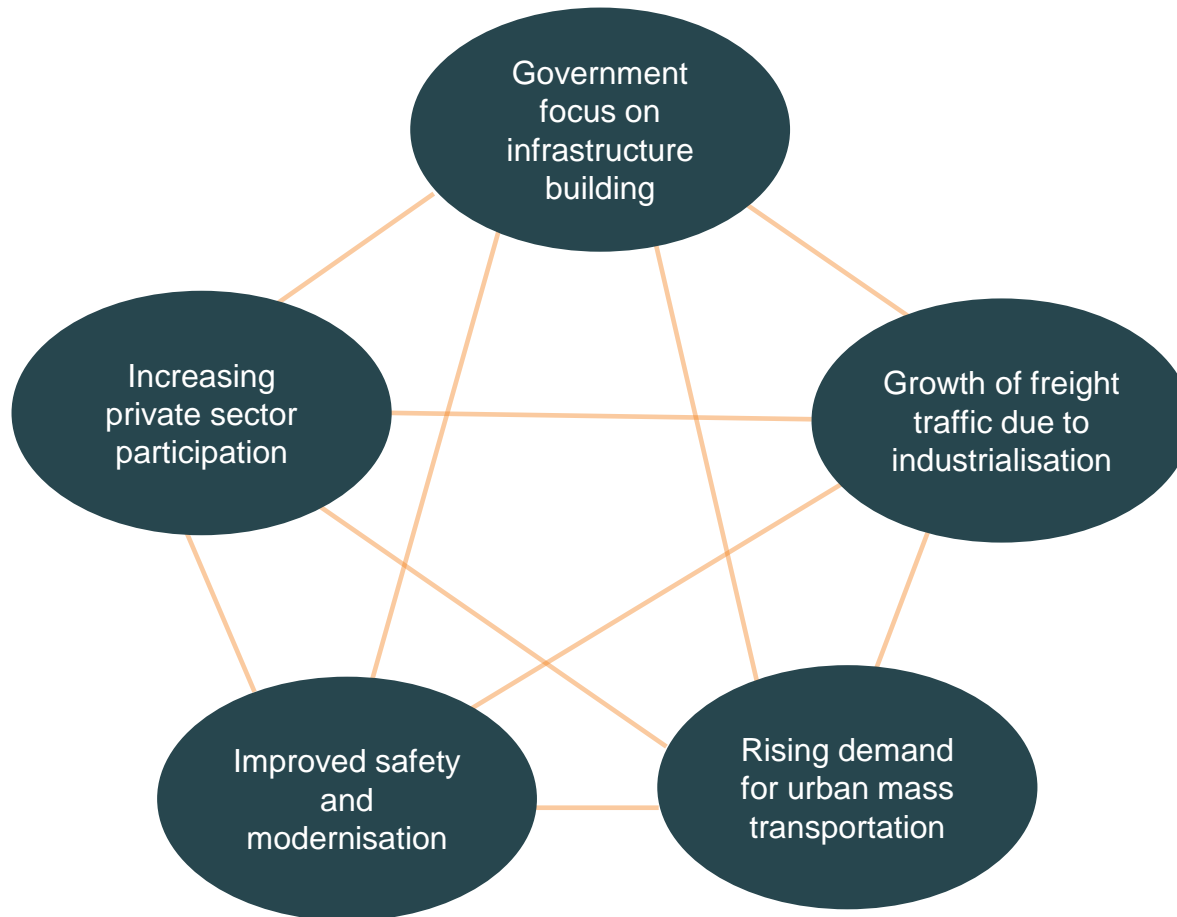
Notes: IRCTC – Indian Railway Catering and Tourism Corporation

Source: Ministry of Finance, Railway Budget 2019-20, News articles

GROWTH DRIVERS AND OPPORTUNITIES

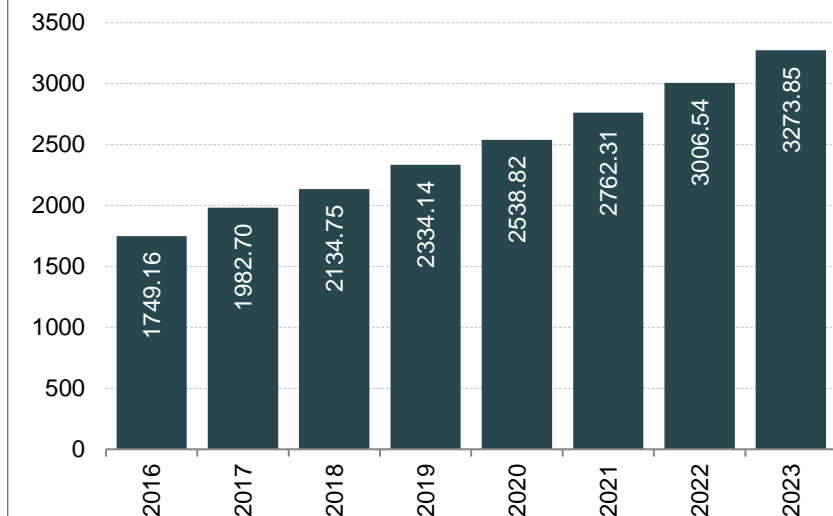


STRONG DEMAND AND POLICY SUPPORT DRIVING INVESTMENTS

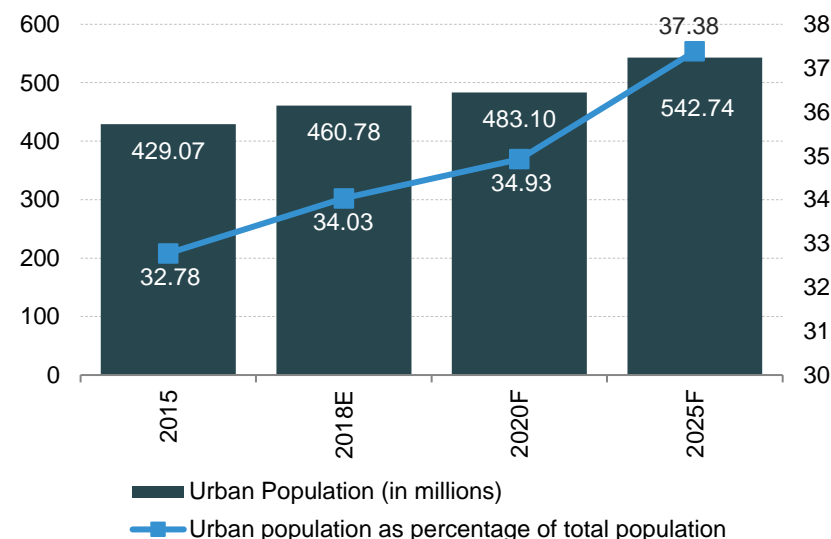


RISING INCOME AND URBANISATION DRIVING PASSENGER TRAFFIC GROWTH

GDP per capita at current prices (US\$)



Urbanisation in India^



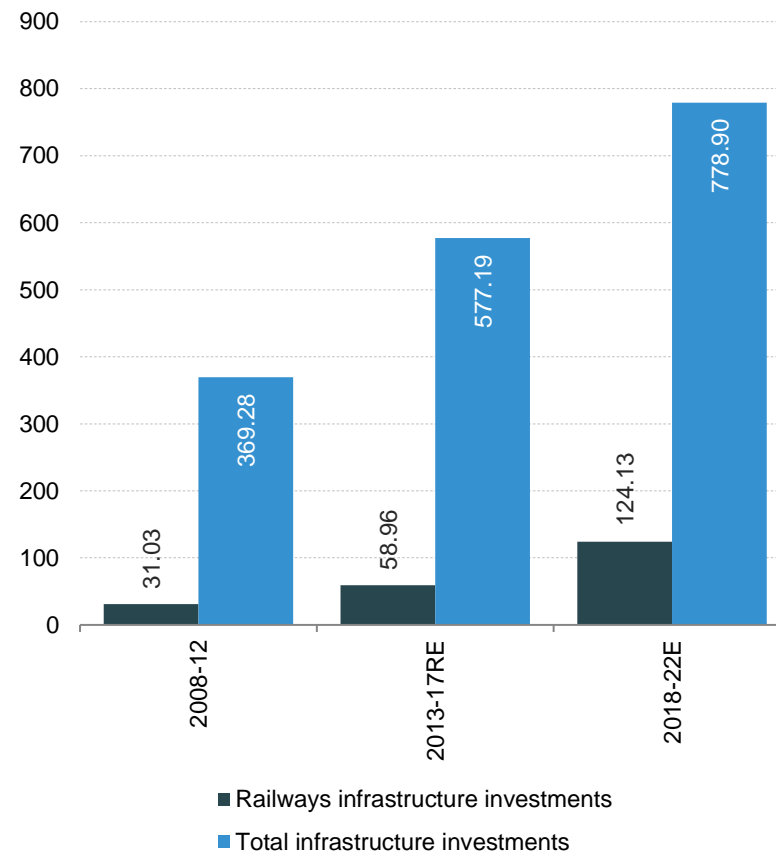
- Increasing incomes in urban and rural areas have made rail travel affordable to large number of Indians.
- Improvement of urban-rural connectivity has been another major contributor to the growth of Railways in the country.
- Population residing in urban areas is expected to increase from 460.78 million^ in 2018 to 542.74 million^ in 2025F. The percentage of India's total population residing in urban areas is expected to increase from 34.03 per cent^ in 2018 to 37.38 per cent^ in 2025F.

Note: ^data relates to mid-year, E – Estimate, F – Forecast

Source: Ministry of Railways, IMF World Economic Outlook April 2018, United Nations World Urbanisation Prospects 2018

- It is estimated that India will require US\$ 4.5 trillion of infrastructure investment by 2040 to enhance economic growth and community well being.
- In December 2019, the Government of India launched National Infrastructure Pipeline, under which, Rs 100 lakh crore (US\$ 1.43 trillion) investment is expected over the next five years.
- Railway plans to invest Rs 50 lakh crore (US\$ 715.41 billion) by 2030 to build infrastructure.
- In November 2019, National Green Tribunal (NGT) ordered to develop at least 5 per cent of major stations as Eco-smart stations.
- In July 2019, the longest electrified tunnel was built between Cherlopalli and Rapuru stations.
- As per Union Budget 2020-21, Ministry of Railways has been allocated Rs 72,216 crore (US\$ 10.33 billion).
- In FY20, 15 critical projects of around 562 kms track length worth Rs 5,622 crore (US\$ 797.56 million) were completed, and out of these, 13 were commissioned by railways. Railways completed electrification of around 5,782 route kms during the same year.
- In June 2020, Railways created a new world benchmark by commissioning first high rise Over Head Equipment (OHE) with a contact wire height of 7.57 metre and successfully running double stack containers in electrified territory on Western Railway.

Infrastructure Investment (US\$ billion)



Notes: RE – Revised Estimates, E- Estimate

Source: CRISIL Infrastructure Yearbook 2017, Economic Survey 2019-20, Railway Book

- In December 2012, the cabinet approved the new policy of participative models for rail-connectivity and capacity augmented projects. The policy addressed the issues of ownership of the railway line and repayment of investment.
- Since the launch of the policy, railway authorities have received various proposals from private investors and have already given approval (can now acquire land and begin construction) for four port connectivity projects to ease congestion.
- Areas proposed for private investment during this period would include elevated rail corridor in Mumbai, some parts of dedicated freight corridor, freight terminals, redevelopment of stations and power generation/energy saving projects
- Other measures taken/proposed include:
 - Setting up of a modern signalling equipment facility at Chandigarh through PPP
 - Construction of new lines – Bhupdeopur-Raigarh (Mand Colliery) and Gevra Road-Pendara Road; Doubling of Palanpur-Samakhiali section through PPP.
 - Setting up of 2 locomotive plants through PPP is crucial for the development of infrastructure sector.
 - Setting up joint ventures (JV) with major public sector customers for fulfilling the requirements of new lines.
- Ministry of Railways has jointly set up factories with Alstom and General Electric (GE) at Madhepura and Marhowra to manufacture 800 electric locomotives and 1000 diesel locomotives. The ministry has 26 per cent stake in both the JVs. In addition to manufacturing of locomotives, the companies will also have to undertake maintenance of the first 500 units by setting up manufacturing facilities and establishing maintenance facilities at Saharanpur, Nagpur, Roza and Gandhidham. In March 2018, Alstom completed the production of the first all-electric locomotive at the manufacturing facility in Madhepura, Bihar.
- As per Union Budget 2019-20, Government enhanced the metro railway initiative by encouraging more purchasing power parity initiatives and ensuring completion of sanctioned works, while supporting transit-oriented development (TOD) to ensure commercial activity around transit hubs.
- Purchasing power parity projects in railways is expected to receive investment of Rs 50 trillion (US\$ 750 billion) by 2030.

Notes: PPP – Public Private Partnership; MUTP-III: Mumbai Urban Transport Project-III

Source: Ministry of Railways, Make in India

To modernise Indian Railways, the focus is on two fundamental drivers, safety and growth along with a 5-pronged strategy:

- Modernise core assets – key revenue generating assets
- Explore new revenue models – to meet the funding needs for modernisation and growth
- Review projects – to ensure financial viability, social benefits and timely implementation
- Focus on enablers – for a holistic and long-term approach to modernisation and execution
- Mobilise resources – to capitalise on an opportunity

Information Technology – to improve operational efficiency

Key focus areas

Core assets	Track and bridges	Signalling	Rolling stock	Stations and terminals
Revenue models	PPPs	Land	Dedicated freight corridors	High-speed trains
Projects	Review of existing and proposed projects			
Enablers	ICT	Indigenous development	Safety	
Resources	Funding	Human resource	Organisation	

Note: ICT – Information and Communication Technology, PPP – Public Private Partnership

Source: :Ministry of Railways

Track upgradation and welded rails

- Sleepers have been upgraded from wooden, steel and CST-9 to PSC sleepers.
- Heavier section and high tensile strength rails are being used (52 kg/60 kg 90 UTS rails are being used in place of 90 R/52 kg 72 UTS rails).
- Under Union Budget 2019-20, 36,000 km rail track is being targeted for renewal.
- Replacing analogue type machines with digital type machines and promotion of better and improved welding techniques.

Adarsh Scheme

- As of June 2019, 1,253 stations were identified under the scheme, of which, 1,103 stations have been developed as per norms.
- Total allocation for the scheme increased from Rs 1,470.79 crore (US\$ 228.21 million) in 2017-18 to Rs 1,657 crore (US\$ 236.23 million) in 2019-20.
- Moula-Ali station has been developed under Adarsh Station Scheme at a cost of Rs 3.5 crore (US\$ 0.49 million).

Increasing operational efficiency

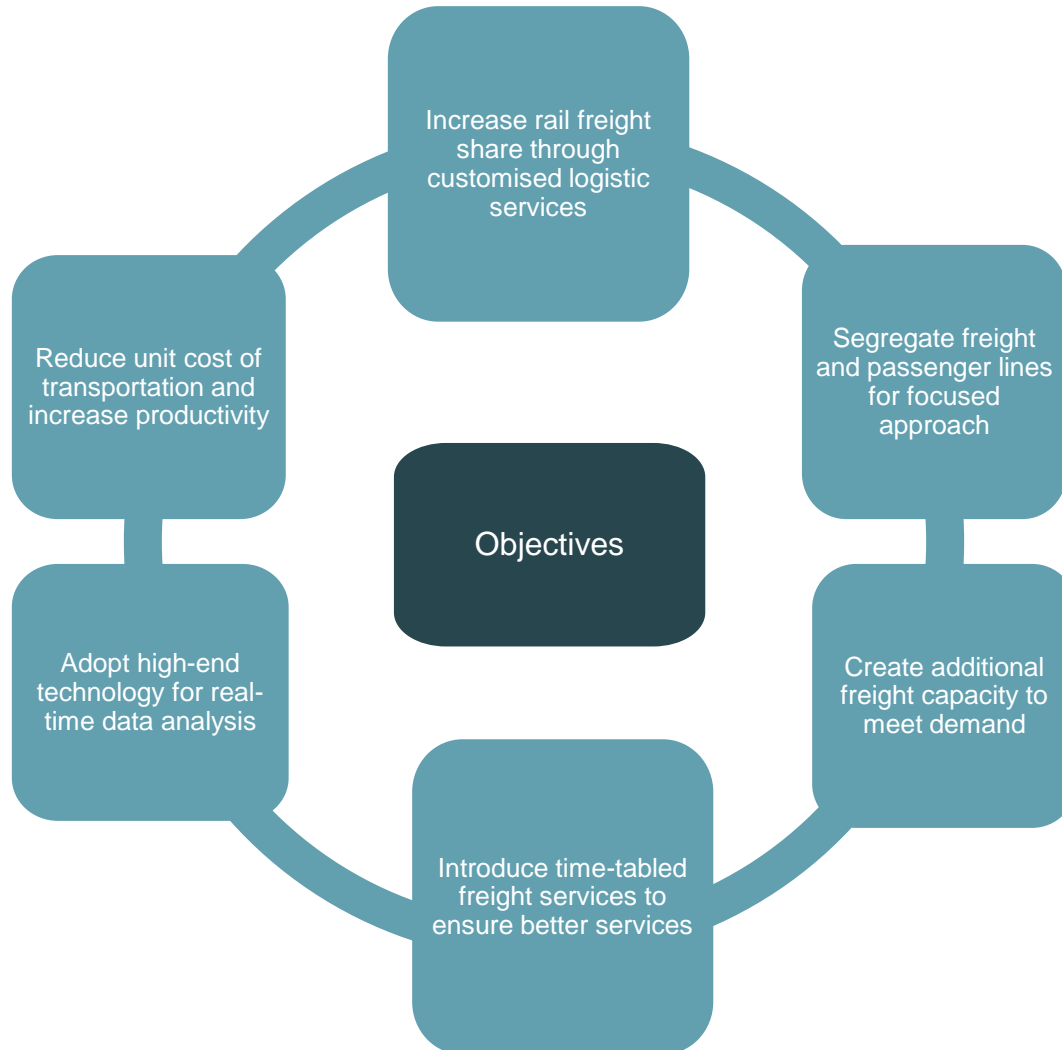
- Design and development of 5500 HP WDG5 diesel locomotive for faster, longer and heavier trains.
- Development of high-sensitivity thermal imaging camera with online scanning facility to improve the reliability of electric traction system.
- Development of 25 KV HV connector for multiple operation of WAP5 locomotives with 1 pantograph in raised condition.

Unreserved Ticketing Services (UTS)

- UTS was made functional at 5,778 locations with 10,760 terminals. Currently, 90 per cent of unreserved tickets are generated through UTS. The app received 10,62,560 new users till January 2019.
- By June 2019, 3.87 lakh passengers purchased the unreserved tickets through online application.
- Indian Railways introduced a mobile app, "utsonmobile", in Chennai to allow passengers a paperless ticketing system. It is being considered to extend across all metros.

Note: Km – Kilometres, IR – Indian Railways, UTS – Ultimate Tensile Strength, CST9 – Central Standard Trial-9, PSC – Pre Stressed Concrete

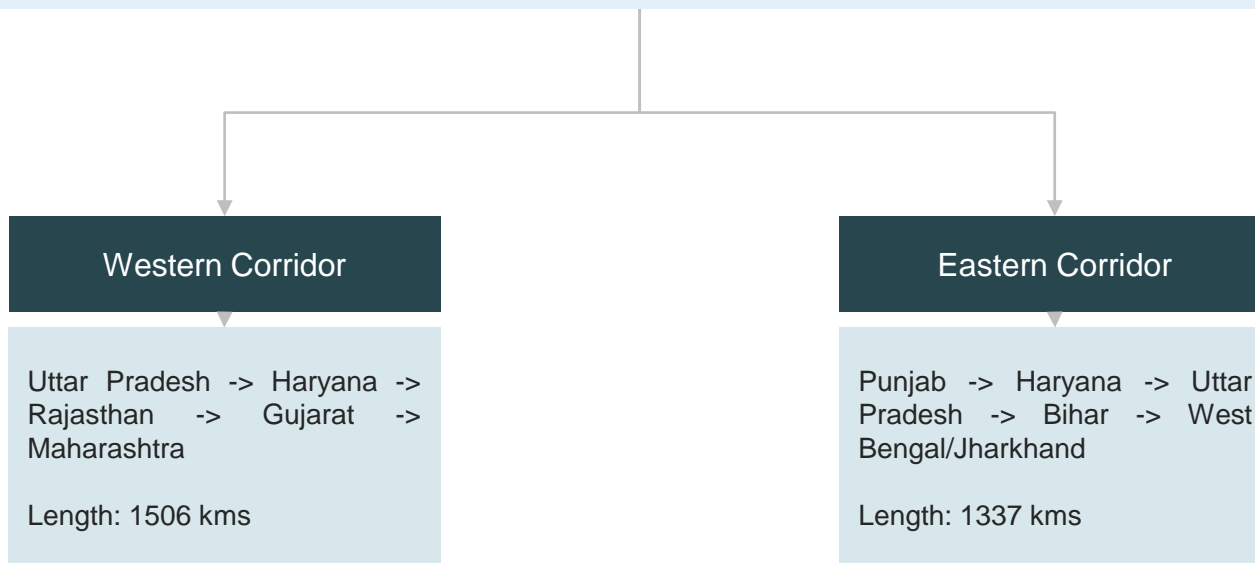
Source: Ministry of Railways



Note: Ministry of Railways

DEDICATED FREIGHT CORRIDOR ... (2/2)

- DFCCIL, a special purpose vehicle, was set up for implementing the DFC project under the administrative control of Ministry of Railways.
- The plan is to construct dedicated freight lines along the eastern (1856 km route length) and western (1504 km route length) parts of India
- Total length: 2,8243 kms; total estimated cost: US\$ 11.66 billion as on September 2019; financial progress stands at 63.6 per cent and physical progress stands 67.5 per cent.
- The World Bank granted loan of US\$ 1,100 million for EDFC-2 and sanctioned loan of US\$ 650 million for EDFC-3 in October, 2016.



Note: DFC – Dedicated Freight Corridor, DFCCIL – Dedicated Freight Corridor, Corporation of India Limited, JV – Joint Venture, EDFC – Eastern Dedicated Freight Corridor

Source: Ministry of Railways

Foreign Direct Investment (FDI)

- 100 per cent FDI under automatic route is permitted for approved list of projects.

Automobile Freight Train Operator Scheme 2013

- To increase its share in automobiles transportation, Indian Railways notified a new scheme in March 2013, Automobile Freight Train Operator. The scheme provides logistic service providers and road transporters an opportunity to introduce their own special wagons to run on the railways' network and avail of freight rebates in return. The requirements for the scheme are laid down as under:
 - Companies with minimum net worth of US\$ 3.7 million or annual turnover of US\$ 5.5 million are eligible to participate in this scheme.
 - A registration fee of US\$ 0.9 million is required to be paid to the Railway Ministry on approval as AFTOs.
 - Companies are required to introduce at least 3 rakes and make them operational within 6 months from the commissioning of the 1st rake.
 - The freight rates would be notified from time to time for specific stock to be moved by AFTOs.
 - The freight rebate would be incorporated in the freight rates specified for transport of automobiles.
 - Special wagons would be designed and developed by Research, Design and Standards Organisation (RDSO) for induction by 3rd party logistics providers and road transporters.
 - Each rake is to have a capacity to carry 318 small cars. The rake should be tested by RDSO.
- To make the policy more effective, Ministry of Railways liberalised the AFTO policy by reducing registration fees from Rs 5 crore (US\$ 0.78 million) to Rs 3 crore (US\$ 0.47 million). Also, the requirement of minimum procurement of at least 3 rakes under the scheme has been relaxed to 1 rake.

Source: Times of India, Ministry of Railways

<p>R3i policy</p>	<ul style="list-style-type: none"> ▪ The policy aims to attract private sector participation in rail connectivity projects to create additional rail transport capacity. ▪ The policy allows for 4 models: (a) Cost Sharing-Freight Rebate; (b) Full Contribution- Apportioned Earnings; (c) Special Purpose Vehicle (SPV); and (d) Private Line.
<p>R2CI</p>	<ul style="list-style-type: none"> ▪ This new policy was initiated to improve rail connectivity to coal and iron ore mines. ▪ The policy offers the developer involved in the construction of the line to levy a surcharge on the freight over a period of 10–25 years. ▪ The policy has two models: Capital Cost and SPV Models. The Capital Cost Model is relevant when there are 2 players, whereas the SPV Model is intended for a large number of players.
<p>Public Private Partnership (PPP)</p>	<ul style="list-style-type: none"> ▪ Connectivity to the major ports through PPP funding. ▪ Approval has been granted for 7 ports amounting to US\$ 0.7 billion. ▪ Development of the major stations to equip them with international level of amenities and services.
<p>Wagon investment scheme</p>	<ul style="list-style-type: none"> ▪ Indian Railways launched the Wagon Investment Scheme in 2005 to offer freight rebates and supply a guaranteed number of rakes for a period of 7 to 15 years for different types of wagons. ▪ Ministry of Railways proposed to set up 5 wagon factories in Secunderabad, Bardhaman, Bhubaneswar/Kalahandi, Guwahati and Haldia under the JV/PPP model. ▪ Till May 2019, 77 general-purpose rakes were approved by IR under the GPWIS policy for multiple private investors. Two rakes are already operational in the east coast zone.

Note: R3i – Railways’ Infrastructure for Industry Initiative, SPV – Special Purpose Vehicle, R2CI – Railways Policy for Connectivity to Coal and Iron Ore Mines

Source: Ministry of Railways, Make in India website

Railways announcements

- Under Union Budget 2020-21, the Government of India has allocated Rs 72,216 crore (US\$ 10.35 billion) as capital support for Indian Railways.
- For passenger safety, a Rashtriya Rail Sanraksha Kosh will be created with a corpus of Rs 1 lakh crore (US\$ 15.61 billion) over a period of 5 years. It is proposed to feed about 7,000 stations with solar power in the medium term.
- By 2024, Indian railways will run completely on electricity.
- The Government is going to come up with a 'National Rail Plan', which will enable the country to integrate its rail network with other modes of transport and develop a multi-modal transportation network.
- By 2019, all coaches of Indian Railways were fitted with bio toilets. In the next 3 years, the throughput is proposed to be enhanced by 10 per cent.
- Indian Railways will commence Kisan Rail, a special Parcel Train from Devlali (Maharashtra) to Danapur (Bihar) on August 07, 2020.

Participative models for rail connectivity and capacity augmented projects

- This policy supersedes the R3i and R2CI policies notified earlier.
- The policy provides for supplementing Government's investment in rail infrastructure projects by private capital flows.
- The policy contains the following models: non-Government railway; JV with equity participation by railways; capacity augmentation through funding by customers; capacity augmentation – annuity model applicability; and BOT.
- Few projects undertaken under the participative policy of Ministry of Railways include Jaigarh Port-Digni Port, Hamarpur-Rewas Port, Chiplun-Karad, Vaibhavwadi-Kolhapur and Indore-Mammad.

Note: kms – Kilometers

Source: Ministry of Railways, Railway Budget 2015-16, Press Information Bureau

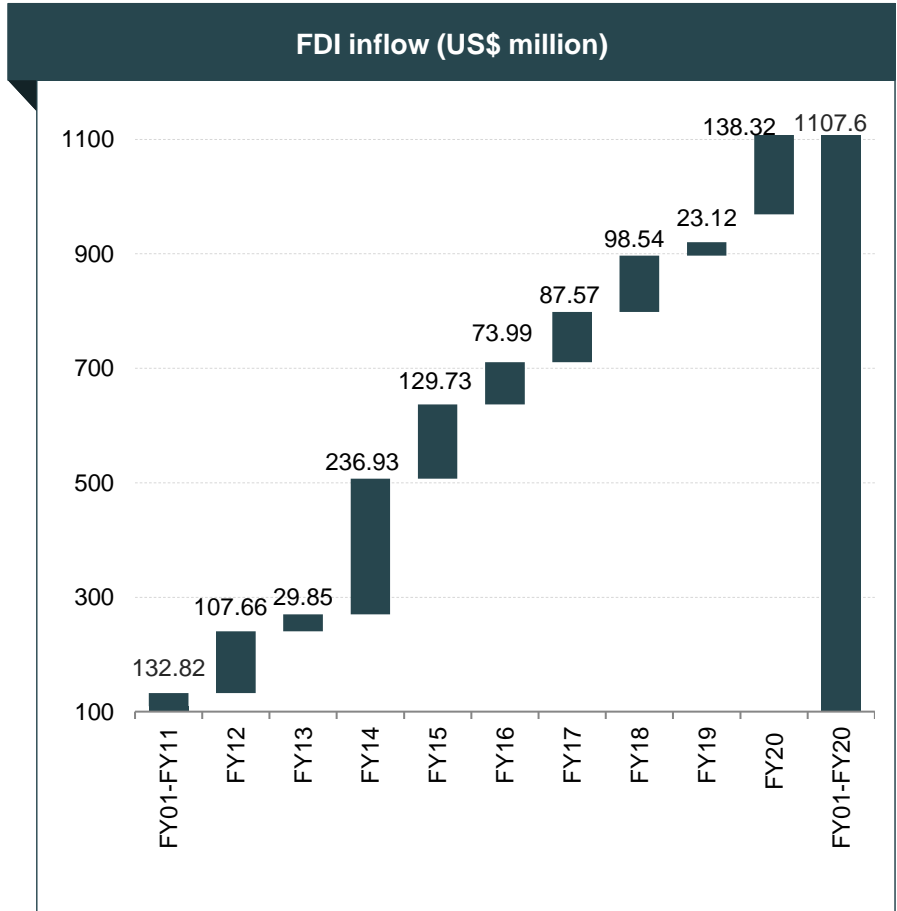
Key modernisation initiatives

- Government of India preponed its target of install bio-toilets in the entire fleet of coaches by 2019. As of March 2018, bio-toilets were installed in around 60 per cent of all passenger-carrying coaches of Indian Railways.
- Introduced 'Operation 5 minutes' scheme for passengers travelling unreserved, which provided the passengers time to purchase tickets within 5 minutes.
- Introducing 24/7 All – India helpline number through which passengers could address their problems on a real-time basis. Toll free number, 138, has been launched as 24/7 All-India helpline number and availability of toll-free number, 182, for security related complaints.
- In an initiative to decarbonize rail transport, Indian Railways will be collaborating with various public sector enterprises to speed up the process of electrification of railway tracks. Electrification of 6,000 km of routes was planned for 2018-19. A total of 1,106 Route kilometre (RKM) has been electrified across the entire Indian Railways network.
- In February 2019, Government of India launched Rail Drishti Dashboard to promote transparency and accountability. It brings information from various sources on a single platform and gives access to key statistics and parameters to every citizen of the country.
- In October 2019, Indian Railways launched 09 'Sewa Service' trains to connect smaller towns around major cities.
- In October 2019, RailTel completed phase-I execution of NIC E-office for Indian Railways, and 58 units are using E-office for paperless work.
- Railways is leading India's fight against climate challenge and is taking significant steps towards meeting its ambitious goal of being a net zero carbon emissions organisation by 2030 and meeting India's Intended Nationally Determined Contributions (INDC) targets.

Source: Ministry of Railways, Railway Budget 201 – 16, News Articles; Press Information Bureau

INCREASING FDI INFLOW

- From April 2000 to March 2020, FDI in Railways related components industry stood at US\$ 1.10 billion.



Note: FDI – Foreign Direct Investment

Source: : Department for Promotion of Industry and Internal Trade

INDUSTRY ASSOCIATIONS



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USEFUL INFORMATION



- CAGR: Compound Annual Growth Rate
- FDI: Foreign Direct Investment
- FY: Indian Financial Year (April–March)
- FY12 implies April 2011 to March 2012
- DFC: Dedicated Freight Corridor
- DFCCIL: Dedicated Freight Corridor Corporation of India Limited
- PPP: Public-Private Partnership
- IIP: Index of Industrial Production
- R2CI: Railways Policy for Connectivity to Coal and Iron Ore Mines
- R3i: Railways' Infrastructure for Industry Initiative
- CST – 9: Central Standard Trial-9,
- SPV: Special Purpose Vehicle
- US\$: US Dollar
- Wherever applicable, numbers have been rounded off to the nearest whole number

EXCHANGE RATES

Exchange Rates (Fiscal Year)

Year INR	INR Equivalent of one US\$
2004-05	44.95
2005-06	44.28
2006-07	45.29
2007-08	40.24
2008-09	45.91
2009-10	47.42
2010-11	45.58
2011-12	47.95
2012-13	54.45
2013-14	60.50
2014-15	61.15
2015-16	65.46
2016-17	67.09
2017-18	64.45
2018-19	69.89
2019-20	70.49

Exchange Rates (Calendar Year)

Year	INR Equivalent of one US\$
2005	44.11
2006	45.33
2007	41.29
2008	43.42
2009	48.35
2010	45.74
2011	46.67
2012	53.49
2013	58.63
2014	61.03
2015	64.15
2016	67.21
2017	65.12
2018	68.36
2019	69.89

Source: Reserve Bank of India, Average for the year

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