

Vision of Indian Railways towards Efficient Intra-Regional Connectivity Linking to Country's Economic Growth Strategy

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India



Area	3.2 million sq. Km.	
Stretch	3,214 Kilometers from north to south 2,933 Kilometers from east to west	
Land Frontier	15,200 km	
Coastline	7516.5 km	
Population	1.2 billion (Census, 2011)	
Population density	382 person per square kilometer	

The Indian Economy



- **Gross Domestic Production**
 - Nominal GDP - \$1.947 Trillion- 9th largest
 - PPP- \$4.7 Trillion -3rd largest
- **Indian Economy's Growth Rate**
 - 2004-10 - 8.40%, touched double digit in 2nd qtr. of 2006-07.
 - Expected in coming years- 8%
- **Major Growth Engines of Indian Economy**
 - Service sector- 54%
 - Agriculture -28%
 - Industry-18%

GDP-India



	2007-08	2008-09	2009-10	2010-11	2011-12
GDP at Factor cost (crore Rupees)	3,896,636	4,158,676	4,516,071	4,937,006	5,243,582
Growth rate(%)	9.3	6.7	8.6	9.3	6.2

GDP-Rail



	2007-08	2008-09	2009-10	2010-11	2011-12
Rail GDP (crore)	38,235	41,161	44,763	47,404	50,945
Growth in Rail GDP (%)	9.8	7.7	8.8	5.9	7.5

Why Rail?



- 75% lesser carbon emissions than Road
- Safer
- Efficient Land Use



IR- Key Facts

- Network of 64000 route-kms- 3rd Largest
- Integrated markets and connected communities over length and breadth of India
- Carries about 7000 million passenger per year
- 900 million tonnes of freight traffic annually
- Third largest railway network in size
- Topmost passenger carrier (in PKms)
- Fourth largest rail freight carrier
- Carries 35% of total freight traffic (tonne-kms)
- 70% share of core infrastructure sectors (coal, power, steel, cement, fertilizer etc.)
- 1.4 million employees

IR- Key Facts (contd.)



- Total number of stations – 7131
- Number of trains run daily – 11000 [7000 passenger]
- Passenger's carried daily – 14.84 million
- Interchange points with other modes of transport – At all stations with road
- Number of Computerised passenger reservation centres - 1180

IR-International Comparison



vis-à-vis others: International comparison

(All figures pertain to the year 2008)

	Million traffic units (PKM + NTKM) per employee	Route kms per million population	Route kms per square kilometer area
USA	15.3	747.4	23.6
China	1.6	45.5	6.4
Germany	0.7	410.9	94.9
France	2.1	466.5	54.2
Russia	2.6	598.1	4.9
India	0.9	55.2	19.3
Japan	2.2	157.5	53.0

IR-Freight



Commodity Group	2008-09	2009-10	2010-11	2011-12	
	in MT	in MT	in MT	in MT	in %age
1. Coal	369.63	369.15	420.37	455.81	47.04
2. Foodgrains	35.51	38.96	43.45	46.4	4.79
3. Iron & Steel	28.58	31.85	32.82	35.15	3.63
4. Iron ore	130.58	132.74	118.46	104.7	10.8
5. Cement	86.24	93.15	99.08	107.66	11.11
6.POL (Mineral oils)	38.08	38.88	39.29	39.77	4.1
7. Fertilizers (Chemical manures)	41.35	43.68	48.22	52.69	5.44
8. Limestone & Dolomite	13.34	14.77	16.37	17.66	1.82
9. Stone(incl. gypsum) other than marble	10.48	11.44	11.66	12.96	1.34
10. Salt	4.83	4.76	4.64	5.14	0.53
11. Sugar	4.36	3.97	3.76	4.56	0.47
Total	762.98	810.08	838.12	882.5	91.07
12. Commodities other than above	70.41	77.71	83.61	86.55	8.93
Grand Total	833.39	887.79	921.73	969.05	100

Freight- Efficiency Indices



		2008-09	2009-10	2010-11	2011-12
Net tonne kilometers per wagon per day@		8,687	9,222	9,247	9,261
Wagon Kilometers per wagon per day		254	256	262	265
Net tonne kilometers per engine hour	Diesel	14,357	16,465	16420*	15,889
	Electric	23,025	24,672	24436	24,048
Net tonne kilometers per engine day	Diesel	270,912	285,008	301,626*	300,281
	Electric	425,329	443,386	450,282*	429,193

IR-Passenger



			(in millions)
Year	Suburban (Classes)	Non Suburban	Grand Total
1950-51	412	872	1,284
1960-61	680	914	1,594
1970-71	1,219	1,212	2,431
1980-81	2,000	1,613	3,613
1990-91	2,259	1,599	3,858
2000-01	2,861	1,972	4,833
2008-09	3,802	3,118	6,920
2009-10	3,876	3,370	7,246
2010-11	4,061	3,590	7,651
2011-12	4,377	3,847	8,224

Safety



Year	Collisions	Derailments	Level crossing accidents	Fire in Train	Misc. accidents	Total	Train accidents per million train Kms.
2007-08	7	100	77	5	4	193	0.21
2008-09	13	85	69	3	7	177	0.19
2009-10	9	80	70	2	4	165	0.17
2010-11	5	78	53	2	1	139	0.14
2011-12	9	55	61	4	2	131	0.12




Vision 2020 of IR

Vision statement

Indian Railways shall provide efficient, affordable, customer-focused and environmentally sustainable integrated transportation solutions. It shall be a vehicle of inclusive growth, connecting regions, communities, ports and centers of industry, commerce, tourism and pilgrimage across the country. The reach and access of its services will be continuously expanded and improved by its integrated team of committed, empowered and satisfied employees and by use of cutting-edge technology.



Vision 2020

- **Leapfrogging to a higher growth trajectory**
- **Network Expansion** 
- **Capacity Creation**
- **Zero Tolerance for Accidents**
- **Reducing Indian Railways "Carbon Footprint"**
- **Bold and Innovative Measures**

Goals



Summary of broad goals

Category	Target
Doubling (including DFC)	12,000kms
Gauge conversion	12,000kms
New line	25,000kms
Electrification	14,000kms
Procurement of wagons	289136
Procurement of diesel locomotives	5334
Procurement of electric locomotives	4281
Procurement of passenger coaches	50,880
World-class stations (Bid-out/concession)	50 stations
High-speed Corridors	2000 kms

Projected Freight Loading



Summary of projected freight loading by IR by 2020

S.No.	Commodity	Originating loading (MT)
1.	Coal	700
2.	Raw Material for Steel Plants	39
3	Pig Iron & Finished Steel	108
4	Cement	250
5	Iron Ore (Exports)	75
6	Iron Ore (Domestic)	150
7	Food grains	50
8	Fertilizers	70
9	POL	48
10.	Containers	210
11.	Others	150
12.	Total	1850
		(1203 billion NTKMs)



Strategies- Freight

- Proliferation of 25 t axle load running for iron ore
- Raising the current axle load regime from 22.82 tonnes to 23.5 tonnes
- Proliferation of Long Haul
- Use of GPS technology and RFID technology for tracking purposes.
- Use of EOTT and Distributed Power Systems
- Run “**HEAVIER, LONGER, FASTER**” trains

Projected Growth-Passenger



Projected growth of passenger traffic

Year	Passenger (Million)	PKMs (Billion)
2011-12	8200	1100
2019-20	15180	2360

Strategies- Passenger



- Enhancing accommodation in trains.
- Enhancing speed of trains.
- Introduction of tailored services.
- Development of alternative terminals.
- Expeditious operationalization of the Dedicated Freight Corridor



ROAD MAP FOR DEVELOPING HIGH SPEED RAIL CORRIDORS

Ministry of Railways has selected following six corridors for conducting pre-feasibility studies:

1. Delhi-Chandigarh-Amritsar (450 km approx.)
2. Pune-Mumbai-Ahmedabad (650 km approx.)
3. Hyderabad-Dornakal-Vijaywada-Chennai (664 km approx.)
4. Chennai-Bangalore-Coimbatore-Ernakulam (649 km approx.)
5. Howrah-Haldia (135 km approx.)
6. Delhi -Agra-Lucknow -Varanasi - Patna (991 km approx.)

Key Challenges



- **Resource Mobilization**
- **Capacity Constraints**
- **Reliability of Assets**
- **Safety**
- **Slow Speeds**
- **Door to Door Handicap**
- **Project Execution**
- **Technological Up gradation**
- **Improving Carrying Capacity**
- **Supply constraints and recovery on Passenger Business**
- **Up gradation of Quality of Services**



Green Initiatives

- Alternative fuels
- Bio-toilets
- Non-conventional energy sources
- Energy productivity improvement





Thank You

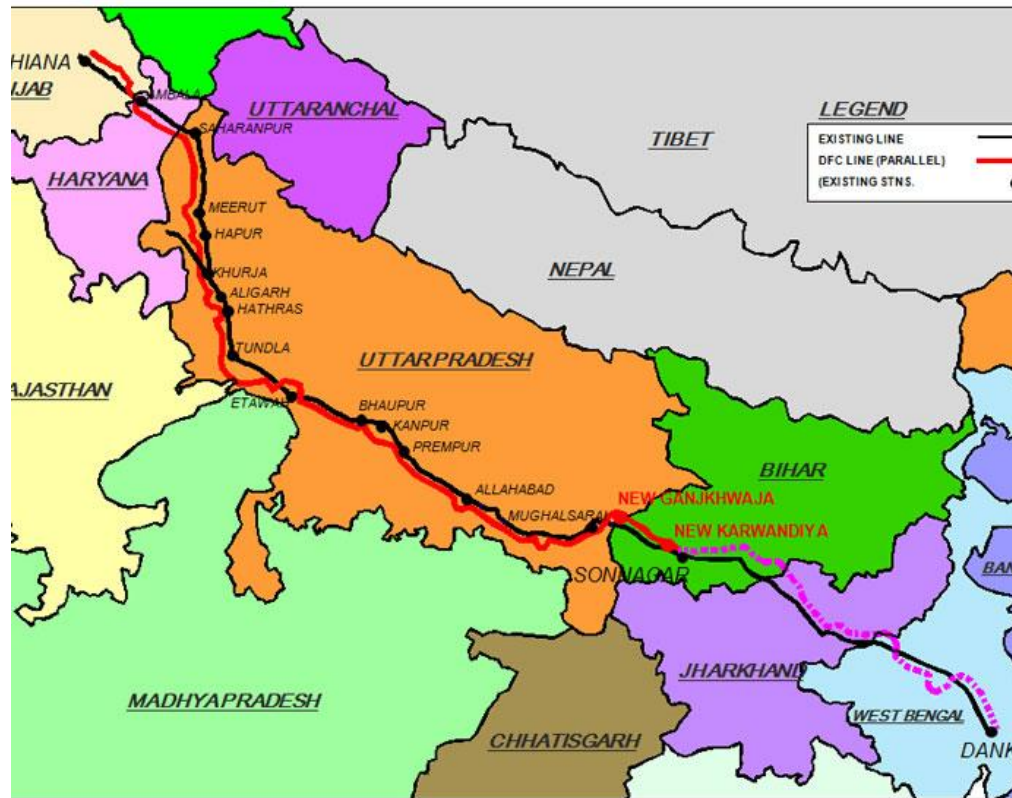
Dedicated Freight Corridors



Dedicated Freight Corridor- Eastern



डेडीकेटेड फ्रेट कारीडोर
DEDICATED FREIGHT CORRIDORS
(EASTERN)



Dedicated Freight Corridor- Western



डेडीकेटेड फ्रेट करिडोर
DEDICATED FREIGHT CORRIDOR
(WESTERN)



Konkan Railway



Other Expansions



- Jammu and Kashmir
- North Eastern Region

