

INDIAN RAILWAYS

Year Book

2010-11



BHARAT SARKAR
GOVERNMENT OF INDIA
RAIL MANTRALAYA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

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सत्यमेव जयते

**BHARAT SARKAR
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Key Statistics

	Unit	2009-10	2010-11
I PLANT & EQUIPMENT			
1	Capital-at-charge	₹ in crore 1,23,000.69@	1,42,349.87#
2	Total investment	" *2,03,315.37	2,31,615.25
3	Route length	Kms. 63,974	64,460
4	Locomotives	Nos. 8,889	9,213
5	Passenger service vehicles	" *51,050	53,220
6	Other coaching vehicles	" *6,477	6,493
7	Wagons	" *2,20,549	2,29,381
8	Railway stations	" 7,083	7,133
II OPERATION:			
1	Passenger: Train kms.	Millions *624.5	653.7
	Vehicle kms.	" *18,678	19,646
2	Freight: Train kms.	" 356.0	368.5
	Wagon kms. &	" 17,063	17,749
III VOLUME OF TRAFFIC:			
1	Passengers originating	Millions 7,246	7,651
2	Passenger kms.	" 9,03,465	9,78,508
	Tonnes originating:\$		
3	Revenue earning traffic	" 887.79	921.73
4	Total traffic (incl. non-revenue)	" 892.22	926.43
	Tonne kms.\$		
5	Revenue earning traffic	" 6,00,548	6,25,723
6	Total traffic (incl. non-revenue)	" 6,01,290	6,26,473
IV EMPLOYMENT AND WAGES:			
1	Regular employees	Thousands *1,362.13	1,328.20
2	Wage bill of regular employees	₹ in crore *51,719.42	53,706.95
3	Average annual wage per regular employee	₹ *3,82,472	4,07,448
V FINANCIAL RESULTS:			
1	Revenues	₹ in crore 87,104.65	94,525.46
2	Expenses	" 82,915.35	89,474.22
3	Miscellaneous transactions	" 1,495.47	1,284.73
4	Net revenue (before dividend)	" 5,544.09	6,346.14
5	Rate of return on capital Percent	4.51	4.46
6	Dividend on capital	₹ in crore 5,543.34	4,941.25
7	Shortfall(-)/Excess(+)	" 0.75	1,404.89
	* revised		
	# Includes investment (₹ 37,805.23 crore) from Captial Fund.		
	@ Includes investment (₹ 35,346.05 crore) from Capital Fund.		
	\$ Excludes Konkan Railway.		
	& In terms of 8 - wheeler.		

Economic Review

General:

2010-11 has been a year of economic recovery for India. The economy witnessed a rapid turnaround and emerged with élan, from the slowdown caused by the global financial crisis, to grow robustly and move closer to the pre crisis level. The economy maintained its growth trajectory with the real GDP achieving a growth rate of 8.4 per cent in 2010-11. The main impetus to growth during 2010-11 emanated from the agriculture sector and the continued momentum in the manufacturing sector. Being the largest sector of the Indian economy, the services sector continues to be the mainstay and a key driver of the nation's overall growth. This sector remained buoyant during 2010-11, barring 'community, social and personal services', where policy-induced deceleration was visible as fiscal consolidation resumed. India's external sector remained resilient even after weathering the global financial crisis. India's merchandise exports grew robustly during 2010-11 aided by high rate of growth in global income and diversification in direction and composition of trade. Imports grew at a lower pace than exports during 2010-11. There was an increase in the share of industrial inputs in total imports, which was indicative of some qualitative shift in the pattern of imports. It was a difficult year in terms of inflation. Starting in double digits, headline inflation persisted and remained elevated throughout 2010-11, while the underlying drivers changed during three distinct phases during the year. Indian economy has evidenced admirable resilience and strength. The medium to long term prospects of the economy, including industrial sector, continued to be positive.

Gross Domestic Product (GDP):

The growth of Gross Domestic Product (GDP) at constant 2004-05 prices at Factor Cost (real GDP) in 2010-11 remained at 8.4 per cent which was the same as the level recorded during 2009-10. Analysis of composition of growth in 2010-11 indicates that it was broad-based across major sub-sectors in the industry and services, besides benefiting from rebound in agriculture. The growth in primary, secondary and services sector was 7.0 per cent, 7.2 per cent and 9.3 per cent, respectively during 2010-11 as against the corresponding growth of 1 per cent, 8.4 per cent and 10.5 per cent in the preceding year. Growth of real GDP in 2010-11 is mainly on account of the accelerated growth registered in 'agriculture, forestry & fishing' (7.0 per cent as against a growth of only 1 per cent a year ago), 'financing, insurance, real estate & business services' (10.4 per cent), 'trade, hotels & restaurants' (9.0 per cent) and 'construction' (8 per cent). The growth of 'transport, storage & communication' sector at 14.7 per cent was very close to that obtained in 2009-10 (14.8 per cent). However, 'electricity, gas and water supply' (3.0 per cent), 'manufacturing' (7.6 per cent) and 'mining & quarrying' (5.0 per cent) showed somewhat decelerated growth. There was a sharp decline in 'community, social & personal services' sector which grew only by 4.5 per cent as against a growth of 12 per cent registered during 2009-10.

Indian Railways contributed 1 per cent towards GDP at Factor Cost (2004-05 level of prices) during 2010-11

Agriculture:

The growth of agriculture and allied sectors continues to be a critical factor in the overall performance of the Indian economy. After two consecutive years of subdued performance, agriculture turned into a significant driver of growth in 2010-11. The real GDP growth emanating from 'agriculture' was 7.8 per cent against a growth of only 0.7 per cent witnessed during 2009-10. The simultaneous occurrence of a normal and well-distributed

southwest monsoon and excess north-east monsoon, enabled both Kharif and Rabi sowings to be above normal. Consequently, there was record foodgrains production of 241.6 million tonnes in 2010-11. This represents an increase of about 10.8 per cent over the previous year. The consequent rise in farm incomes supported demand conditions and with industry and services linkages, sustained the overall growth momentum. The production of wheat at 85.9 million tonnes and that of coarse cereals at 42.2 million tonnes during 2010-11, was higher by about 6.3 per cent and 25.8 per cent, respectively, when compared to the previous year. Oilseeds production at 311 million tonnes was also around 25 per cent higher than the level achieved in 2009-10.

Industry:

The recovery seen in industrial output in 2009-10 was sustained in 2010-11. In terms of Index of Industrial Production (IIP) – (Base 2004-05 = 100), industrial growth accelerated from 5.3 per cent in 2009-10 to 8.2 per cent in 2010-11. Manufacturing sector having a weight of 75.53 per cent in IIP, registered a strong growth of 9 per cent which was perceptibly higher than the growth of 4.8 per cent achieved in the preceding year. There is a need to boost this sector, not only to increase and sustain output but also to gainfully employ a larger number of people, while at the same time ensuring environment sustainability. Further analysis of the IIP growth suggests some deceleration in mining and electricity in 2010-11 emanating from the poor performance on coal mining front and consequent lower thermal power generation. The growth rate in the mining sector, having a 14.16 per cent weight in IIP, registered a moderate decline and stood at 5.2 per cent compared to 7.9 per cent in 2009-10. Similarly, the growth of 5.5 per cent in electricity sector, with a weight of 10.32 per cent in IIP, was also lower than the growth of 6.1 per cent realized a year ago.

The use-based classification exhibits strong performance of capital goods and acceleration in growth across all sectors except consumer durables during 2010-11. The capital goods industries

showed a remarkable robustness obtaining a growth of 14.8 per cent as against a growth of only 1 per cent a year ago. The output of basic goods with a growth of 6.0 per cent, intermediate goods segment at 7.4 per cent and consumer goods at 8.6 per cent; was also higher than the corresponding growth of 4.7 per cent, 6.0 per cent and 7.7 per cent respectively, registered in the previous year. Whereas consumer non-durable sector recorded an accelerated growth of 4.3 per cent against a growth of 1.4 per cent, the growth in consumer durables category decelerated to 14.2 per cent compared to a growth of 17.0 per cent registered in 2009-10.

Infrastructure:

The infrastructure sector posted a moderate performance during 2010-11 over the previous year. The combined growth of the eight core industries viz., Cement, Electricity, Coal, Steel, Crude Oil, Fertilizers, Natural Gas and Refinery Products having a weight of 37.903 per cent in the overall Index of Industrial Production, decelerated to 5.74 per cent during 2010-11 from 6.64 per cent in 2009-10. Whereas 'Crude Oil' and 'Steel' registered accelerated growth rates of 11.94 per cent and 8.89 per cent, respectively, against growth rates of only 0.55 per cent and 6.05 per cent in the previous year; growth in the 'Fertilizers' and 'Coal' sectors was negative against high growth in the previous year. Growth in 'Natural Gas' sector nosedived to 9.96 per cent during 2010-11 from 44.59 per cent a year ago. 'Cement' and 'Electricity' sectors also showed a decline in growth and stood at 4.52 per cent and 5.54 per cent, respectively, as compared to corresponding growth of 10.53 per cent and 6.17 per cent recorded in 2009-10. 'Refinery Products' sector rebounded from a downturn in the previous year and posted a growth of 2.99 per cent as compared to a negative growth of 0.45 per cent during 2009-10.

External Sector:

During 2010-11, India's foreign trade grew rapidly. The provisional foreign trade data for 2010-11 indicates that the

value of exports during April-March 2010-11 at US \$ 251136 million was higher by 40.49 per cent as compared to the level achieved in 2009-10. While exports of almost all major groups of commodities improved significantly during 2010-11, performance in case of gems & jewellery and value added products such as engineering and petroleum sector was noteworthy. The value of imports at US \$ 369769 million was also higher by 28.23 per cent as compared to the level obtained in 2009-10. The value of oil imports and non-oil imports in 2010-11 at US \$ 105964.31 million and US \$ 263804.82 million was higher by 21.61 per cent and 31.10 per cent, respectively, than that achieved in 2009-10. The trade deficit during 2010-11 at US \$ 118633 million was higher than the deficit at US \$ 109621 million during 2009-10. India's balance of payments position remained manageable during the year. During 2010-11, receipts and payments on 'invisibles' account exhibited robust growth in contrast to a decline in receipts during 2009-10. India's foreign exchange reserves during 2010-11 increased by about US \$26 billion to reach US \$305 billion as at end-March 2011. With adequate foreign exchange reserves, India remained capable of handling any pressures emanating from the external sector in the near term. However, from a medium to long term perspective, it is important to improve resilience of the external account by pursuing policies that shift the composition of capital flows so as to reduce dependence on its volatile components.

Inflation:

According to the Annual Report of the Reserve Bank of India, the whole of 2010-11 was marked by inflation persistence, with headline inflation averaging 9.6 per cent. Food products were the main drivers of price rise during April-July 2010, accounting for about two-fifths of increase in WPI. Their share declined during August-November, when non-food primary products turned out to be the main drivers. Inflation became broad based when these price pressures spilled over to manufactured non-food products during December 2010-March 2011, which accounted for

61 per cent of the price rise during this period. Thus, recovery in the domestic economy led to demand-side pressure on inflation. As a result, the supply side pressures spilled over to a generalized inflation. The rate of inflation in terms of Consumer Price Index for Industrial Workers (Base 2001=100) on point-to-point basis declined by 6.04 percentage points and stood at 8.82 per cent in March 2011 as against 14.86 per cent in March 2010.

Wholesale Price:

The wholesale prices of several of the important inputs of the Indian Railways increased during April-March 2010-11. The percentage variation in wholesale price indices of such items that recorded significant change over those of April-March 2009-10 included: HSD (14.1 per cent), Non-coking Coal (11.3 per cent), Lubricants (10.3 per cent), Basic Metals & Alloys (8.7 per cent), Electricity for Railway traction (6.4 per cent), Manufactured products (5.7 per cent) and Electrical Machinery, Equipment & Batteries (1.5 per cent).

The following table shows percentage of total output (production plus imports) of major items carried by Railways in the last seven years:

Year	Coal	Iron Ore	Cement	Food-grains	Fertilizers	Pol Products
2004-05	65.94	63.05	40.87	23.29	74.17	24.68
2005-06	66.03	65.39	41.40	19.80	74.01	24.71
2006-07	66.12	61.83	45.28	18.54	72.50	22.73
2007-08	66.45	64.01	45.16	16.24	75.51	20.18
2008-09	66.99	61.30	45.88	14.98	80.89	21.24
2009-10	65.44	60.48	44.62	16.91	81.48	22.52
2010-11(P)	69.83	56.44	45.64	17.77	81.36	21.71

(P) Provisional

Selected economic indicators are set out in the next two pages.

SELECTED ECONOMIC INDICATORS

ITEM	Unit / Base	2006-07	2007-08	2008-09	2009-10	2010-11	
I. (a) National Income							
(i)	At 2004-05 prices	₹ Crore	3149149	3451829	3664388	3959653@	4268715#
(ii)	At current prices	₹ Crore	3501313	4076878	4705447	5395687@	6325038#
(b) Per capita national income							
(i)	At 2004-05 prices	₹ in units	28067	30332	31754	33843@	35993#
(ii)	At current prices	₹ in units	31206	35825	40775	46117@	53331#
II. Gross Capital Formation							
(a) Total Public Sector							
(i)	At 2004-05 prices	₹ Crore	324020	382431	429285	448485@	477165#
(ii)	At current prices	₹ Crore	356556	441923	531730	591622@	676220#
(b) Railways							
(i)	At 2004-05 prices	₹ Crore	16982	19308	23653	25121@	22743#
(ii)	At current prices	₹ Crore	18329	22229	29661	31767@	29930#
III. Foreign Trade							
(a)	Value of exports	₹ Crore	571779	655864	840755	845534	1142649
	Value of imports	₹ Crore	840506	1012312	1374436	1363736	1683467
(b)	Value of exports	US \$ Million	126414	163132	185295	178751	251136
	Value of imports	US \$ Million	185735	251654	303696	288373	369769
IV. Index of Agricultural							
Production							
(Triennium ending 1993-94=100)							
Weight							
(a)	All Crops	(100.00)	167.8	173.1	162.3	160.0	180.0
(b)	Foodgrains	(50.633)	158.8	168.6	171.3	159.4	176.5
(c)	Non-foodgrains	(49.367)	155.4	158.3	142.7	144.8	164.0
V. Index of Industrial							
Production (1993-94=100)							
Weight							
(a)	General Index	(100.00)	122.6	141.7	145.2	152.9	165.5
(b)	Mining	(14.157)	107.5	112.5	115.4	124.5	131.0
(c)	Manufacturing	(75.527)	126.8	150.1	153.8	161.3	175.7
(d)	Electricity	(10.316)	112.8	120.0	123.3	130.8	138.0
@	Provisional						
#	Quick Estimates						

SELECTED ECONOMIC INDICATORS (CONTD)

	ITEM.	Unit/base	2006-07	2007-08	2008-09	2009-10	2010-11@
V I	Wholesale Price Index (Financial Year Average with weights) (Base 2004-05=100)	Weight					
(a)	All Commodities	(100)	111.4	116.6	126.0	130.8	143.3
(b)	Primary Articles	(20.118)	114.3	123.9	137.5	154.9	182.4
(c)	Fuel. Power.	(14.910)	120.9	121.0	135.0	132.1	148.3
(d)	Manufactured Products	(64.972)	108.2	113.4	120.4	123.1	130.1
VII	Wholesale Price Indices of Important Commodities used by Railways (Fin. Year Average with weights)						
(a)	Non-coking coal	(1.006)	102.5	106.5	112.7	121.2	134.9
(b)	Mineral Oils	(9.364)	127.4	126.3	141.8	135.8	157.5
(c)	Electricity for Railway traction	(0.092)	103.5	103.5	104.9	106.9	113.8
(d)	Basic Metals, Alloys & Metal Products	(10.748)	111.7	123.2	138.0	129.5	140.7
(i)	Steel	(0.033)	103.2	110.8	125.5	120.2	113.5
(ii)	Ferro Alloys	(0.137)	91.1	134.3	150.2	126.8	148.1
(iii)	Non-Ferrous Metals	(1.004)	145.6	151.4	150.6	145.8	153.5
(e)	Electrical Machinery, Equipment & Batteries	(2.343)	111.2	118.6	123.6	122.1	123.9
(f)	Chemicals & Chemical Products	(12.018)	108.9	112.8	118.1	117.8	124.0
(g)	Non-metallic Mineral Products	(2.556)	115.4	128.3	131.7	140.9	144.6
(h)	Cotton Textiles	(2.605)	97.4	100.0	102.7	108.8	129.2
(i)	Logs & Timber	(0.088)	84.8	79.6	84.8	98.1	124.2
(j)	Cement & Lime	(1.386)	118.9	137.7	138.6	149.0	150.8
(k)	Lubricants	(0.168)	131.8	145.8	171.1	174.5	192.6
(l)	HSD	(4.670)	130.2	125.6	135.8	133.0	151.7
VIII	Consumer Price Index (Industrial Workers) (Base 2001=100)		125.1	133.0	144.8	162.7	179.7

@ Provisional

The Network

Indian Railways (IR) is one of the world's largest rail networks with 64,460 route kilometres of route lengths. The size of the network - gauge-wise and zone-wise as on 31 March, 2011 is as follows:

Gauge	Route kms.	Running track kms.	Total track kms.
Broad Gauge (1676 mm)	55,188	77,347	102,680
Metre Gauge (1000 mm)	6,809	7,219	8,561
Narrow Gauge (762 mm and 610 mm)	2,463	2,474	2,753
Total	64,460	87,040	113,994

Zones / Headquarters	Route kms.	Zones/ Headquarters	Route kms.
Central, Mumbai	3,905	North Western, Jaipur	5,464
Eastern, Kolkata	2,435	Southern, Chennai	5,102
East Central, Hajipur	3,656	South Central, Secunderabad	5,810
East Coast, Bhubaneswar	2,646	South Eastern, Kolkata	2,632
Northern, New Delhi	6,968	South East Central, Bilaspur	2,455
North Central, Allahabad	3,151	South Western, Hubli	3,177
North Eastern, Gorakhpur	3,721	Western, Mumbai	6,440
Northeast Frontier, Maligaon, (Guwahati)	3,908	West Central, Jabalpur	2,965
		Metro Railway, Kolkata	25

With its more than 150 year old history, IR is a state-owned public utility of the Government of India under the Ministry of Railways.

As a national common carrier transporting passenger and goods over its vast network, Indian Railways has always played a key role in India's social and economic development. It is a cheap and affordable means of transportation for millions of

passengers. As a carrier of bulk freight viz. ores and minerals, iron and steel, cement, mineral oils, food grains and fertilizers, containerized cargo etc., the importance of Indian Railways for agriculture, industry and the common man is well recognized. Indian Railways carried 21 million passengers and 2.54 million tonnes of freight each day during 2010-11.

Indian Railways, functioning as Ministry of Railways, is headed by the Minister for Railways. The apex body entrusted with the management of this mega enterprise is led by the Chairman Railway Board (CRB). Members of the Railway Board include Financial Commissioner, Member Traffic, Member Engineering, Member Mechanical, Member Electrical and Member Staff who represent their respective functional domains. For administrative purposes, Indian Railways is divided into 17* Zones, each headed by a General Manager. Zonal Railways are further divided into smaller operating units called Divisions. There are 68 Operating Divisions in Indian Railways at present, each under a Divisional Railway Manager. In addition, there are a number of Production Units, Training Establishments, Public Sector Enterprises and other Offices working under the control of Railway Board.

* Metro Railway, Kolkata has been declared as New Zonal Railway w.e.f. 29.12.2010

Planning

Outlays in Five Year Plans:

IR draws up its Development Plans within the framework of National Five-Year Plans. Plan outlays for IR and the transport sector as a whole are given below:

Sectors/ Units	(₹ in crore)						
	Upto V Plan* 1950-78	VI Plan 1980-85	VII Plan 1985-90	VIII Plan 1992-97	IX Plan 1997-02	X Plan 2002-07	XI Plan 2007-2012
Railways	4,723	6,585	16,549	32,306	45,725	84,003	2,33,289
Transport Sector	10,117	13,962	29,548	65,173	1,17,563	2,59,777	4,48,987@
Total Plan Outlay	59,979	1,09,292	2,18,729	4,85,457	8,13,998	15,25,639#	41,18,531
Transport Sector as % age of Total Plan	16.9	12.8	13.5	13.4	14.4	17.0	10.9
Railways as % age of Total Plan	7.9	6.0	7.6	6.7	5.6	5.5	5.6

* Excludes inter-plan period 1966-69. # Original Outlay.
 @ As derived from Plan document.

The Year 2010-11 in Retrospect:

During the year 16,638 wagons, 527 locomotives, 3,660 coaches, 40 MEMUs, 93 DMUs and 703 EMU coaches were acquired by IR. Out of this 35 locomotives and 69 coaches were procured for Non-Railway customers/export. 975 route kms. of track were electrified and 709 kms. of new lines constructed. Double/multiple lines were provided on 769 kms. while 3,465 kms. of track was renewed (including both primary and secondary renewals) and 837 kms. of lines converted from MG/NG to BG.

The Plan allocation and actual expenditure in 2010-11

compared with 2009-10 were as follows:

Plan Head	2009-10		(₹ in crore) 2010-11	
	Allocation (R.E.)	Actual Expenditure	Allocation (R.E.)	Actual Net Expenditure
New Lines (Construction)	*3,338.30	3,638.02	**4,989.19	₹ 5,262.41
Restoration of Dismantled Lines	53.00	46.29	55.50	33.98
Gauge Conversion	#2,914.13	3,319.58	##2,264.11	₹ 2,845.39
Doubling	1,995.22	2,372.33	₹ 2,180.66	2,115.24
Traffic Facilities- Yard Remodelling and Others	1,056.87	1,097.80	775.49	789.90
Computerisation	162.00	186.64	210.27	169.78
Railway Research	41.19	43.56	41.91	43.91
Rolling Stock	\$13,125.19	12,550.12	\$\$12,772.29	₹ 14,416.87
Leased Assets – Payment of Capital Component	2,261.86	2,258.84	2,795.15	2,793.38
Road Safety Works -Level Crossings	647.73	358.57	701.60	414.07
Road Safety Works - Road Over/ Under Bridges	978.31	539.54	998.40	686.19
Track Renewals	3,022.78	2,628.73	3,205.00	2,603.56
Bridge Works	351.38	355.30	317.54	345.40
S & T Works	996.98	1,048.01	908.82	958.45
Electrification Projects	812.83	713.06	650.50	640.10
Other Electrical Works	352.74	349.69	₹ 278.87	282.90
Machinery and Plant	359.09	432.04	333.04	391.73
Workshops & Production Units	1,331.15	1,250.64	₹ 1,623.54	1,045.91
Staff Quarters	236.69	222.91	229.00	209.12
Amenities for Staff	314.80	321.50	294.56	333.57
Users' Amenities	922.66	906.22	997.30	910.81
Investment in PSUs	291.00	-	511.00	511.00
Investment in non-Government Undertakings including JVs/SPVs	@1,815.46	1,977.42	@@1,605.02	@@@1,278.58
Other Specified Works	360.92	353.57	254.87	266.86
Inventories	1,019.81	768.90	125.16	(-)16.16
M.T.Ps.	642.06	614.78	571.14	515.10
New Lines (const.) – Dividend free Projects	₹ 880.35	879.55	₹ 625.00	944.69
Total	40,284.50	39,233.61	40,314.93	40,792.74

* Includes ₹ 542.27 crore for national projects.

** Includes ₹ 443.58 crore for national projects.

Includes ₹ 476.38 crore for national projects.

Includes ₹ 347.48 crore for national projects.

₹ Includes provision under Public Private Partnership.

\$ Includes Bonds of ₹ 9,150 crore raised by IRFC and ₹ 180 crore mobilized under Wagon Investment Scheme (WIS).

\$\$ Includes Bonds of ₹ 8,842 crore raised by IRFC, ₹ 36 crore mobilized under Wagon Investment Scheme (WIS) and ₹ 500 crore under Public Private Partnership.

@ Includes Bonds of ₹ 370 crore raised by RVNL.

@@ Includes Bonds of ₹ 133.46 crore raised by RVNL.

₹ Includes provision for Udhampur-Srinagar-Baramula New Lines.

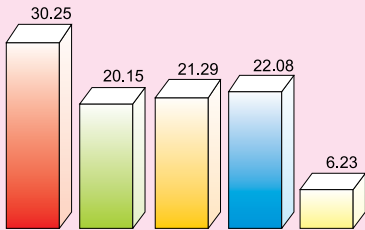
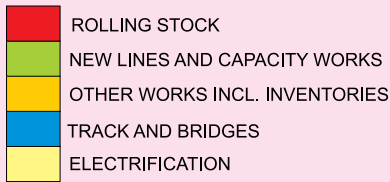
₹₹ Includes ₹ 670.08 crore for national projects.

₹₹₹ Includes ₹ 576.62 crore for national projects.

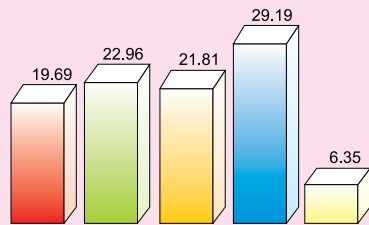
₹₹₹₹ Includes Bonds of ₹ 9,680.29 crore raised by IRFC.

@@@ Includes Bonds of ₹ 100 crore raised by RVNL.

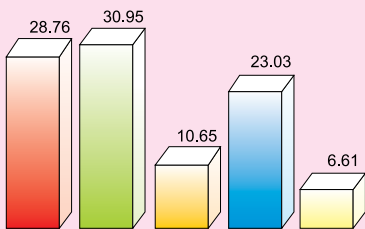
ANALYSIS OF PLAN EXPENDITURE (PERCENTAGE)



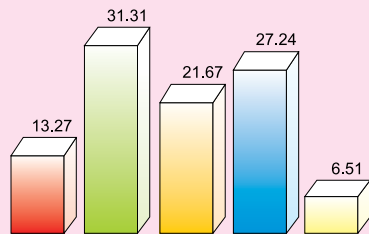
1950 - 90



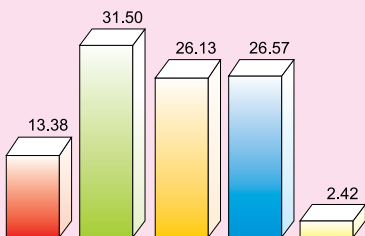
1990 - 92



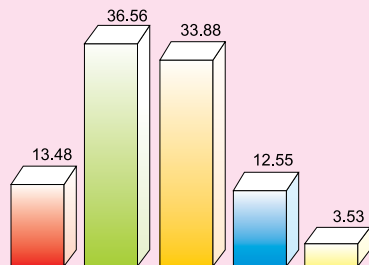
**EIGHTH PLAN
1992 - 97**



**NINTH PLAN
1997 - 02**



**TENTH PLAN
2002 - 07**



**ELEVENTH PLAN
2007 - 11
(1st, 2nd, 3rd & 4th YEAR)**

(EXCLUDES EXPENDITURE UNDER MTP, IRFC, RVNL AND WAGON INVESTMENT SCHEME)

Productivity:

The following table shows the indices of growth of traffic output vis-à-vis inputs:

Year	Indices of Growth of Traffic Output and Inputs (1950-51=100)						
	Traffic Output Indices		Investment Input Indices				
	Freight traffic (NTKms) (Rev+ Non rev.)	Passenger traffic (Non-suburban passenger kms.)	Wagon capacity	Passenger coaches	Route kms	Running track kms	Tractive effort of locos
1950-51	100	100	100	100	100	100	100
1960-61	199	110	152	154	105	107	144
1970-71	289	159	226	188	112	121	178
1980-81	359	279	269	210	114	128	201
1990-91	550	394	278	219	116	133	192
2000-01	715	614	246	254	118	138	233
2007-08	1,185	1,084	247	311	118	144	292
2008-09	1,251	1,189	283	321	119	147	310
2009-10	1,363	1,288	278*	332	119	147	322
2010-11	1,420	1,403	294	344	120	147	343

*revised

Track and Bridges

As on 31.03.2011, the route length of Indian Railways covered 64,460 kms. with running track length of 87,040 kms. The total trackage including yards, sidings etc. stood at 113,993 kms. The table below shows the changing size of IR's rail network over the years.

Year	Route kms.		Running track kms.		Total track kms.#	
	Electrified	Total	Electrified	Total	Electrified	Total
1950-51	388	53,596	937	59,315	1,253	77,609
1960-61	748	56,247	1,752	63,602	2,259	83,706
1970-71	3,706	59,790	7,447	71,669	9,586	98,546
1980-81	5,345	61,240	10,474	75,860	13,448	104,480
1990-91	9,968	62,367	18,954	78,607	25,305	108,858
2000-01	14,856	63,028	27,937	81,865	36,950	108,706
2007-08	18,274	63,273	34,700	85,158	47,296	111,599
2008-09	18,559	64,015	35,471	86,937	47,862	113,115
2009-10	18,927	63,974	35,811	87,087	48,639	113,617
2010-11	19,607	64,460	36,000	87,040	49,489	113,993

Includes track in yards, sidings, crossings at stations, etc.



A view of train passing through a railway bridge on Jammu-Srinagar section.

State-wise Route kms:

Following table shows route kms. of railway lines across various States/Union Territories at the end of 2010-11.

State/Union Territory	Route kms.	State/Union Territory	Route kms.
Andhra Pradesh	5,264	Mizoram	2
Arunachal Pradesh	1	Nagaland	13
Assam	2,434	Odisha	2,461
Bihar	3,612	Punjab	2,134
Chhatisgarh	1,187	Rajasthan	5,784
Delhi	183	Tamil Nadu	4,062
Goa	69	Tripura	151
Gujarat	5,271	Uttarakhand	345
Haryana	1,540	Uttar Pradesh	8,763
Himachal Pradesh	296	West Bengal	3,937
Jammu & Kashmir	256		
Jharkhand	1,984		
Karnataka	3,073		
Kerala	1,050	Union Territory	
Madhya Pradesh	4,955	Chandigarh	16
Maharashtra	5,602	Pondicherry	11
Manipur	1		
		Total	64,460

Note: The remaining States/Union Territories have no railway line.

New Lines:

During 2010-11, 709 kms. of new lines were constructed as indicated below:

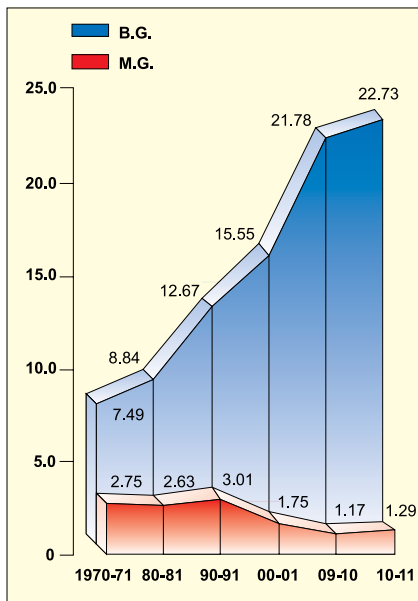
Railway	Section	Length (kms.)
Central	Chandurbazar-Narkhed of Amravati-Narkhed	85
	Lonand-Phaltan of Lonand-Baramati	27
Eastern	Tarakeshwar-Bishnupur	17
	Deogarh-Dumka	67
	Deogarh-Chandan	15
	Rampurhat-Pirargarhia	17
	Mandarhil-Kumradol of Mandarhil-Hansdiha project	18
East Central	Barkakhana-Kuju	15
	Phulwarisharif-Patliputra (6 km) of Patna-Ganga Bridge	6
Northern	Nawadih- Dhanwar (15 km) of Giridih-Koderma	15
	Abohar-Fazilka	42
	Taran Taran-Goindwal	21
	Jhajjar-Rohtak of Rewari-Rohtak	30
North Central	Agra-Fatahabad of Agra-Etawah (110 km)	35
North Fortier	Part of New Coochbehar-Golakganj	37
North Western	Ajmer-Pushkar	31
Southern	Nagore-Karaikkal	10
	Salem-Namakkal of Salem-Karur (51 km)	51
South Central	Gadwal-Pandurangswami	36
	Khanapur-Homnabad	38
	Jagityal-Metpalli	30
	Vishnupuram-Jahanpad	11
South Western	Kadur-Kanvihalli (32 km)	16
RVNL	Ramganjmandi-Jhalawar	30
	Venkatachallam-Kommarapudi	9
	Total	709

Gauge Conversion:

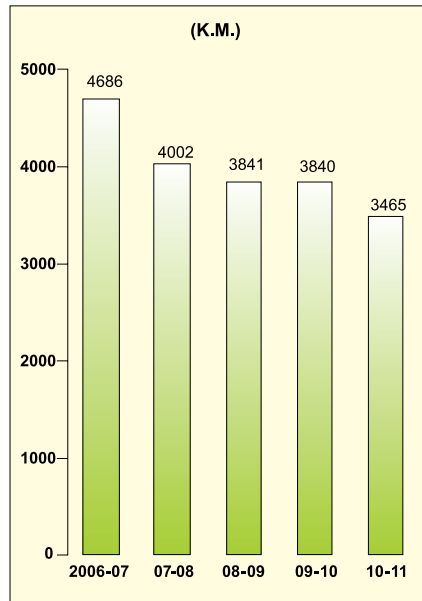
During 2010-11, 837 kms. of track has been converted from MG/NG to BG on the following sections:

Railway	Project/Sections	Length(in kms.)
Eastern	Krishnanagar-Shantipur	15
	Bardhman-Balgona	25
East Central	Sitamarhi-Bargania	28
East Coast	Parlikimindi-Gunupur of Naupada-Gunupur	45
North Central	Mathura-Achnera	35
North Eastern	Aunrihar-Jaunpur	70
	Kaptanganj-Thawe	100
North Forntier	Katihar-Manihari	24
	Aluabari-Siliguri	76
North Western	Mavli-Nathdwara	16
	Ratangarh-Bikaner	141
Southern	Dindigul-Palani	58
	Tirunelveli-Tenkasi	72
South Western	Anandpuram- Talguppa	40
Western	Bodeli-Chhotaudepur	30
RVNL	Bharuch-Samni-Dahej (Part)	62
Total		837

TRAFFIC DENSITY
MILLION GTKMS
PER RUNNING TRACK KM



TRACK RENEWALS
PER ANNUM



Doubling:

During 2010-11, 769 kms. of track has been doubled from single line to double line.

Gauge-wise Details:

Broad gauge, though forming 85.6% of the route, generated 99.9% of the freight output (NTKms) and 97.9 % of the passenger output (Pkms).

Route length as on 31.03.2011 on each gauge, indicating double/multiple line, single line and electrified route, is given below:

Gauge	Single line			Double/multiple line			Grand Total
	Electrified	Non-electrified	Total	Electrified	Non-electrified	Total	
Broad (1676 mm)	5,242	30,723	35,965	14,365	4,858	19,223	55,188
Metre (1000 mm)	-	6,809	6,809	-	-	-	6,809
Narrow (762mm/610 mm)	-	2,463	2,463	-	-	-	2,463
Total	5,242	39,995	45,237	14,365	4,858	19,223	64,460

Almost all double/multiple track sections and electrified routes are Broad Gauge. Metre and Narrow Gauges are mostly single line and non-electrified. Between 1950-51 and 2010-11, traffic density (million GTKms. per running track km.) increased from 4.29 to 22.73 on BG.

Track Renewal and Maintenance:

During 2010-11, 3,465 kms. of track renewal was carried out. The year-wise details of track renewals done and expenditures incurred thereon during XIth Plan are as under:

XIth Plan	Gross expenditure (₹ in crore)	Track Renewal done (Kms.)
2008-09	5,248.99	3,841
2009-10	4,105.60	3,840
2010-11	4,984.53(P)	3,465

IR is working towards progressive mechanization. Induction of high output tamping machines for packing of plain track as well as turnouts, ballast cleaning machines and shoulder ballast cleaning machines for improving drainage of track, dynamic track stabilizer for controlled consolidation of newly laid/maintained track, point and crossing changing machines for laying concrete sleeper turnouts, etc. is a step in this direction. During 2010-11, 29 track machines were procured taking the total at the end of the year to 616. Track recording cars are deployed for electronic monitoring of track parameters at periodic intervals to enable planning of maintenance. As on 31.3.2011, IR has 6 track recording cars. During 2010-11, a total of 1,56,870 kms. recording was carried out.

Track Upgradation:

Track constitutes the basic infrastructure of a railway system and bears the burden of coping with ever increasing traffic. High speed and heavy axle load operation on IR has necessitated upgradation of the track structure. Several policy initiatives have been taken to modernize the track.

Track structure is upgraded at the time of renewals. Sleepers are being upgraded from wooden, steel and CST-9 to PSC sleepers. Heavier section and high tensile strength rails are being used. Presently, 52 kg/60 kg 90 UTS rails are being used in place of 90R/52 kg 72 UTS rails. Similarly, long rail panels or welded rails are predominantly used in place of earlier fish plated joints. As on 31.3.2011, on BG main lines of IR, about 87.38% of the length is covered by long welded rails, 97% with PSC sleepers and 89.3% with 52 kg/60 kg 90 or higher UTS rails.

Welded Rails:

On most of BG track, rails have been converted into long welded rails and short welded rails of 39m length. Single rails are limited to locations where welded rails are not permitted on technical grounds. As on 31.3.2011, total length of welded track

on main lines of IR was 78,181 kms. of which 65,957 kms. was with long welded rails and 12,224 kms. with short-welded rails.

Concrete Sleepers:

Concrete sleepers are economical and technically best suited for high speed and heavy density traffic. Adequate capacity has been developed for production of concrete sleepers to meet the present requirement of IR. During the year, about 75.73 lakh Broad Gauge mono-block concrete sleepers and 6,473 sets of PSC turnout sleepers were produced.

Bridges:

IR has 1,33,160 bridges, out of which 720 are important, 10,828 are major and 1,21,612 are minor bridges. In 2010-11, 1,197 bridges including 16 distressed bridges were rehabilitated/rebuilt.

Road Over/Under Bridges:

To improve the safety and reduce inconvenience to road users, busy level crossings are being replaced by Road Over/Under Bridges (ROBs/RUBs) gradually. The works of ROBs/RUBs in lieu of busy level crossings are sanctioned on cost sharing basis with the concerned State Governments/Local Authorities.

As on 31st March, 2011 there are total 951 ROBs/RUBs sanctioned on cost sharing basis. These are at various stages of planning and execution. 67 ROBs/RUBs were completed during 2010-11.

Level crossings:

As on March 31, 2011, IR maintained 32,735 level crossings, out of which 17,839 had gate-keepers and 14,896 crossings were unmanned. In 2010-11, 434 unmanned level crossings were provided with gate keepers. And during 2011-12, total 187 unmanned gates have been provided with gatekeepers till June, 2011.

Land Management:

IR owns about 4.59 lakh hectares of land. About 90% of this land is under Railways' operational and allied usages such as laying of new lines, doubling, gauge conversions, track, stations, workshops, staff colonies, etc. The break-up of the land is as under:

Description	Area (in lakh hectares)
Track and structures including stations, colonies, etc.	3.61
Afforestation	0.48
'Grow More Food' scheme	0.04
Commercial licensing	0.04
Other uses like pisciculture	0.03
Encroachment	0.01
Vacant land	0.38
Total	4.59

Creation of various infrastructure facilities for development of future rail network largely depends on the availability of land. Therefore, preservation and meaningful interim use of railway land is the main objective of IR's land-use policy.

In pursuance of Railways' commitment towards environmental improvement through afforestation and also with a view to safeguarding the precious railway land against unauthorized occupation, tree plantation is being undertaken on vacant railway land with active participation of railway employees. In some States, railway land in mid-sections has been entrusted to the Forest Departments for plantation so as to ensure purposeful utilization and prevention against encroachments.

Besides, railway land is also licensed to railway employee belonging to Group 'C' and 'D' category and weaker section under 'Grow More Food' scheme, for growing vegetables, crops etc.

Licensing of railway land is permitted for the purposes directly connected with railway working. Plots of railway land at stations, goods sheds and sidings are licensed to other

parties for stacking/storing of goods either received or to be dispatched by rail. Railway land is also licensed to schools, welfare organizations and for developing shopping complexes in railway colonies for the welfare of railway employees. Apart from this, sharable railway land is licensed to Oil Companies for setting up retail outlets and is also leased to Central/State Governments/Public Sector Undertakings on long term basis.

Railways have also taken up commercial use of such land which may not be required by the Railways for its immediate future use. Through an amendment to Railways Act, 1989, Rail Land Development Authority (RLDA), under the Ministry of Railways has been constituted on 1st November, 2006 to undertake all tasks related to commercial development on railway land/air-space under the control of Ministry of Railways. So far, 135 sites have been entrusted to the Authority for commercial development.

Electrification

The advent of electric traction on Indian Railways dates back to 1925. Starting with DC traction system, IR introduced electrification on Single-phase 25 KV system and subsequently adopted the latest 2x25 KV Auto Transformer system on a limited scale.

During the XI Plan period, originally 3,500 route kilometres was targeted for electrification which has been reset to 4,500 route kms. in mid-term appraisal of the XI Plan.

The progress of electrification on IR over the Plan periods is as under:

Period	Route kms. electrified
Upto VII Five Year Plan (1990)	9,252
Annual Plans (1990-92)	1,557
VIII Five Year Plan (1992-97)	2,708
IX Five Year Plan (1997-02)	2,484
X Five Year Plan (2002-07)	1,810
XI Five Year Plan :	
First Year (2007-08)	502
Second Year (2008-09)	797
Third Year (2009-10)	1,117
Fourth Year (2010-11)	975

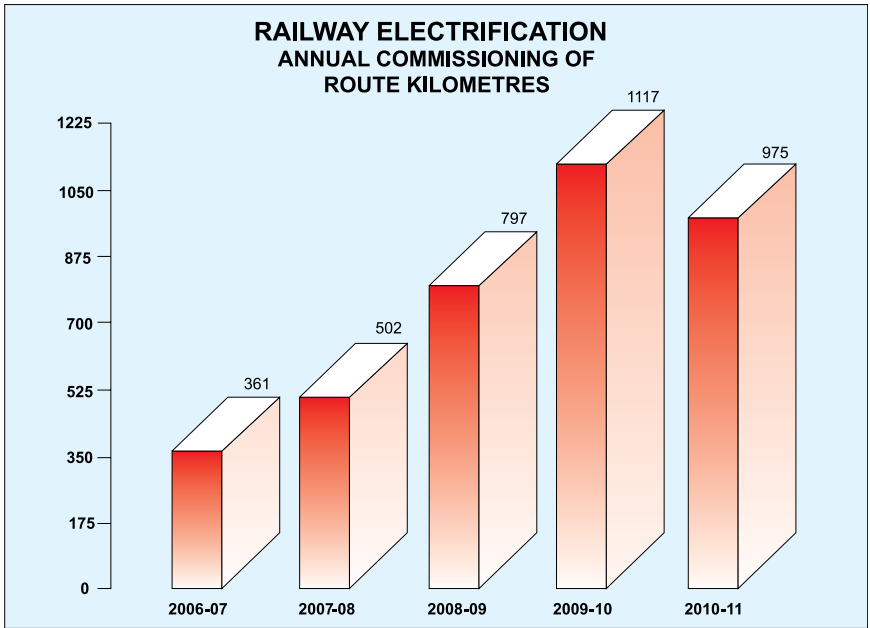
Details of route kilometres electrified during 2010-11 is as under:

Section	Railway	Route kms. electrified
Andal & Pandaneswar yard	(Eastern)	03
Goukul nagar Joypur – Bishnupur Station	(Eastern)	17
Barauni-Begusarai	(East Central)	15
Part of Phulwarisharif-Patliputra Station	(East Central)	03

Section	Railway	Route kms. electrified
Dholi-Ramdayalu nagar	(East Central)	31
Harichandanpur-Jaroli	(East Coast)	90
Sakhoti Tanda-Saharanpur	(Northern)	83
Meerut-Muhiuddinpur	(Northern)	10
Bareilly-Nagaria Sadat	(Northern)	33
Moradabad-Rampur	(Northern)	19
Chakkibank-Pathankot	(Northern)	02
Hiranagar-Samba	(Northern)	13
Jammu Tawi-Basantar Halt	(Northern)	24
Utratia yard	(Northern)	02
Akbarganj-Sultanpur	(Northern)	64
Varanasi yard	(Northern)	02
Jhansi-Ait	(North Central)	87
Siwan yard	(North Eastern)	02
Burhwal-Gonda	(North Eastern)	61
Trivandrum-Kanyakumari	(Southern)	85
Madurai-Kadambur	(Southern)	106
Villupuram-Tirukkivilur	(Southern)	31
Vallarpadam-Idapalli	(Southern)	09
Nawandgi-Malkhaid Road	(South Central)	26
Sitafalmandi-Maula Ali-Malkajgiri	(South Central)	09
Kadapa-Kamalapuram	(South Central)	23
Kalamalla-Mangapatnam	(South Central)	26
Guntakal-Gooty	(South Central)	28
New Manubolu-Venkatachalam Road bye-pass	(South Central)	07
Kengeri-Hejjala	(South Western)	08
Bangarapet-BEML Nagar	(South Western)	08
Sila Kheri-Maksi	(Western)	25
Tham-Vagra	(Western)	20
Mahadeokhedi yard	(West Central)	03
Total		975

The Golden Quadrilateral having double line has been fully electrified except Mumbai-Chennai route where electrification is in progress.

Up to March 31, 2011, 30.42% of the total route kilometres have been electrified.



Electrification of Suburban Section-Mumbai - DC to AC, Western Railway.

Signal and Telecom

Signalling:

Advanced Signalling Systems viz., complete track circuiting, Multiple Aspect Colour Light Signalling (MACLS), Panel/Route Relay/Electronic Interlocking, Last Vehicle Check by Axle Counter are deployed on Indian Railways for safe and efficient train control and optimum utilization of line capacity. A major thrust has been given for provision of LED based signals, track circuiting and replacement of signalling gears at block stations. On Board Train Protection System, Train Management System etc., have also been introduced on IR.

The progress of deployment of various signalling devices as on March 31, 2011 vis-à-vis last year is as follows:

Installation	As on 31.3.2010	As on 31.3.2011
Panel Interlocking (No. of stations)	3,830	4,000
Electronic Interlocking (No. of stations)	401	453
Route Relay Interlocking (No. of stations)	255	251
LED Lit Signals (No. of stations)	3,549	4,472
Data Loggers (No. of stations)	3,816	4,348
Colour Light Signalling (No. of stations)	5,097	5,278
Last Vehicle Check by Axle Counters (No. of Block Sections)	2,452	3,009
Track Circuiting (No. of locations)	27,215	28,372
Automatic Block Signalling (Route kilometres)	2,020	2,140
Intermediate Block Signalling (No. of Block Sections)	342	373
Interlocked Level Crossings Gates (Nos.)	9,335	9,777
On Board Train Protection System (Route kilometres)	328	328
Train Management System (No. of Stations)	1	1

Telecommunication:

Telecommunication plays an important role in train control, operation and safety. With the rapid growth in telecommunication technology, IR has decided to go for the state-of-the-art nationwide telecom network for meeting its communication needs and earning revenue by exploiting surplus capacity commercially. With this objective, RailTel, a Railways' Public Sector Undertaking was formed in September, 2000.

As on 31st March 2011, 37,708 route kilometres of Optical Fibre Cable has been commissioned that is carrying Gigabits of traffic. RailTel is significantly contributing in building National Knowledge Network. It is also planning to provide Broadband connectivity to the Panchayats.

IR has decided to adopt Global System of Mobile Communication – Railways (GSM-R) based mobile train radio communication. It has already been provided on 1,705 route kilometres and is being extended in other sections.

IR has established its own Satellite hub to facilitate connectivity for the remote Freight Operations Information System (FOIS) locations and Unreserved Ticketing System (UTS) application. IR has also established its Multi-Protocol Level Switching (MPLS) based Next Generation Networks (NGN) for voice traffic which has been integrated with all the zonal and divisional exchanges.

With a view to provide improved passenger amenities, Train Information Boards have been provided at 1,090 stations, Public Address System at 3,865 stations and Coach Guidance System at 480 stations.

The progress of installation of telecom equipment on IR is given below:

Installation	As on 31.3.2010	As on 31.3.2011
Railway Telephone Subscribers Lines (Nos)	3,51,678	3,54,493
Number of Control Sections provided with Dual Tone Multiple Frequency (DTMF) control equipment	310	316
Control communication through wireless (18 GHz) (route kilometres)	168	160
Mobile Train Radio Communication System (route kilometres)		
(a) GSM-R based	1,303	1,705
(b) TETRA (Terrestrial Trunked Radio) based	345	345
Optical Fibre Cable Communication (OFC) system for control communication (route kms.)	35,268	37,708
Digital Microwave (7GHz) (route kms.)	6,811	6,331
Public Address System (No. of stations)	3,748	3,865
Train Display Boards (No. of stations)	1,090	1,090
Coach Guidance System (No. of stations)	428	480

Rolling Stock

Locomotives:

The size of IR's fleet of motive stock as on 31st March, 2011 consisted of 43 steam, 5,137 diesel and 4,033 electric locomotives. The number of locomotives, traction-wise, along with their average tractive effort are as follows:

Year	Number of locomotives			Tractive effort per loco (in kgs.)		
	Steam	Diesel	Electric	Total	B.G.	M.G.
1950-51	8,120	17	72	8,209	12,801	7,497
1960-61	10,312	181	131	10,624	14,733	8,201
1970-71	9,387	1,169	602	11,158	17,303	9,607
1980-81	7,469	2,403	1,036	10,908	19,848	10,429
1990-91	2,915	3,759	1,743	8,417	24,088	12,438
2000-01	54	4,702	2,810	7,566	29,203	18,537
2007-08	44	4,843	3,443	8,330	32,638	18,496
2008-09	43	4,964	3,586	8,593	33,499	18,452
2009-10	42	5,022	3,825	8,889	33,665	18,378
2010-11	43	5,137	4,033	9,213	34,380	18,304

Coaching Vehicles:

LHB Coaches:

Following the introduction of the first rake of indigenously designed LHB coaches in December, 2003, 11 Rajdhani and 11 Shatabdi Express trains with conventional ICF design coaches have since been converted to LHB design. Conversion of the remaining Rajdhani/Shadabdi rakes to LHB design is in progress.

Setting up of mechanized laundry for washing of Linen:

Zonal Railway have identified 52 locations to set up the state-of-the art fully mechanized departmental laundry to improve the standard of cleanliness and hygiene in the linen being supplied to passengers in the trains. 10 such laundries have been commissioned so far.

Coach Upkeep:

676 old coaches were given mid-life rehabilitation and 885 coaches were refurbished improving their condition substantially. Also, 1,173 coaches were retrofitted with new bogie mounted air brake system.

Passenger Carrying Vehicles (PCVs) with aggregate seating capacity in different years and availability of Other Coaching Vehicles (OCVs) are shown below:

Year	Passenger Coaches						Other Coaching Vehicles (Number+)
	EMU Coaches		Conventional Coaches		DMU/DHMU		
	Number	Capacity \$	Number @	Seating capacity	Number	Seating capacity	
1950-51	460	87,986	13,109	854,678	-	-	6,059
1960-61	846	150,854	20,178	1,280,797	-	-	7,415
1970-71	1,750	340,541	24,676	1,505,047	-	-	8,719
1980-81	2,625	500,607	27,478	1,695,127	-	-	8,230
1990-91	3,142	609,042	28,701	1,864,136	-	-	6,668
2000-01	4,526	859,701	33,258	2,372,729	142	13,884	4,731
2007-08	5,877	1,173,622	40,734	2,994,206	764	66,172	6,180
2008-09	6,228	1,195,197	42,117	3,114,691	743	69,834	5,985
2009-10	6,765	1,215,764*	43,563*	3,177,642*	722*	70,950*	6,477*
2010-11	7,334	1,366,852	45,123	4,289,395	763	74,934	6,493

\$ Includes standing accommodation. @ Includes Rail Cars.
 * revised + Includes luggage vans, mail vans, parcel vans, etc.

Wagons:

As on 31st March, 2011, the size of IR's wagon fleet consisted of 229,381 units 60,738 covered, 121,259 open high-sided, 7,085 open low-sided, 27,426 other types and 12,873 brake vans/departmental wagons:

Year	Total wagons on line (In units)	Percentage of total number of wagons					Total
		Covered	Open high sided	Open low sided	Other types	Departmental	
1950-51	205,596	58.9	25.5	3.4	7.2	5.0	100
1960-61	307,907	57.3	25.5	2.5	10.6	4.1	100
1970-71	383,990	53.4	25.6	1.8	13.0	4.2	100
1980-81	400,946	53.3	28.3	3.2	11.8	3.4	100
1990-91	346,102	49.1	29.6	3.6	14.4	3.3	100
2000-01	222,193	34.1	41.0	3.6	17.5	3.8	100
2007-08	204,034	28.3	48.4	4.2	14.2	4.9	100
2008-09	212,835	26.4	49.2	4.0	14.2	6.2	100
2009-10	220,549*	26.2	51.2*	3.2	14.1	5.3*	100
2010-11	229,381	26.5	52.9	3.1	12.0	5.5	100

*revised



Exterior view of Dynamic Track Stabilization, North Central Railway.

Carrying capacity per wagon on broad gauge and metre gauge are indicated below:

Year	All Gauges		Broad Gauge Number\$ (000)	Gauge Average capacity (Tonnes)	Metre Gauge	
	Total number of wagons\$ (000)	Total capacity (Million tonnes)			Number\$ (000)	Average capacity (Tonnes)
1950-51	195	4.14	149	22.6	43	17.1
1960-61	295	6.30	207	23.1	83	18.0
1970-71	368	9.35	271	27.8	91	19.1
1980-81	387	11.14	299	30.6	83	23.0
1990-91	335	11.50	276	36.9	55	22.9
2000-01	214	10.19	199	48.7	14	34.4
2007-08	194	10.24	188	53.4	6	32.3
2008-09	200	11.17	195	56.5	5	32.2
2009-10	209	11.52*	204	55.7*	4*	33.2*
2010-11	217	12.16	213	56.6	4	32.8

*revised
 \$ Excludes departmental service wagons and brake vans.

Some of the major types of wagons held by IR as on 31.3.2011 are shown below:

Types of wagon fleet (B.G.)		
Type of wagon	Units available	Brief description
BOX`N`	58,404	High-sided bogie open wagons with improved components like cast steel bogie, high tensile couplers, cartridge tapered roller bearings, air brake, etc. for enabling greater trailing loads for movement of bulk commodities like coal, iron ore etc.
BCN/A	42,440	Water-tight covered bogie wagons with cast steel bogie, cartridge tapered roller bearings and air-brake.
BCX	2,403	Water-tight covered wagons for food-grains, cement, etc.
BOX	1,951	High-sided open bogie wagons with side discharge arrangement for transport of coal and other bulk traffic.
BTPN	10,121	Tank wagons for liquid consignments like petrol, naphtha, ATF and other petroleum products.
BOBS/BOBX	1,136	Open hopper wagons with bottom discharge arrangement to carry ballast, ores etc.

Types of wagon fleet (B.G.)

Type of wagon	Units available	Brief description
BLCA/BLCB	14,500	Low platform container flat wagons. Light weight all-welded skeletal design under-frame for an optimum 'tare to payload' ratio. 840 mm wheel diameter, AAR 'E' type central buffer coupler and slack less draw bar system.
BLLA/BLLB	450	Container flat wagons same as BLCA/BLCB, but with a longer platform of 45 ft.
BFKN/BFKI	1,357	BFKNs are CASNUB bogie container flat wagons with air Brake, converted from BFKI.
BOY	1,271	Low-sided open bogie wagons to carry iron ore.
BOXNCR	266	In order to reduce substantially the problem of corrosion, 3 CR12 stainless steel has been used in the manufacture of BOXNCR wagons.
BOXNHA	726	Higher axle load wagon (having tare weight 23.17 t and payload 65.13t) suitable for 22.1 t axle load and 8.25t/m Track Load Density for coal loading. Payload per rake shall increase to 3,783 t as against 3,411 t in the existing BOXN wagon, resulting in 11% increase in throughput per rake. Fit for 100 kmph.
BCCNR	35	Covered bogie wagon for transportation of automobile cars. Low platform with wheel diameter 840 mm and fitted with air brake. Fit for 100 kmph.
BCNHS	7,427	Bogie covered Air Brake all Welded high speed.
BOXNHS	20,730	Bogie opened air brake high speed.
BOXNLW	2,327	Bogie open air brake light weight.
BOST/HS	7,854	Longer BOXNHS wagon strengthened wagon for finished steel product.
BFNS	708	Bogie Flat air Brake high speed wagon H.R. coil coal.
BOBR/N	11,450	Bogie open rapid discharge air brake wagon for coal.
BOBYN/HS	5,455	Bogie Hopper air brake bottom discharge high speed.
BOXNHL	10,456	Bogie open air brake stainless steel wagon.
BRHNS	131	Bogie Rail Truck air brake enhanced capacities.
BOBSN	914	Bogie open air brake sick discharge wagon for iron ore.

Repair and Maintenance:

101 loco sheds and 246 carriage and wagons sick lines and central repair depots provide repair and maintenance facilities for the entire fleet of rolling stock. 45 workshops undertake periodic overhaul.

Central Organisation for Modernisation of Workshops (COFMOW):

Central Organisation for Modernisation of Workshops (COFMOW) was set up in 1979. The Organisation plays a major role in providing consultancy and engineering inputs for technology upgradation and improving productivity of manufacturing units, repair workshop and maintenance depots of IR.

COFMOW has kept itself abreast of global technological developments and acquired considerable expertise over the years in the fields of machinery selection and procurement. It has been instrumental in the dissemination of technical knowledge to railway units and organizing training of personnel in operation and maintenance of manufacturing infrastructure at periodic intervals. It has assisted suppliers in manufacturing special purpose machines for exclusive application by the Railways.

COFMOW has also been assisting IR in preparation of technical specification, procurement, delivery and commissioning of machinery and plant. It has been actively engaged in organizing seminars on new technologies for the benefit of its customers.

COFMOW has been designated as the nodal agency for procuring disaster management items like under-water oxy-cutting equipment, inflatable tents, air bags, synthetic packings, portable electrical tools and fire fighting equipment, etc. for all the Zonal Railways. It also undertakes centralized purchase of hydraulic rescue devices and hydraulic re-railing equipment.

COFMOW has recently been entrusted with the responsibility of setting up the new stainless steel coach manufacturing line at Integral Coach Factory, Chennai on turn-key basis. This includes procurement of machinery & plant as well as associated civil and electrical works, preparation of technical specifications, estimates, ordering and execution of all the components of the work.



Delux Rail Motor Car running between Kalka and Shimla, Northern Railway.

Traction

Indian Railways uses a mix of electric and diesel traction. The share of traffic in terms of train kms. and GTKMs for passenger and freight services hauled under different traction types over the years is given in the following tables:

Year	Percentage of train kms. by types of traction						
	Passenger				Freight		
	Steam	Diesel@	Electric		Steam	Diesel	Electric
			Loco	EMU			
1950-51	93	-	2	5	99	-	1
1960-61	91	-	2	7	94	5	1
1970-71	77	7	7	9	46	39	15
1980-81	49	25	14	12	18	62	20
1990-91	21.8	42.4	22.6	13.2	3	60.6	34.4
2000-01	-	56.2	31.2	12.7	-	43.5	56.5
2007-08	-	51.6	36.5	13.5	-	38.1	61.9
2008-09	-	50.0	38.2	13.3	-	36.9	63.3
2009-10	-	50.0	38.4*	13.1*	-	36.7*	63.1
2010-11	-	49.9	38.4	13.3	-	37.1	62.7

@ Includes DHMU & DEMU
* revised.

Year	Percentage of gross tonne kms. by types of traction						
	Passenger				Freight		
	Steam	Diesel@	Electric		Steam	Diesel	Electric
			Loco	EMU			
1950-51	92.4	-	2.8	4.8	98.3	-	1.7
1960-61	91.9	-	2.7	5.4	90.5	8.1	1.4
1970-71	74.1	10.7	8.2	7.0	32.2	47.7	20.1
1980-81	41.2	33.0	17.2	8.6	9.0	67.0	24.0
1990-91	15.1	47.1	29.5	8.3	0.8	57.8	41.4
2000-01	-	52.8	40.2	7.0	-	40.2	59.8
2007-08	-	51.0	43.1	6.2	-	36.2	63.7
2008-09	-	48.2	44.1	6.4	-	34.7	65.3
2009-10	-	49.2*	44.9*	6.2*	-	36.4	63.6
2010-11	-	49.3	44.9	6.1	-	35.7	64.3

@ Includes DHMU & DEMU
* revised.

Electric Traction:

Remote Monitoring and Diagnostic System:

Equipment for remote monitoring and diagnostics system for three phase electric locos has been developed to monitor the health of the locomotive and the equipment also and transmits data on a website through GPS to increase loco utilization, reduce line failure and unwanted withdrawals of locos from traffic service.

Locotrol and wireless MU couplers:

Locotrol, based on radio communication, has been developed which not only controls the speed of the load smoothly, but also minimizes the problem of train parting and derailment as one crew in the leading loco can independently control all the locomotives deployed to haul loaded freight trains at critical steep gradient thus reducing the requirement of additional crew.

Regeneration of energy in locomotives in 3-phase MU consist:

The loco software has been modified in WAG-9 MU locomotive to regenerate about 23-24% of total energy consumed at the time of electrical braking.

Train Protection Warning System (TPWS):

Train Protection Warning System (TPWS) is being provided on electric locos on Delhi-Agra section of Northern/North Central Railway as a pilot project. TPWS senses the signal aspect through Ballises on track and applies service/emergency brakes to control and stop the train in signal overlap to avoid cases of Signal Passing at Danger (SPAD).

Provision of Vigilance Control Device (VCD) on electric locos:

VCD is being provided on electric locos to judge alertness of loco drivers every 60 seconds based on intermittent inputs through the device.

Crew friendly cabs:

Ergonomically designed loco cabs are being provided on all conventional electric locomotives for Loco Pilots' comfort to reduce driving fatigue etc.

Diesel Locos:

GOLD (Guidance Optimized Locomotive Driving):

Successful trials have been conducted for this GPS based driver guidance system to assist the loco pilot in optimizing fuel consumption. The system also warns the crew of signals, stations and level crossing gates ahead.

REMMLOT:

REMMLOT system enables remote monitoring of condition of diesel locomotives shut down locos when idle for a long time, etc. It also monitors lapses on the part of loco pilot, when he passes a signal at danger.

Distributed Power:

Distributed Power system is being developed indigenously to optimize power distribution through radio coupling colour multiple engines are used in a long train formation. It also helps in lesser deployment of crew and minimizes turnaround.

Common Rail Direct Injection (CRDI):

CRDI is gradually introduced on diesel engines to provide accurate metering of fuel, complete combustion, reduction in emission and optimizing power output while reducing fuel consumption.

Alternative Fuel:

IR have carried out successful trials with substitution of high speed diesel with 10% bio diesel. Two esterification plants for production of bio-diesel are being set up. IR have also carried

out successful trails with CNG substitution of High Speed Diesel on Diesel Electrical Multiple Units (DEMs).

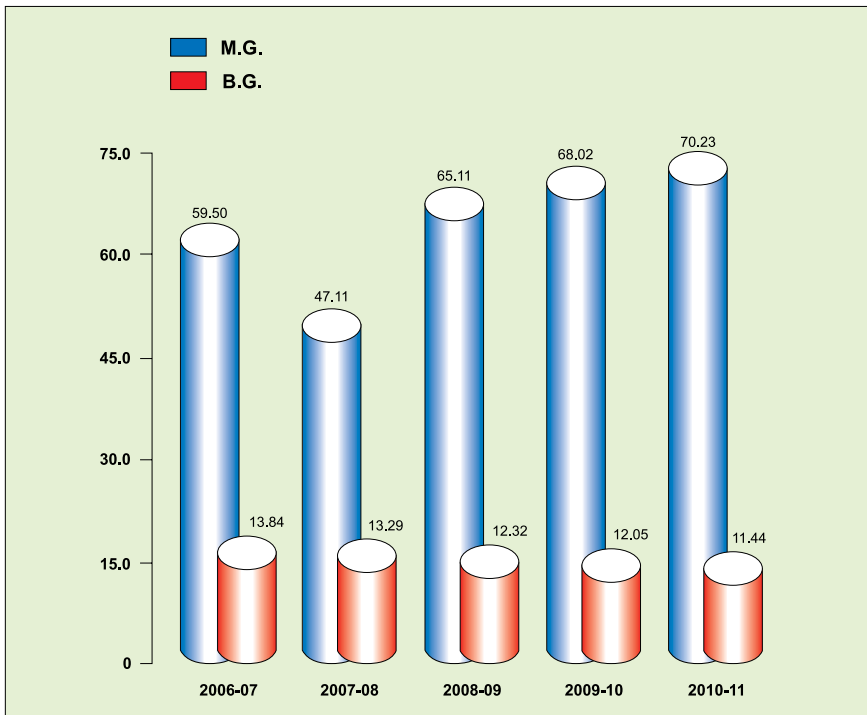
Electronic Fuel Injection (EFI):

The first ALCO diesel locomotive was retrofitted with EFI by DMW, Patiala to optimize fuel consumption and cut down emission; elimination of hot engine failures and better control and diagnostics, etc.

Steam Locomotives:

Steam locomotives are the icons of IR's history. These gallant stalwarts of a bygone era are now part of IR's glorious heritage. Considering their heritage value and attractiveness for the tourists, the following sections have been earmarked for running

**ENERGY CONSUMPTION (IN COAL EQUIVALENT)
GOODS SERVICES
(KGS. OF COAL/1000 GTKMS.)**



of trains hauled by steam loco:

- i) Fairy Queen service between Delhi Cantt. and Alwar (Guinness certified as the oldest (156 years) working steam locomotive).
- ii) The Darjeeling Himalayan Railway (DHR) from New Jalpaiguri to Darjeeling, now in its 132nd year and a UNESCO World Heritage Site.
- iii) Mettupalayam-Udagamandalam on Nilgiri Mountain Railway, now in its 104th year and a UNESCO World Heritage Site.
- iv) Simla -Kanda Ghat on Kalka-Simla Railway (KSR) now in its 109th year and UNESCO World Heritage Site.
- v) Neral-Matheran on Matheran Light Railway (MLR), now in its 105th year.
- vi) Pathankot-Palampur on Kangra Valley Railway(KVR), now in its 83rd year.

In addition, IR also runs, steam locomotives on special commemorative occasions. A number of steam locomotives have been preserved at the National Rail Museum, Regional Rail Museums and also given place of pride on pedestals of Zonal and Divisional Railway Headquarters and public places. The Steam Traction Expertise and Maintenance (STEAM) Committee, set up to address comprehensively issues pertaining to regular steam operation, has submitted its recommendations to the Railway Board to plan the Steam Revival.

	Consumption of Fuel/Energy			
	Quantity Consumed For Traction		For other than traction purposes (including manufacturing units)	
	2009-10	2010-11	2009-10	2010-11
Electricity (Million KWH)	13087.31*	13621.15	2506.17	2483.96
HSD Oil (Million litres)	2400.47*	2523.35	45.29*	44.02
Coal (Million tonnes)	0.002	0.001	0.001	0.001
* revised				

Passenger Business

Indian Railways is a commonly used mode of public transportation in the country. During 2010-11, it carried 7,651 million passengers as against 7,246 million in 2009-10 thus registering a volume growth of 5.6%. Passenger kilometres, which is calculated by multiplying the number of journeys by mean kilometric distance was 979 billion, up by 8.3% from 903 billion in the previous year. Passenger earnings also increased by ₹ 2,291.2 crore (9.8%) in comparison with 2009-10.

The trend of passenger traffic since 1950-51 is shown below:

Table I. Number of Passengers Originating

Year	Suburban (all classes)		Non suburban Second Class		Total Non-suburban	(in millions)	
	Upper class	Mail/Exp.#	Ordinary	Total		Total	Grand Total
1950-51	412	25	52	795	847	872	1,284
1960-61	680	15	96	803	899	914	1,594
1970-71	1,219	16	155	1,041	1,196	1,212	2,431
1980-81	2,000	11	260	1,342	1,602	1,613	3,613
1990-91	2,259	19	357	1,223	1,580	1,599	3,858
2000-01	2,861	40	472	1,460	1,932	1,972	4,833
2007-08	3,689	66	776	1,993	2,769	2,835	6,524
2008-09	3,802	76	895	2,147	3,042	3,118	6,920
2009-10	3,876	86	983	2,301	3,284	3,370	7,246
2010-11	4,061	100	1,046	2,444	3,490	3,590	7,651

Also includes Sleeper Class

Table II. Passenger Kilometres

Year	Suburban (all classes)		Non suburban Second Class			(in millions)	
	Upper class	Mail/ Exp.#	Ordinary	Total	Total Non-suburban	Grand Total	
1950-51	6,551	3,790	12,537	43,639	56,176	59,966	66,517
1960-61	11,770	3,454	22,251	40,190	62,441	65,895	77,665
1970-71	22,984	4,394	37,856	52,886	90,742	95,136	118,120
1980-81	41,086	5,140	86,712	75,620	162,332	167,472	208,558
1990-91	59,578	8,712	138,054	89,300	227,354	236,066	295,644
2000-01	88,872	26,315	222,568	119,267	341,835	368,150	457,022
2007-08	119,842	40,948	384,785	224,381	609,166	650,114	769,956
2008-09	124,836	49,468	419,649	244,079	663,728	713,196	838,032
2009-10	130,917	55,182	463,321	254,045	717,366	772,548	903,465
2010-11	137,127	62,203	500,631	278,547	779,178	841,381	978,508

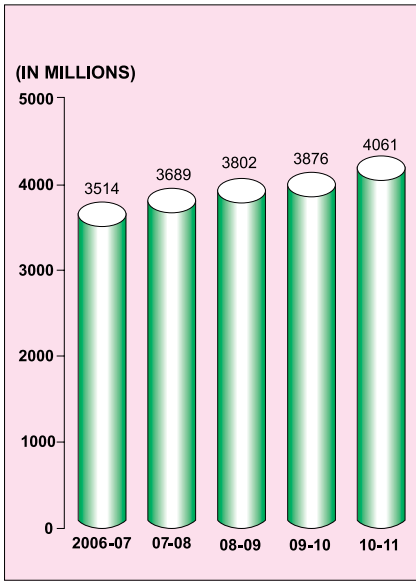
Also includes Sleeper Class.

Table III. Average Lead

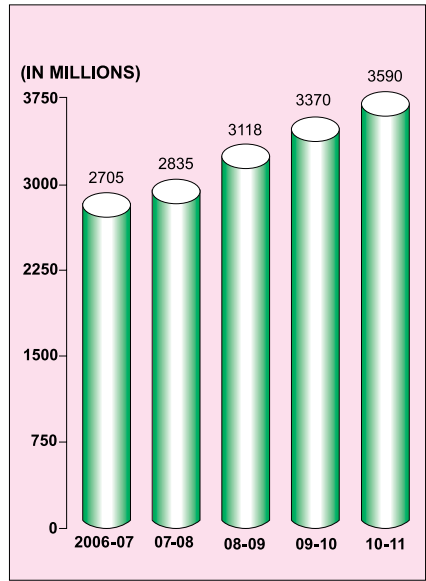
Year	Suburban (all classes)		Non suburban Second Class			(in kms.)	
	Upper class	Mail/ Exp.#	Ordinary	Total	Total Non-suburban	Grand Total	
1950-51	15.9	151.6	241.1	54.9	66.3	68.8	51.8
1960-61	17.3	203.3	232.4	50.0	69.5	72.1	48.7
1970-71	18.9	274.6	244.2	50.8	75.9	78.5	48.6
1980-81	20.5	484.0	333.3	56.4	101.3	103.9	57.7
1990-91	26.4	462.8	386.5	73.0	143.9	147.6	76.6
2000-01	31.1	659.3	471.3	81.7	176.9	186.7	94.6
2007-08	32.5	624.7	495.5	112.6	220.0	229.3	118.0
2008-09	32.8	647.3	469.2	113.7	218.2	228.7	121.1
2009-10	33.8	639.0	471.3	110.4	218.4	229.2	124.7
2010-11	33.8	623.1	478.5	114.0	223.2	234.4	127.9

Also includes Sleeper Class.

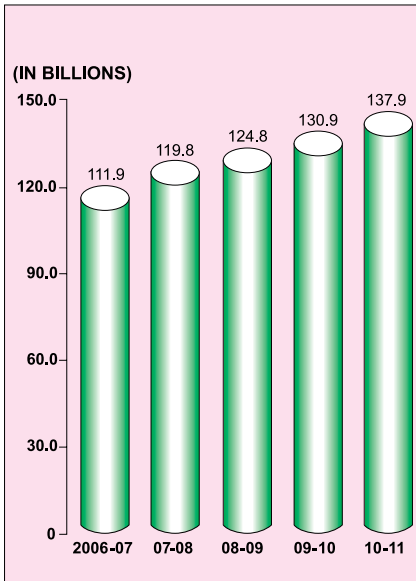
PASSENGERS ORIGINATING SUBURBAN



PASSENGERS ORIGINATING NON-SUBURBAN



PASSENGER KILOMETRES SUBURBAN



PASSENGER KILOMETRES NON-SUBURBAN

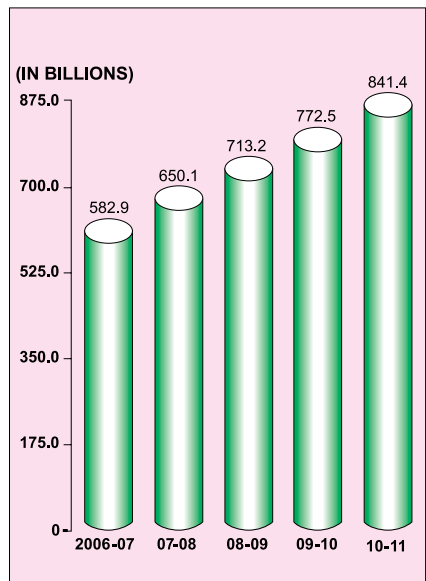


Table IV. Proportion to total traffic-No. of Passengers(Percentage)

	1960-61	1970-71	1980-81	1990-91	2000-01	2009-10	2010-11
Non-Suburban:							
Second Class							
Ordinary	50.38	42.82	37.14	31.70	30.20	31.76	31.95
Second Class							
Mail/Express#	6.02	6.38	7.20	9.26	9.77	13.56	13.67
Upper Class	0.94	0.66	0.30	0.49	0.83	1.19	1.30
Total	57.34	49.86	44.64	41.45	40.80	46.51	46.92
Suburban							
(all classes)	42.66	50.14	55.36	58.55	59.20	53.49	53.08
Grand Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

#Also includes Sleeper Class.

Table V. Proportion to total traffic – Passenger kms. (Percentage)

	1960-61	1970-71	1980-81	1990-91	2000-01	2009-10	2010-11
Non-Suburban:							
Second Class							
Ordinary	51.75	44.77	36.26	30.20	26.10	28.12	28.47
Second Class Mail/							
Express#	28.65	32.05	41.58	46.70	48.70	51.28	51.16
Upper Class	4.45	3.72	2.46	2.95	5.75	6.11	6.36
Total	84.85	80.54	80.30	79.85	80.55	85.51	85.99
Suburban (all classes)	15.15	19.46	19.70	20.15	19.45	14.49	14.01
Grand Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Also includes Sleeper Class.

Table VI. Number of passenger trains run daily

Type of trains	Broad Gauge		Metre Gauge		Total (incl.NG)	
	2009-10*	2010-11	2009-10*	2010-11	2009-10*	2010-11
EMU	4,520	4,710	0	0	4,520	4,710
Mail/Express	2,642	2,844	34	31	2,676	2,875
Ordinary Passenger						
Trains and Mixed						
Trains	3,568	3,767	358	335	4,066	4,239
Total	10,730	11,321	392	366	11,262	11,824

* revised

Table VII. Overall average speed including halts (kms./hr.)

Type of trains	Broad Gauge		Metre Gauge	
	2009-10	2010-11	2009-10	2010-11
EMU	40.2*	40.4	-	-
Mail/Express	50.0	50.1	35.8	31.1
Ordinary Passenger Trains	36.8	36.7	26.5	25.0
(incl. mixed)				

* revised

Note: All figures shown in the above tables (I-VII) are exclusive of Metro Railway, Kolkata.

Thus, it may be seen that:

- i) Over the years there has been a steady increase in passenger traffic output in terms of number of passengers and passenger kilometres.
- ii) Since 1950-51, passengers originating have increased by 496 % and passenger kms. by 1,371 %.
- iii) Suburban and Mail/Express traffic have shown a higher rate of growth since 1950-51 than the overall average.

Passenger Revenue:

Passenger earnings in 2010-11 were ₹ 25,705.64 crore (excluding ₹ 86.98 crore earned by Metro Railway, Kolkata). This was ₹ 2,291.20 (9.78%) higher than the earnings in 2009-10. Suburban traffic contributed 6.95% to the total earnings. The remaining 93.05% came from non-suburban passengers. Earnings from Second and Sleeper Class Mail/Express passengers comprised 50.14% of the total passenger earnings.

Passenger revenue in terms of earnings per passenger km. for different classes during 2009-10 and 2010-11 were as under:

Segment	2009-10	(In paise)
		2010-11
Non-suburban:		
Upper class	102.72	106.51
Second Class-Mail/Express (incl. sleeper class)	26.19	25.75
Second Class-Ordinary	15.52	15.81
Average (all classes)	28.15	28.43
Suburban(all classes)	12.75	13.03
Overall average	25.92	26.27

Passenger revenue in different classes with corresponding number of passengers and passenger kms. in 2010-11 is given below:

Segment	No. of passengers		Passenger kms.		Revenue	
	Million	Percentage	Million	Percentage	₹ in cr.	Percentage
Non-suburban:						
Upper Class	100	1.30	62,203	6.36	6,625.37	25.77
Second Class						
Mail/Express#	1,046	13.67	500,631	51.16	12,888.85	50.14
Second Class						
Ordinary	2,444	31.95	278,547	28.47	4,405.14	17.14
Total	3,590	46.92	841,381	85.99	23,919.36	93.05
Suburban (all classes)	4,061	53.08	137,127	14.01	1,786.28	6.95
Grand Total	7,651	100.00	978,508	100.00	25,705.64	100.00

#Also includes Sleeper Class. \$Excludes ₹ 86.98 crore earned by Metro Railway, Kolkata

Passenger Services:

Train kilometres and vehicle kilometres along with density of traffic for some selected year were:

Year	Suburban (EMU)		Non-suburban		Train kms. per running track km. per day	
	Train kms. (Million)	Vehicle kms. (Million)	Train kms. + (Million)	Vehicle kms.@ (Million)	Suburban (EMU)	Non-suburban+
1950-51	9.28	119.8	154	2,678	27.9	7.1
1960-61	14.05	196.8	190	3,594	28.7	8.2
1970-71	23.05	369.4	225	4,636	30.1	8.6
1980-81	35.55	601.5	258	5,582	36.6	9.7
1990-91	48.37	840.7	316	7,739	40.0	11.5
2000-01	56.04	1,029.5	397	11,035	47.1	13.8
2007-08	64.15	1,234.9	503	15,480	41.5	16.5
2008-09	66.87	1,276.2	526	16,313	42.3	17.4
2009-10	69.03*	1,342.8*	556	17,335*	43.8*	18.4
2010-11	73.25	1,438.5	581	18,207	46.7	19.2

@ Includes Mainline EMUs, DEMUs, DHMUs and suburban services other than EMU but excluding Rail Cars/Bus and Departmental.

+ Excludes Departmental but includes Rail Cars/Bus, MEMU, DEMU and DHMU services.

* revised

Passenger Service Improvements:

During the year, IR introduced 284 trains (single), extended the run of 82 trains (single) and increased the frequency of 36 trains (single) in non-suburban segment. This include introduction of 16 MEMU & 30 DMU/ DEMU services and extension of the run of 3 MEMU & 3 DEMU services. For suburban/local passengers, 165 trains (single) were introduced, the run of 37 trains (single) were extended and the frequency of 2 trains (single) was increased.

Ticketless Travel:

During 2010-11, 18.04 lakh checks were conducted against ticketless/irregular travel (including carriage of unbooked luggage). About 176.22 lakh cases were detected and ₹ 473.21 crore realized on this account.

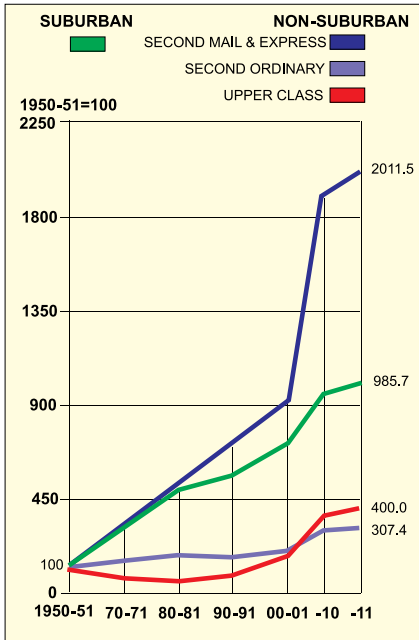
Amenities:

The allocation under the Plan Head “Passenger Amenities” in 2010-11 was ₹ 1,302.50 crore (Budget Estimate) and ₹ 997.30 crore (Revised Estimate).

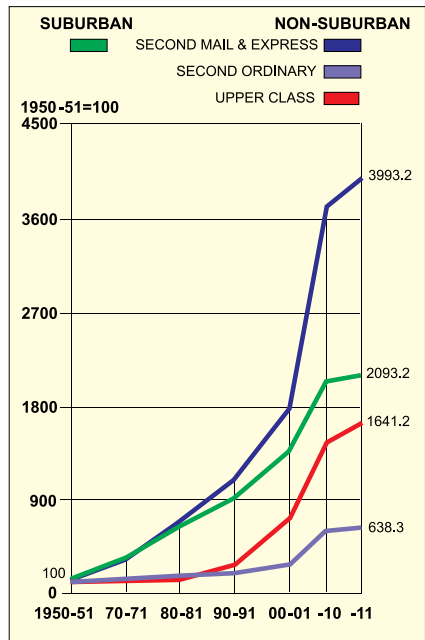
During the year 2010-11, it was proposed to develop 206 Adarsh Stations. Of the 579 stations identified as Adarsh Stations, 428 stations have been developed. It is proposed to develop 269 more stations during 2011-12.

During the year, 120 stations were provided with water coolers and 46 stations were electrified.

INDEX OF GROWTH OF ORIGINATING PASSENGERS



INDEX OF GROWTH OF PASSENGER KILOMETRES



Passenger Reservation System (PRS):

During 2010-11, 294 computerised reservation offices were opened. As on 31st March, 2011, there were 2,355 locations over IR where Passenger Reservation System (PRS) was functional. Some of the above locations are dual purpose Passenger Reservation System-cum-Unreserved Ticketing System (PRS-cum-UTS). Computerised Unreserved Ticketing System (UTS) was opened at 1,125 locations during 2010-11 taking the tally to 4,739.

Railway User Amenities:

Railway Users' Consultative Committees at different levels provide opportunities for consultation between the management and the rail users. Divisional Railway Users' Consultative Committees (DRUCCs) have been re-constituted for a two years term w.e.f. 01.10.2011 to 30.09.2013. Zonal Railway Users' Consultative Committees (ZRUCCs) and Konkan Railway Users' Consultative Committee (KRUCC) have been reconstituted for two years term w.e.f. 01.12.2011 to 30.11.2013. Suburban Railway Users' Consultative Committee and Station Consultative Committees at important stations also provide useful inputs.

Clean Train Station Scheme:

To bring about improvement in en route cleaning of trains, a new scheme 'Clean Train Stations' has been launched to provide mechanized cleaning to passing through trains during their halts at selected stations. 28 such Clean Train Stations have been made operational so far.

On Board House Keeping Service:

On Board House Keeping Service scheme has also been launched by the Railways in about 286 Mail/Express trains to carry out frequent on board cleaning of Mail/Express coaches through professional agencies.

Duronto Trains:

Duronto trains have heralded a new era of rail travel on IR. These superfast trains, with fully reserved accommodation, run as end to end non stop service. A unique aesthetically appearing exterior colour scheme was developed for these trains through vinyl films wrapped on the coach exteriors. A total number of 23 such trains were introduced during 2010-11.

Air conditioned Double Decker Coaches:

One complete rake comprising 8 Double Decker AC coaches and 2 Power Cars to LHB-FIAT design has been turned out from RCF and allotted to Eastern Railway.

Production of DEMU/MEMU coaches with toilet facilities:

Production of new DEMU/MEMU coaches with toilet facilities have begun in 2009-10 and 2010-11, respectively.

Catering Services:

A new Catering Policy 2010 has been introduced which has revised the role of agency for management of catering services on IR. According to new policy, catering services (except Food Plazas, Food Courts and Fast Food Units) will be managed by Zonal Railways departmentally, instead of IRCTC, in a phased manner. However, IRCTC would continue to be a service provider to the IR and shall be responsible for managing the premium and high end outlets like Food Plazas, Food Courts and Fast Food Units including institutional catering outside the Railways.



New Station Building, Sealdah, Eastern Railway.

During 2010-11, Catering services were provided through approximately 11,237 static catering units and in 291 pairs of trains through pantry cars and in 136 trains through train side vending. 51 departmental catering units were operational under Zonal Railways and 721 under IRCTC. Private licencees under Zonal Railways and IRCTC operated 10,521 and 371 catering units respectively.

86 Food Plazas/Fast Food Units and 820 Automatic Vending Machines were also functional over IR. To provide low cost wholesome food and regional cuisine to common passengers, 32 Jan Ahaar outlets were commissioned at various stations.

Sales turnover of departmental catering units during the year rose to ₹ 203.98 crore from ₹ 150.06 crore in the previous year and ₹ 231.51 crore was realized as licence fees from the catering/vending contractors.

Mass Rapid Transit System for Metropolitan Cities:

The various MRTS project in different metropolitan cities have been summarized below in a tabular form:-

Sl. No.	Section	Kms.	Latest Cost (₹ in Crore)	Year of Sanction	Target Year of completion	Sharing Ratio
Metro Railway Kolkata:						
1.	Noapara-NSCB Airport (M.M)	6.40	184.83	2009-10	2012-13	Rly.
2.	Dum Dum-Noapara-Baranagar (M.M.)	5.20	411.06	2009-10	2015-16	Rly.
3.	Noapara-Barasat via Bimanbandar	18.00	2,397.72	2010-11	2015-16	Rly.
4.	Baranagar-Barrackpore & Dakshineswar	14.50	2,069.60	2010-11	2015-16	Rly.
5.	NSCB Airport-New Garia via Rajarhat	32.00	3,951.98	2010-11	2015-16	Rly.
6.	Joka-BBD Bagh via Majerhat	16.72	2,619.02	2010-11	2015-16	Rly.
7.	Circular Railway: Extn. from Remount Road to Santospur via Garden Reach (M.M.)	8.80	268.52	2010-11	Not fixed	Rly.

Mumbai

1.	Belapur-Seawood-Urban	27.00	495.44	1996-97	Not fixed	1:2(Rly. & CIDCO)
2.	Mumbai Urban Transport Project (MUTP)-I	111.24	4,174.40	2003-04	2011-12	1:1
3.	Mumbai Urban Transport Project (MUTP)-II	59.40	5,300.00	2008-09	2015-16	1:1

Chennai:

1.	Extension of MRTS Phase-II from Velachery to St. Thomas Mount	5.00	495.74	2006-07	2013-14	1:2
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Freight Operation

Revenue earning freight traffic handled during 2010-11 was 921.73 million tonnes. NTKMs earned during the year were 625.72 billion. Total loading and freight output, inclusive of non-revenue traffic, were 926.43 million tonnes and 626.47 billion NTKMs respectively. Commodity-wise loading of revenue earning traffic was as follows:

	Tonnes carried* (Millions)		Variation over last year	
	2009-10	2010-11	Absolute	Percentage
Coal				
i) for steel plants	40.08	44.19	4.11	4.79
ii) for washeries	1.37	1.47	0.10	0.16
iii) for thermal power houses	271.45	285.52	14.07	30.98
iv) for other public users	83.25	89.19	5.94	9.68
Total	396.15	420.37	24.22	45.61
Raw material for steel plants except iron ore	11.60	13.30	1.70	1.44
Pig iron and finished steel				
i) from steel plants	24.17	24.06	- 0.11	2.61
ii) from other points	7.68	8.76	1.08	0.95
Total	31.85	32.82	0.97	3.56
Iron ore				
i) for export	43.64	25.68	- 17.96	2.79
ii) for steel plants	44.33	44.68	0.35	4.85
iii) for other domestic users	44.77	48.10	3.33	5.22
Total	132.74	118.46	- 14.28	12.85
Cement	93.15	99.08	5.93	10.75
Foodgrains	38.69	43.45	4.76	4.71
Fertilizers	43.68	48.22	4.54	5.23
Mineral Oil (POL)	38.88	39.29	0.41	4.26
Container service				
i) Domestic containers	9.63	11.01	1.38	1.19
ii) EXIM containers	25.32	26.58	1.26	2.88
Total	34.95	37.59	2.64	4.08
Balance other goods	66.10	69.15	3.05	7.50
Total	887.79	921.73	33.94	100.00

* Excludes loading on Konkan Railway.

The following tables show the growth of freight traffic over the years:

Revenue earning freight traffic						
Year	Tonnes (Millions)	Index (1950-51 =100)	Net Tonne kms. (Millions)	Index (1950-51 =100)	Lead (Kms.)	Index (1950-51 =100)
1950-51	73.2	100.0	37,565	100.0	513	100.0
1960-61	119.8	163.7	72,333	192.6	603	117.6
1970-71	167.9	229.4	110,696	294.7	659	128.5
1980-81	195.9	267.6	147,652	393.1	754	147.0
1990-91	318.40	435.0	235,785	627.7	741	144.4
2000-01	473.50	646.9	312,371	831.5	660	128.7
2007-08	793.89	1,084.5	521,371	1,387.9	657	128.1
2008-09	833.39	1,138.5	551,448	1,468.0	662	129.0
2009-10	887.79	1,212.8	600,548	1,598.7	676	131.8
2010-11	921.73	1,259.2	625,723	1,665.7	679	132.4

II. Movement of bulk commodities in the last four years

Sl. No.	Commodity group	2007-08		2008-09		2009-10		2010-11	
		Million Tonnes	Percentage	Million Tonnes	Percentage	Million Tonnes	Percentage	Million Tonnes	Percentage
1.	Coal	336.83	42.43	369.63	44.35	369.15	44.62	420.37	45.61
2.	Foodgrains	38.23	4.82	35.51	4.26	38.96	4.36	43.45	4.71
3.	Iron & Steel	25.79	3.25	28.58	3.43	31.85	3.59	32.82	3.56
4.	Iron ore	136.69	17.22	130.58	15.67	132.74	14.95	118.46	12.85
5.	Cement	78.99	9.95	86.24	10.35	93.15	10.49	99.08	10.75
6.	POL (Mineral oils)	35.88	4.52	38.08	4.57	38.88	4.38	39.29	4.26
7.	Fertilizers (Chemical manures)	35.83	4.51	41.35	4.96	43.68	4.92	48.22	5.23
8.	Limestone & Dolomite	14.14	1.78	13.34	1.60	14.77	1.66	16.37	1.78
9.	Stones (incl. gypsum other than marble)	13.92	1.75	10.48	1.26	11.44	1.29	11.66	1.27
10.	Salt	4.62	0.58	4.83	0.58	4.76	0.54	4.64	0.50
11.	Sugar	5.98	0.75	4.36	0.52	3.97	0.45	3.76	0.41
	Total	726.90	91.56	762.98	91.55	810.08	91.25	838.12	90.93
12.	Commodities other than above	66.99	8.44	70.41	8.45	77.71	8.75	83.61	9.07
	Grand Total	793.89	100.00	833.39	100.00	887.79	100.00	921.73	100.00

III. Freight Train Kilometres and Wagon Kilometres

Year	Freight train kms.		Wagon kilometres (in terms of 4-wheelers)	
	Total (Million)	Per running track km per day	Total (Million)	Percentage of loaded to total
1950-51	112	5.2	4,370	70.7
1960-61	161	6.9	7,507	70.5
1970-71	202	7.7	10,999	69.7
1980-81	199	7.2	12,165	69.5
1990-91	245	8.5	19,230	65.5
2000-01	261	8.7	27,654	60.9
2007-08	325	10.5	36,695	65.4
2008-09	340	10.7	16,134+	65.1
2009-10	356	11.2	17,063+	66.4
2010-11	368	11.6	17,749+	66.5

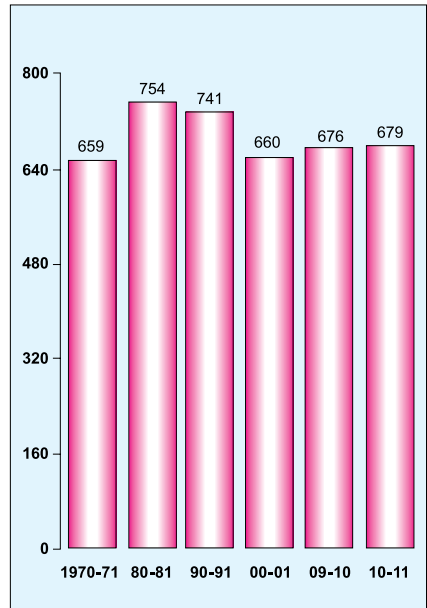
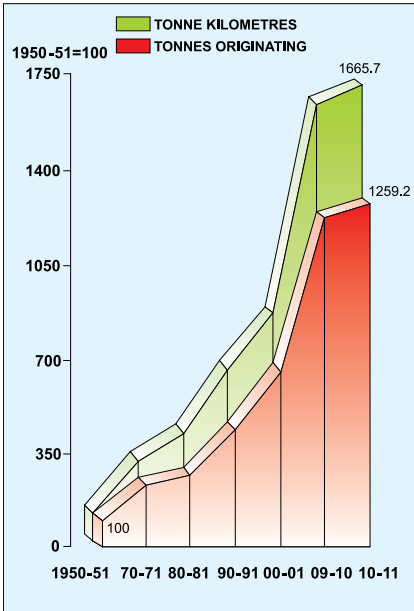
+ in terms of 8-wheelers
*revised

IV. Tonnes originating, Net Tonne Kms. and Earnings from bulk commodities in 2010-11

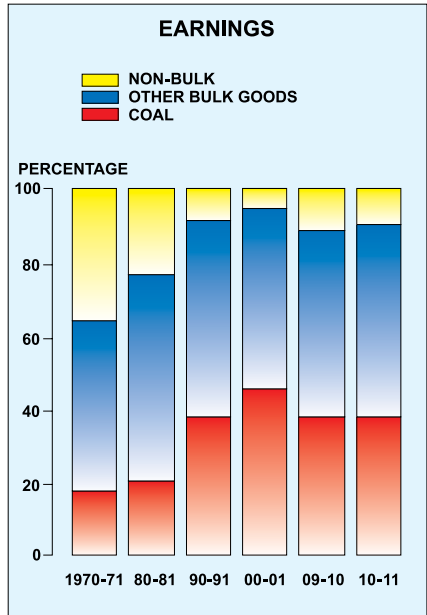
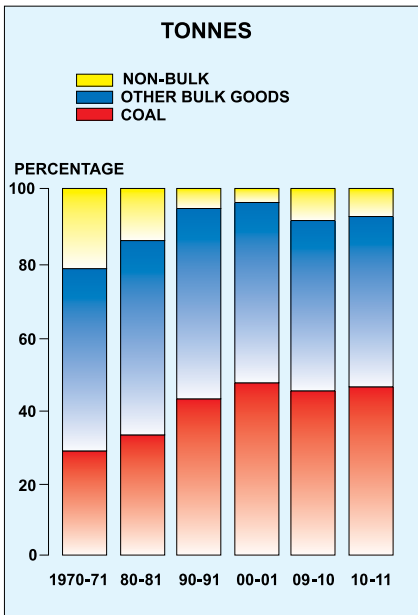
S. No.	Commodity group	Tonnes originating		Net tonne kilometres		Earnings	
		In million	%age to total	In Million	%age to total	₹ in crore	%age to total
1	Coal	420.37	45.61	2,68,296.13	42.88	23,917.31	39.41
2	Foodgrains	43.45	4.71	51,996.35	8.31	4,032.74	6.65
3	Iron & steel	32.82	3.56	32,233.96	5.15	3,460.00	5.70
4	Iron ore	118.46	12.85	46,357.09	7.41	9,011.99	14.85
5	Cement	99.08	10.75	56,952.22	9.10	5,544.16	9.14
6	POL (Mineral oils)	39.29	4.26	26,084.91	4.17	3,353.77	5.53
7	Fertilizers (Chemical manures)	48.22	5.23	40,713.79	6.51	3,251.96	5.36
8	Limestone & dolomite	16.37	1.78	10,971.50	1.75	1,144.49	1.89
9	Stones (incl. gypsum) other than marble	11.66	1.27	5,759.31	0.92	623.77	1.03
10	Salt	4.64	0.50	6,397.24	1.02	422.83	0.70
11	Sugar	3.76	0.41	6,257.45	1.00	414.66	0.68
	Total	838.12	90.93	5,52,019.95	88.22	55,177.68	90.92
12	Commodities other than above	83.61	9.07	73,703.30	11.78	5,509.37	9.08
	Grand Total	921.73	100.00	6,25,723.25	100.00	60,687.05	100.00

**INDEX OF GROWTH OF FREIGHT
(REVENUE TRAFFIC)**

**AVERAGE LEAD OF FREIGHT (KMS.)
(REVENUE TRAFFIC)**



SHARE OF BULK COMMODITIES IN FREIGHT TRAFFIC



V. Share of Tonnage, Earnings and Net tonne kms. of 30 selected commodities in 2010-11

S. No.	Commodity Group	Tonnes Originating		Earnings		Net Tonne kms.	
		In thousand	%age to total	₹ in crore	%age to total	In Million	%age to total
1	Total coal	420372	45.61	23917.31	39.41	268296	42.88
2	Iron ore	118460	12.85	9011.99	14.85	46357	7.41
3	Cement	99080	10.75	5544.16	9.14	56952	9.10
4	Chemical manures	48224	5.23	3251.96	5.36	40714	6.51
5	Food grains	43445	4.71	4032.75	6.65	51996	8.31
6	Mineral oils	39293	4.26	3353.76	5.53	26085	4.17
7	Iron & steel	32819	3.56	3460.00	5.70	32234	5.15
8	Exim container	26583	2.88	1988.66	3.28	27212	4.35
9	Limestone & dolomite	16372	1.78	1144.49	1.89	10972	1.75
10	Domestic container	11010	1.19	851.50	1.40	13778	2.20
11	Stone other than marble and gypsum	7400	0.80	271.20	0.45	2167	0.35
12	Marble	6594	0.72	294.71	0.49	2757	0.44
13	Fodder oil cake	6162	0.67	428.68	0.71	5770	0.92
14	Ores other than manganese and iron	6070	0.66	278.32	0.46	2451	0.39
15	Salt	4638	0.50	422.83	0.70	6397	1.02
16	RMC carried in general service wagons	4584	0.50	153.67	0.25	1208	0.19
17	Gypsum	4264	0.46	352.57	0.58	3593	0.57
18	Sugar	3758	0.41	414.66	0.68	6257	1.00
19	Non-ferrous metal	2402	0.26	146.62	0.24	1213	0.19
20	Manganese ores	2396	0.26	148.63	0.24	1371	0.22
21	Jute manufactured	1831	0.20	163.04	0.27	1876	0.30
22	Fruits & vegetable fresh	1635	0.18	113.19	0.19	2726	0.44
23	Edible oils	1388	0.15	98.13	0.16	1656	0.26
24	Lac refined	1269	0.14	64.40	0.11	1152	0.18
25	Bamboos	701	0.08	38.79	0.06	830	0.13
26	Electrical goods	612	0.07	60.37	0.10	538	0.09
27	Organic manures	564	0.06	8.35	0.01	158	0.03
28	Soda ash	538	0.06	61.62	0.10	714	0.11
29	Artificial silk & silk piece goods	440	0.05	51.60	0.09	444	0.07
30	Fodder other than oil cakes	403	0.04	23.12	0.04	639	0.10

VI. Some selected efficiency indices of freight operation during the last four years

			2007-08	2008-09	2009-10*	2010-11
Net tonne kilometres per wagon per day		BG	3,539	8,687	9,222+	9,247+
		MG	303	558	624+	662+
Wagon kilometres per wagon per day		BG	249	254	256+	262+
		MG	22	40	30+	32+
Net tonne kilometres per engine hour	Diesel	BG	14,575	14,357	16,465	16504
		MG	3,078	2,357	2,330	2420
	Electric	BG	23,530	23,025	24,672	24450
Net tonne kilometres per engine day on line	Diesel	BG	264,137	270,912	2,85,008	302,245
		MG	32,891	27,392	26,469	30,552
	Electric	BG	384,981	425,329	443,386	453,960

+ in terms of 8-wheelers
* revised



Iron-ore, loading in South Central Railway.

Freight Rates:

There was no across-the-board increase in freight rates for the year 2010-11. However, 'Inflation Concession' of ₹ 100 per wagon on booking of Food grains for domestic use and Kerosene Oil was granted from 1.4.2010.

The taper of the Base Class-100 was rationalized w.e.f. 27.12.2010 resulting in increase in freight rates ranging from 0.15% to 3.95% from 101 to 500 kms and beyond 500 kms it was flat 4%. However, this modification in taper did not result in increase in freight rates of Food grains and Chemical Manures. The classification of Sugar and De-oiled Cakes was revised from Class-110 to Class-120.

Freight Marketing:

Private Freight Terminals (PFT):

To facilitate rapid development of a network of freight terminals with private investment to provide efficient and cost effective logistics services with warehousing solution to end users, a new scheme namely Private Freight Terminal has been launched on 31.05.2010. PFT can either be 'green field' facilities developed by private parties on private land or 'brown field' facilities, i.e. existing private sidings/container terminals on private land which can be permitted to be converted to private freight terminals under the provisions of the scheme. The scheme will facilitate traffic handling at the terminals by private investors thereby increasing IR's market share.

Of the 17 proposals received for PFTs, 4 have been finalized

Special Freight Train Operator Scheme (SFTO):

In order to increase rail share in the commodities like fertilizers, molasses, edible oil, caustic soda, chemicals, petrochemicals, alumina, bulk cement and fly ash, etc., where rail co-efficient is traditionally very low, a new scheme namely Special Freight Train

Operator Scheme (SFTO) has been launched on 31.5.2010 to attract private investment in special purpose wagons required for transportation of these commodities.

Automobile Freight Train Operator Scheme (AFTO):

With a view to increase IR's market share in transportation of automobile i.e. two/three wheelers, cars and tractors, etc. by inviting private participation for procurement and operation of special purpose wagons, a new scheme namely Automobile Freight Train Operator Scheme (AFTO) has been launched on 19.07.2010 and to facilitate bulk movement of automobile traffic by rail from the production hubs to consumption centers, a policy has also been introduced on 16.06.2010 for development of automobile & ancillary hub at strategic locations for storage and secondary distribution by road.

Wagon Investment Scheme:

Wagon Investment Scheme has been introduced to cater to the increasing demand for wagons through investment by individuals, corporate entities, producers association or groups like SAIL for procurement of general service wagons of the type BCN, BTPN, BRNA, BOST and BOBRN.

Liberalized Wagon Investment Scheme (LWIS):

LWIS allows investment in Special Purpose Wagons (SPW) and High Capacity Wagons (HCW) by end users, viz., producers, manufacturers and consumers. Under the scheme Each rake procured by investor will have an associated loading and unloading point(s) over specific route(s) or close circuit(s) as approved by IR. Wagon Leasing Companies can also procure wagons under this scheme for leasing to end users. A freight concession of 15% will be granted for 20 years on each loading of SPW operating in approved close circuits. In case of HCW, a freight concession of 12% will be granted for 20 years on each loading and an additional freight concession of 0.5% will be granted for each additional tonne of payload.

Wagon Leasing Scheme (WLS):

This scheme has been launched to introduce the concept of leasing of railway wagons on IR just as Aeroplanes, Ships, Road trucks, etc. are taken on lease. The scheme aims at induction of rakes through PPP route. HCWs, SPWs and wagons for container movement are permitted for leasing under this scheme. Rakes will be procured from wagon manufacturers or through import subject to compliance of IRS specifications and mandatory inspections by IR. The policy has been introduced on 15.4.2008.

Terminal Development Scheme (TDS):

The objective of the scheme, introduced on 15.4.2008, is to promote development of new railway terminal through investment from private sector to facilitate rail movement of freight traffic in specific commodities.

Claims:

IR paid ₹ 9.65 crore as claim compensation during 2010-11 as compared to ₹ 13.99 crore paid in the previous year. The trend of claims settlement in the preceding five years is given below:

Year	No. of claims received	No. of claims paid	Gross amount of compensation paid (₹ in crore)
2006-07	33,041	12,401	14.71
2007-08	27,808	7,789	9.85
2008-09	25,775	6,581	6.40
2009-10	20,800	5,384	13.99
2010-11	21,402	4,406	9.65

Asset Utilisation

Some of the major efficiency indicators of IR's operational performance over the years is given in the following tables:

A. Engine kilometres per day per engine in use:

(i) Goods

Year	Broad Gauge			Metre Gauge		
	Steam	Diesel	Electric	Steam	Diesel	Electric
1950-51	150	-	191	140	-	98
1960-61	155	300	156	140	273	171
1970-71	121	347	316	133	280	245
1980-81	89	303	274	107	276	206
1990-91	52	445	398	88	399	224
2000-01	-	398	450	18	345	203
2007-08	-	404	480	-	134	-
2008-09	-	398	478	-	110	-
2009-10	-	382	471*	-	105	-
2010-11	-	384	478	-	102	-

* revised

(ii) Passenger

Year	Broad Gauge			Metre Gauge		
	Steam	Diesel	Electric	Steam	Diesel	Electric
1950-51	249	-	397	211	-	130
1960-61	274	250	363	220	274	177
1970-71	250	669	437	228	383	376
1980-81	210	610	453	199	541	405
1990-91	189	673	482	185	569	382
2000-01	-	577	542	36	447	385
2007-08	-	587	608	30	434	-
2008-09	-	584	639	31	430	-
2009-10	-	586	650	33	398*	-
2010-11	-	595	671	34	390	-

*revised

Note: In view of the change in method of compilation of diesel and electric loco usage since 1981-82, the figures of earlier years are not strictly comparable.

B. GTKms. (excluding weight of engine and departmental traffic) per kg. of tractive effort:

Year	Broad Gauge	Metre Gauge
1950-51	1,525	1,191
1960-61	1,864	1,444
1970-71	2,147	1,714
1980-81	2,372	1,708
1990-91	3,873	2,263
2000-01	4,498	1,628
2007-08	5,292	1,323
2008-09	5,158	1,058
2009-10	5,326*	1,117*
2010-11	5,286	1,271

* revised

C. Density:

The density of traffic in terms of NTKms, PKms. and GTKms. per route km. and per running track km. are given in the following two tables.

Year	(Millions)					
	Net Tonne kms. per route km.		Passenger kms. per route km.		Gross Tonne kms. per route km.	
	B.G.	M.G.	B.G.	M.G.	B.G.	M.G.
1950-51	1.50	0.25	1.77	0.85	5.24	1.20
1960-61	2.76	0.54	2.03	0.89	8.32	2.18
1970-71	3.61	0.81	2.88	1.25	10.38	2.87
1980-81	4.34	0.80	5.15	1.72	12.55	2.76
1990-91	6.30	0.97	7.12	1.97	18.13	3.17
2000-01	6.96	0.24	9.49	2.08	21.95	1.79
2007-08	10.19	0.11	14.63	2.28	28.03	1.40
2008-09	10.43	0.08	15.53	2.00	29.29	1.19
2009-10	11.07	0.09	16.35	2.11	30.82*	1.27*
2010-11	11.34	0.09	17.36	2.91	31.90	1.37

* revised

Year	(Millions)					
	NTKMs per running track km.		Passenger kms. per running track km.		Gross tonne kms. per running track km.	
	B.G.	M.G.	B.G.	M.G.	B.G.	M.G.
1950-51	1.23	0.24	1.45	0.85	4.29	1.19
1960-61	2.19	0.54	1.61	0.87	6.59	2.15
1970-71	2.60	0.79	2.07	1.22	7.49	2.87
1980-81	3.06	0.76	3.63	1.64	8.84	2.63
1990-91	4.41	0.92	4.98	1.87	12.67	3.01
2000-01	4.93	0.24	6.73	2.03	15.55	1.75
2007-08	7.18	0.11	10.31	2.19	19.74	1.34
2008-09	7.32	0.08	10.90	1.89	20.56	1.12
2009-10	7.83	0.08	11.56	1.95	21.78*	1.17*
2010-11	8.08	0.09	12.37	2.75	22.73	1.29

*revised

D. Coach Utilisation:

In 2010-11 the vehicle kms. per vehicle day was 532 on BG and 204 on MG.

Year	Vehicle kms. per vehicle day	
	BG	MG
1950-51	264	204
1960-61	252	177
1970-71	282	191
1980-81	314	186
1990-91	408	254
2000-01	461	269
2007-08	510	189
2008-09	522	152
2009-10	526*	193*
2010-11	532	204

*revised

E. Average freight train load:

The average net load per train in 2010-11 was 1,702 tonnes on BG and 488 tonnes on MG. The average gross load per train was 3,063 tonnes on BG and 902 tonnes on MG.

Year	Average train load (tonnes)			
	Net load		Gross load (including weight of engine)	
	B.G.	M.G.	B.G.	M.G.
1950-51	489	185	1,068	435
1960-61	656	298	1,354	648
1970-71	737	378	1,507	753
1980-81	884	487	1,721	871
1990-91	1,079	562	2,122	962
2000-01	1,233	414	2,533	806
2007-08	1,607	663	2,952	1,328
2008-09	1,624	496	2,962	918
2009-10	1,691	572*	3,042	988*
2010-11	1,702	488	3,063	902

*revised

F. Average freight train speed (kms./hour):

Traction-wise and gauge-wise average speed of goods trains over the years is indicated in the following table:

Year	Broad Gauge			Metre Gauge
	Diesel	Electric	All traction	All traction
1950-51	-	20.8	17.4	15.0
1960-61	22.2	19.5	16.1	13.7
1970-71	22.9	25.2	17.9	14.7
1980-81	21.3	22.8	19.7	15.1
1990-91	22.6	23.1	22.7	17.6
2000-01	22.4	25.4	24.1	19.6
2007-08	24.2	26.3	25.4	14.5
2008-09	24.6	26.4	25.7	14.0
2009-10	23.6	27.2	25.8	14.6
2010-11	23.5	27.0	25.6	14.7

G. Net tonne kms. per engine hour and per goods train hour:

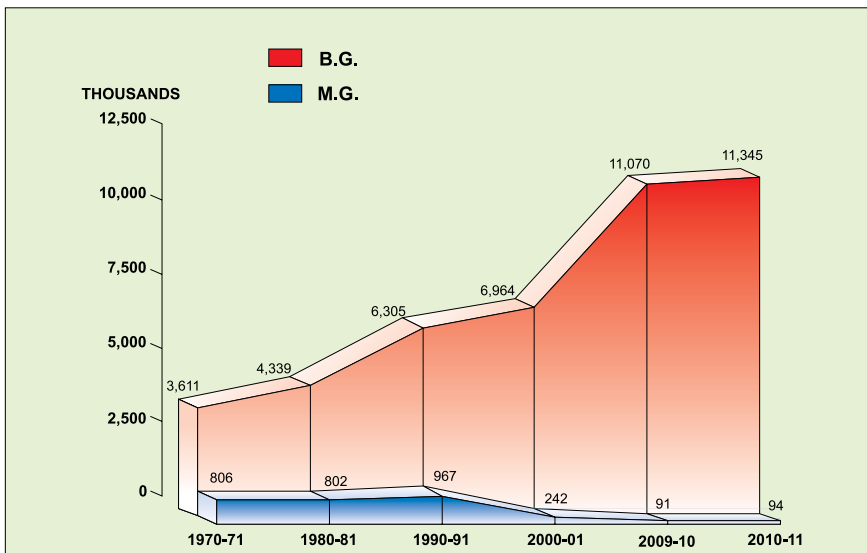
During 2010-11, NTKms per engine hour stood at 20,840 for BG and 2,407 for MG. NTKMs per goods train hour for BG and MG were 43,874 and 5,523 respectively.

The table below shows the unit output measured by these indices in selected years:

Year	Net tonne kms. per engine hour		Net tonne kms. per goods train hour	
	B.G.	M.G.	B.G.	M.G.
1950-51	3,283	1,238	8,590	2,884
1960-61	4,170	1,766	10,808	4,232
1970-71	4,904	2,525	13,492	5,824
1980-81	6,295	3,345	17,677	7,562
1990-91	10,393	5,027	24,787	10,551
2000-01	12,850	3,773	29,752	8,539
2007-08	19,342	3,076	41,994	8,212
2008-09	19,097	2,357	41,307	6,206
2009-10*	20,876	2,309	43,882	6,932
2010-11	20,840	2,407	43,874	5,523

* revised

NTKMS PER ANNUM PER ROUTE KM.



H. Wagon Utilisation:

On an average, a wagon moved 262.1 kms. per day on BG and 31.6 kms. on MG in 2010-11. NTKms per wagon per day on BG was 9,247. NTKms per annum per tonne of wagon capacity on BG and MG were 57,953 and 7,369 respectively. These indices of wagon utilization are given below:

Year	Net tonne kms. per wagon capacity per annum (in tonnes)		Wagon kms. per wagon per day		Net tonne kms. per wagon per day	
	B.G.	M.G.	B.G.	M.G.	B.G.	M.G.
1950-51	11,833	9,021	62.3	50.2	710	304
1960-61	16,558	10,125	76.9	51.6	998	405
1970-71	15,117	12,583	73.4	58.4	908	524
1980-81	16,285	11,013	73.4	47.3	986	522
1990-91	23,418	18,629	110.5	69.7	1,407	810
2000-01	33,289	7,981	179.0	43.8	2,042	394
2007-08	56,408	6,781	248.9	21.9	3,539	303
2008-09 +	56,080	6,228	253.7	39.9	8,687	558
2009-10 +	56,845*	6,842*	256.2*	29.7	9,022*	624*
2010-11 +	57,953	7,369	262.1	31.6	9,247	662

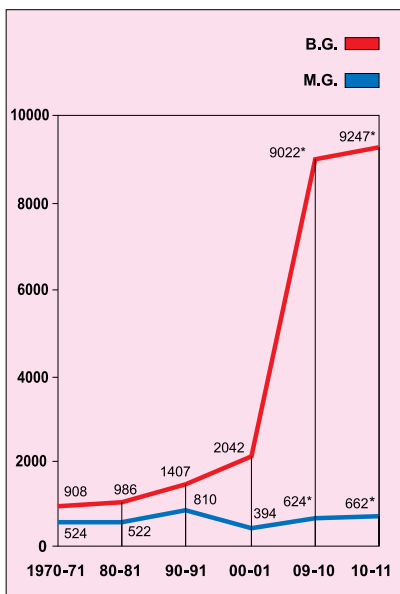
(+) in terms of 8 - wheelers
 (*) revised

I. Wagon turn-round (in days):

The turn-round time of wagons, representing operational cycle time is given in the following table:

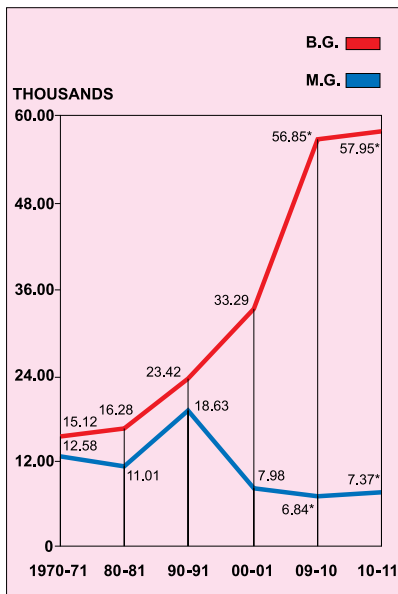
Year	B.G.	M.G.
1950-51	11.0	N.A.
1960-61	11.2	7.2
1970-71	13.3	10.1
1980-81	15.2	15.3
1990-91	11.5	13.3
2000-01	7.5	12.9
2007-08	5.23	N.A.
2008-09	5.19	N.A.
2009-10	4.98	N.A.
2010-11	4.97	N.A.

NET TONNE KILOMETRES PER WAGON PER DAY



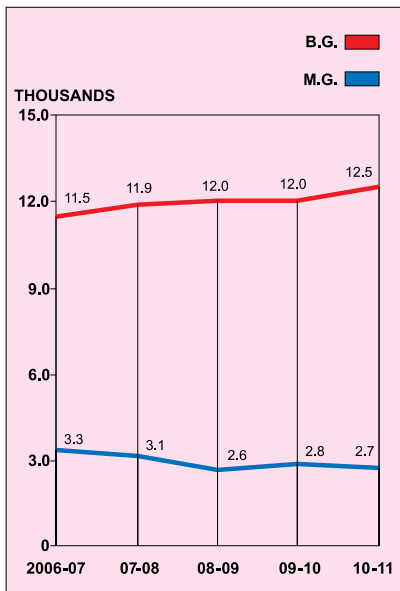
* In terms of eight wheelers

NET TONNE KILOMETRES PER ANNUM PER TONNE OF WAGON CAPACITY

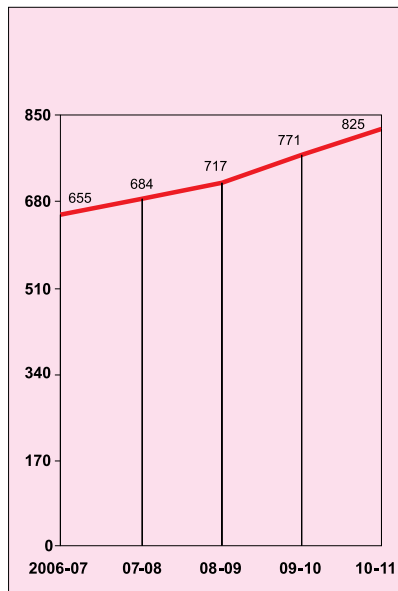


* In terms of eight wheelers

TRAIN KILOMETRES PER RUNNING TRACK KM



TRAIN KILOMETRES PER EMPLOYEE



Safety

There were 139 consequential train accidents in 2010-11 compared to 165 in 2009-10. Train accidents per million train kilometres, an important index of safety, came down from 0.17 in 2009-10 to 0.14 in 2010-11.

Comparative position of train accidents in the last five years is as under:

Year	Colli- sions	Derail- ments	Level crossing accidents	Fire in trains	Misc. acci- dents	Total	Train accidents per million train kms.
2006-07	8	96	79	4	8	195	0.23
2007-08	8	100	77	5	4	194	0.22
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

The figures Excludes Metro and Konkan Railways.

Casualties and Compensation:

The number of passengers killed or injured in train accidents and compensation paid to the victims in the last 5 years are given below:

Year	Number of passengers		Casualties per million passengers carried	Compensation paid (₹ in lakhs)
	Killed	Injured		
2006-07	38	227	0.01	500.89
2007-08	9	245	0.00	121.37
2008-09	52	257	0.01	218.94
2009-10	67	253	0.01	265.81
2010-11	235	358	0.01	585.79

- Note:
- i) The above figures exclude Metro and Konkan Railways.
 - ii) Compensation paid during a year relates to the cases settled and not to accidents/casualties during that year.

Causes of Train Accidents:

Of the total 139 train accidents that occurred on IR during 2010-11, 116 (83.46%) were due to human failure, including 58(41.73%) due to the failure of railway staff and 58(41.73%) due to the failure of other than railway staff. Most of the accidents due to failure of other than Railway staff have occurred at Unmanned Level Crossings where the liability is primarily that of road users. 2 (1.44%) accidents were caused due to 'equipment failure', 16 (11.51%) were due to sabotage, 3 (2.16%) on account of incidental factors and 2 (1.44%) accidents were caused due to combination of factors.

Damage to Railway Property:

The cost of damage to railway property and duration of interruption to through communication due to consequential train accidents during 2009-10 and 2010-11 were as under:

Year	Cost of damage		Interruption to through communication (Hours)
	Rolling stock inclusive of engines (₹ in lakhs)	Permanent way (₹ in lakhs)	
2009-10	4,126.48	1,244.99	1,105.01
2010-11	4,584.52	1,311.37	1,455.05

Note :The figures exclude Konkan and Metro Railways.

Measures to improve safety:

General:

Safety Action Plans were continually executed to reduce accidents caused by human errors. A multi-pronged approach with focus on introduction of newer technologies, mechanization of maintenance, early detection of flaws, etc. to reduce human dependence in the first place, alongwith upgrading the skills of the human resources were the prime drivers for accident prevention.

Periodical safety audits of different Divisions by multi-disciplinary teams of Zonal Railways as well as inter-railway safety audits were conducted on regular basis. During 2010-11,

119 internal safety audits and 29 inter-railway safety audits were carried out.

Training facilities for drivers, guards and staff connected with train operation have been upgraded. Disaster Management Modules have also been upgraded. During 2010-11, 92,225 safety category employees attended refresher training.

Collisions:

Pilot project on Anti Collision Device (ACD) to prevent cases of collisions and to minimize the extent of damage caused by collisions has been in-service trial on 1,736 route kilometres of Northeast Frontier Railway. Trials with modified ACD, with improved efficacy, reliability and availability, are being carried out on electrified multiple-line & automatic signalling section of Southern Railway. Work for installation of ACD has already been sanctioned on 1,600 route kilometres on Southern, South Central and South Western Railways. Further work has been sanctioned on 5,160 route kilometres on four more Zones. Action has also been taken to develop Train Collision Avoidance System (TCAS) through multiple vendors.

Fouling Mark to Fouling Mark track circuiting on the entire 'A', 'B', 'C', 'D', 'D Special' and 'E Special' routes, where permissible speed is more than 75 kilometres per hour, was completed. Further, Fouling Mark to Block Section Limit (straight) track circuiting was completed on 'A' and 'C' routes. Track circuiting has been completed upto 97.48% on 'A', 'B' and 'C' routes.

Pilot projects on Train Protection Warning System (TPWS) to prevent over speeding/Signal Passing at Danger (SPAD) is in use since May 2008 on 50 route kilometres of Southern Railway. Service trials are in progress for the second pilot project on 200 route kilometres of Delhi-Agra Section. TPWS has also been approved for deployment on high density networks/Automatic Signalling Sections covering 895 route kilometres of five Zonal Railways.

Vigilance Control Device (VCD) is a system where if the driver does not perform a certain set of actions over a period of time, sound alarms, flashing light and brake systems start operating automatically. On-board VCD has been provided on about 75% of Diesel Locomotives and 25% of Electric Locomotives. Installation of VCD on remaining Diesel and Electric locomotives is to be carried out in a phased manner.

Auxiliary Warning System to prevent cases of signal passing at danger has been working on Mumbai suburban sections.

Block Proving Axle Counters (BPAC) for 'Last Vehicle Check' was commissioned on 552 Block Sections in 2010-11, aggregating to a provision of 3,009 BPACs upto March 2011.

Derailments:

Upgradation of Track Structure consisting of Pre-stressed concrete (PSC) sleepers, 52 Kg/60 Kg high strength (90 kg/square mm ultimate tensile strength) rails on concrete sleepers, fanshaped layout on PSC sleepers, Steel Channel Sleepers on girder bridges has been adopted on most of the routes.

Track structure is being standardized with 60 kg rails and PSC sleepers on all the Broad Gauge routes, especially on high density routes to reduce fatigue of rails under higher axle-load traffic. New track construction and replacement of over-aged tracks is being done by PSC sleepers only.

To improve maintenance and reliability of assets, efforts to eliminate fish-plated joints by welding single rails into long welded rails were continued. During relaying/construction of new lines/gauge conversion, long welded rails are laid on concrete sleepers. Long rail panels of 260 M/130 M length are being manufactured at the steel plants to minimize number of welded joints. Turnouts are also being improved systematically.

There is progressive shifting to flash butt welding which is superior in quality as compared to Alumino Thermic (AT) welding.

All rails and welds are ultrasonically tested as per laid down periodicity. Self Propelled Ultrasonic Rail Testing (SPURT) Cars are being used for Rail flaw detection.

There has been a progressive increase in the use of Tie Tamping and ballast cleaning machines for track maintenance. Also, sophisticated Track Recording Cars, Oscillograph Cars and Portable Accelerometers are being used progressively.

Modern bridge inspection and management system has been adopted, which include non-destructive testing techniques, under water inspections, fiber composite wrapping, mapping unknown foundations and integrity testing, etc.

Based on threat perceptions due to adverse weather conditions or external interference, patrolling of railway track including night patrolling as well as intensified patrolling during foggy weather is carried out at vulnerable locations regularly.

Progressive fitment of tight lock Central Buffer Coupler (CBC) in lieu of screw coupling in new design coaches by ICF has been carried out to prevent the coaches from climbing over each other in unfortunate event of an accident.

Design of passenger coaches with features of crashworthiness to absorb most of the impact energy, leaving the passenger area unaffected has been developed and coaches are being manufactured accordingly.

For enhancing safety and reliability of passenger coaches, the suspension systems are being re-designed with air springs at secondary stage capable to maintain constant height at variable loads. Air springs have been developed and are being fitted on all the newly built EMU and DMU coaches for suburban trains. Air springs have now been developed for mainline coaches as well and manufacture of such coaches has already commenced.

Wheel Impact Load Detector (WILD) are being deployed in a phased manner.

Derailment prone 4-wheeler Tank Wagons are being progressively phased out.

Level Crossing Accidents:

To educate road users about safety at unmanned level crossings, publicity campaigns are periodically launched through different media like quickies on television, cinema slides, SMSs, posters, radio, newspapers, street plays, etc.

Joint ambush checks with civil authorities are conducted to nab erring road vehicle drivers under the provisions of the Motor Vehicles Act, 1988 and the Indian Railways Act, 1989.

As a special measure, powers have been delegated to the Zonal Railways to sanction new works of Road Over Bridges and Under Bridges and Subways costing upto `2.50 crore in each case.

Construction of 67 ROBs/RUBs was completed during 2010-11.

1,665 level crossings were identified for replacement by sub-ways, out of which 1,393 were sanctioned in 2010-11. A total of 177 sub-ways were completed during the year.

Criteria for manning has also been revised to make more number of unmanned level crossings eligible for manning.



CCTV surveillance system, New Delhi Railway Station, Northern Railway.

During 2010-11, 434 unmanned level crossings were manned.

Fire in Trains:

IR have always endeavoured to enhance fire worthiness of coaches by using more fire retardant furnishing materials such as Compreg Board/PVC for coach flooring, laminated sheets for roof, ceiling wall & partition panelling, rexene and cushioning material for seats and berths, FRP windows and UIC vestibules etc. Specifications for such furnishing materials have been periodically upgraded to incorporate the fire retardant parameters in line with UIC/other international norms. All new manufacture of coaches/periodical overhauling of existing coaches is being carried out with fire retardant specifications of the furnishing materials.

With a view to improve fire safety in running trains, a pilot project for provision of Comprehensive Fire and Smoke Detection System has been taken up in one rake on Northern Railway. Field trials on this rake are on. Depending upon the efficacy of these trials, further trials will be extended.

Guard-cum-Brake Van and AC coaches in all trains are provided with portable fire extinguishers to cater for emergencies due to fire accidents.

Improved materials for electrical fittings and fixtures such as MCB, light fittings, terminal boards, connectors, etc., are being used progressively.

Detailed instructions have been issued to Zonal Railways for observance of safe practices in handling of pantry cars and for ensuring periodical inspection of electrical and LPG fittings in the pantry cars.

Intensive publicity campaigns to prevent the travelling public from carrying inflammable goods are regularly undertaken.

Personnel

The number of regular employees as on 31.3.2011 stood at 13,28,199.

The table below shows, the strength of railway employees under various groups, together with total expenditure on them, for some selected years:

Year	@ Number of staff as on 31 st March (in thousands)			Total	Expenditure @ on staff (₹ in crore)
	Groups A&B	Group C	Group D		
1950-51	2.3	223.5	687.8	913.6	113.8
1960-61	4.4	463.1	689.5	1,157.0	205.2
1970-71	8.1	583.2	782.9	1,374.2	459.9
1980-81	11.2	721.1	839.9	1,572.2	1,316.7
1990-91	14.3	891.4	746.1	1,651.8	5,166.3
2000-01	14.8	900.3	630.2	1,545.3	18,841.4
2007-08	16.1	907.4	470.9	1,394.4	25,892.3
2008-09	16.4	913.3	456.3	1,386.0	39,940.9
2009-10*	16.7	926.5	418.9	1,362.1	51,719.4
2010-11	16.8	1,076.9	234.5	1,328.2	53,706.9

* revised

@ Includes number of Railway Protection Special Force (RPSF) personnel and expenditure on them from 1980-81 onwards. These were not included in earlier years.

Management personnel (Groups A&B) constitute up 1.3% of the total strength, while Group C and D account for 81.1% and 17.6% respectively. Of the employees in Group C and D, 3.85 lakhs (29.3%) are workshop employees and artisans and 9.27 lakhs (70.66%) from other categories including running staff. Railway Protection Force/RPSF personnel totaled 61,949.

In the non-gazetted cadres, the ratio of Group C to D changed from 25:75 in 1950-51 to 82:18 in 2010-11, indicating a shift towards induction of skilled manpower.

Representation of Scheduled Castes (SCs) and Scheduled Tribes (STs):

Representation of scheduled caste and scheduled tribe employees on IR (including MTP Railways) for the year 2010-11 as compared to the previous year is given below:

	Number of SC Employees		Number of ST Employees	
	As on 31-3-2010	As on 31-3-2011	As on 31-3-2010	As on 31-3-2011
Group A	1,255 (14.50%)	1,170 (13.22%)	647 (7.47%)	636 (7.18%)
Group B	1,264 (15.43)	1,141 (14.08%)	509 (6.21%)	506 (6.25%)
Group C	1,39,744 (15.02%)	1,59,165 (14.75%)	61,151 (6.57%)	70,887 (6.57%)
Group D (excl. Safaiwalas)	62,553 (16.49%)	39,366 (19.48%)	26,648 (7.03%)	16,855 (8.34%)
Group D (Safaiwalas)	21,920 (54.60%)	16,690 (49.43%)	2,233 (5.56%)	1,563 (4.64%)
Total (excl. Safaiwalas)	2,04,816 (15.44%)	2,00,842 (15.47%)	88,955 (6.71%)	88,884 (6.85%)
Grand Total	2,26,736 (16.59%)	2,17,532 (16.33%)	91,188 (6.67%)	90,447 (6.79%)

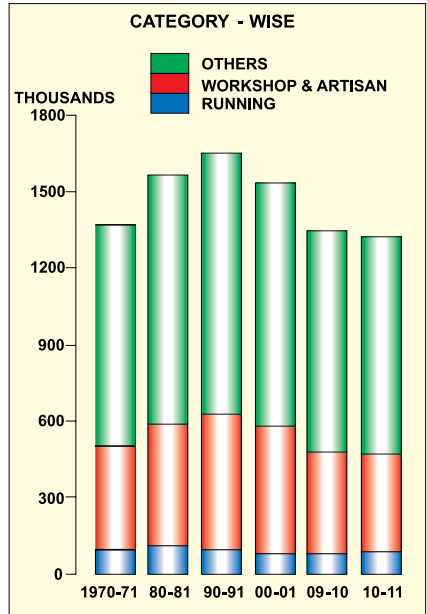
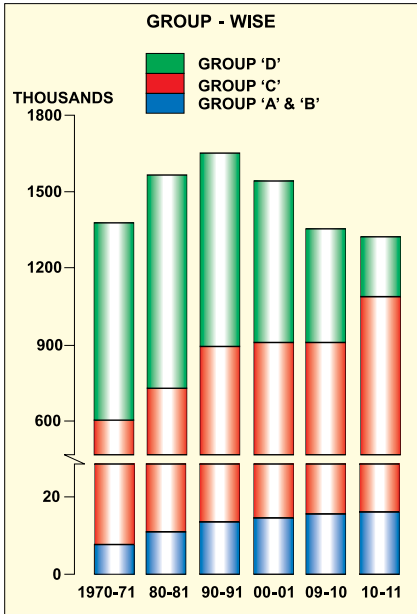
Note: Figures in brackets indicate percentage to the total staff in the respective groups.

Fully dedicated reservation cells exist at the Ministry/Railway/Zones/ Divisions/Workshops/Production Units, for dealing with the problems of Scheduled Castes, Scheduled Tribes and Other Backward Classes exclusively for ensuring speedy redressal of the grievances and appropriate implementation of policies.

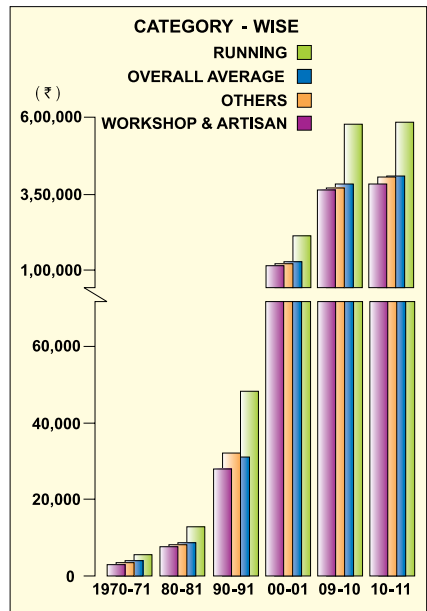
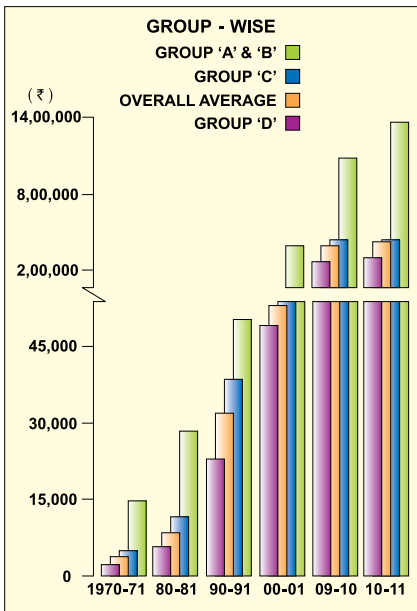
Wage Bill:

Wage bill including pension etc. during 2010-11 was ₹ 53,706.95 crore registering an increase of ₹ 1,987.53 crore over the previous year. The average wage per employee was up by 6.53% from ₹ 3,82,472 per annum in 2009-10 to ₹ 4,07,448 per annum in 2010-11. The ratio of staff cost on open line (excluding payment towards pension and gratuity) to ordinary working expenses (excluding appropriation to DRF and Pension Fund) was 54.74%.

NUMBER OF PERSONNEL



AVERAGE ANNUAL WAGE PER EMPLOYEE



The average annual wage (excluding fringe benefits) per employee paid under various categories in 2010-11 is given below:

Category	Groups A&B (₹)	Group C (₹)	Group D (₹)	Total (₹)
Workshop and artisan	-	3,88,398	3,16,402	3,77,707
Running *	-	5,83,079	-	5,83,079
Others	-	4,09,461	2,83,066	4,01,363
Total	13,66,285	4,18,326	2,91,042	4,07,448

*Emoluments include running allowance.

Productivity Linked Bonus:

In 2010-11 all non-gazetted railway employees (excluding RPF/RPSF personnel) were sanctioned Productivity Linked Bonus (PLB) for 78 days. This benefited an estimated 12.61 lakh employees. Group 'C' and 'D' RPF/RPSF personnel were sanctioned ad hoc bonus equivalent to 30 days' emoluments for the year 2010-11.

Human Resource Development (HRD) and Manpower Planning:

Human resource development strategies on IR have been re-oriented towards enhancing the competitiveness of the Railways organisations in the context of internal and external changes in the environment. In addition to in-house training, railwaymen are being provided specialized training in other institutions in India and abroad. Railway employees are also encouraged to enhance their knowledge and skills by acquiring higher educational qualifications in the specified areas relevant to their work by granting incentives to them. Efforts are being made to improve the basic infrastructure for training to provide structured training programme in improved learning environment. Manpower planning system has been redesigned to regulate manpower intake with reference to emerging business needs and financial viability of the system.

Following seven Centralised Training Institutes (CTI) cater to the training needs of railway officers:

- Railway Staff College, Vadodara.
- Indian Railways Institute of Civil Engineering, Pune.
- Indian Railways Institute of Signal Engineering and Telecommunications, Secunderabad.
- Indian Railways Institute of Mechanical & Electrical Engineering, Jamalpur.
- Indian Railways Institute of Electrical Engineering, Nasik.
- Indian Railways Institute of Transport Management, Lucknow.
- Jagjivan Ram Railway Protection Force Academy, Lucknow.

The Centralized Training Institutes apart from probationary training, cater to various specialised training needs of IR officers. Railway Staff College provides inputs in General Management, Strategic Management and function-related areas for serving railway officers. Other CTIs conduct specialised technical training courses in respective functional areas. Training programmes on Information Technology are also being conducted by the CTIs to provide solutions for information management and decision support requirements. Need based special courses conducted by CTIs and facilities offered by them for trainees from abroad and non-railway organizations in India have been well appreciated. The training programmes emphasize on professional approach to learning with a purpose. In addition to in-house faculty, faculties with diverse experience in business, industry and government are utilized to meet the changing needs arising out of technological development and socio-economic transformation.

Training requirements of non-gazetted staff are taken care of by over 300 training centres located over IR. Training has been made mandatory at different stages for staff belonging to the safety and technical categories. Certain categories of staff overdue for

refresher training are taken off from sensitive duty, till completion of the training. Efforts are constantly made to improve living conditions in the hostels, provide better mess facilities, strengthen facility for recreational and cultural activities and make good the deficiencies in respect of training aids including improvement of the Model Rooms.

As a policy, Board has been encouraging the setting up of multidisciplinary training centres where cross-functional competencies could be imparted to railway employees from different functional areas.

During 2010-11, a total of 7,547 Gazetted Officers and 2,98,421 Non-Gazetted Staff underwent different types of training programmes.

Railway Recruitment Boards:

During 2010-11, RRBs supplied panels of 5,913 candidates for appointment to Group 'C' posts.

Staff welfare:

IR's welfare schemes cover a wide spectrum of activities in the areas of education, medical care, housing, sports, recreation and catering.

Staff Benefit Fund is an important channel for providing additional facilities to railway employees and their families in the spheres of education, recreation, medicare, sports, scouting and cultural activities. Dispensaries under the indigenous systems of medicine, viz. Ayurvedic and Homeopathic, are run with the help of this Fund.

Approximately 42% staff have been provided with railway quarters. 2,033 staff quarters were electrified during 2010-11.

253 canteens served subsidized meals and refreshments to employees during the year at their work-places.

Co-operative societies of various types are engaged as a part of welfare programme for employees. Besides, a large number

of Thrift and Credit Societies, 166 registered Railwaymen's Consumer Co-operative Societies, 14 Railwaymen's Co-operative Housing Societies and 31 Labour Co-operative Societies were functional on IR during 2010-11.

IR attaches due importance to recreation for its employees and provides excellent facilities through Institutes/Clubs for sports, libraries, etc. and Holiday Homes to enable the employees and their families to enjoy holidays at nominal expenses.

Railway Health Services:

IR health care system with a chain of 125 hospitals, 586 health units, managed by 2,506 doctors and about 54,000 paramedical staff along with visiting specialist, forms an integral part of 'total health care solution' made available for its 65 lakh beneficiaries – both serving and retired. Apart from attending to the patients, activities like monitoring the quality of food & water maintaining colony sanitation etc. are undertaken. Doctors in Zonal hospitals are also engaged in teaching and imparting training to post graduate students for specialist and super specialist courses.

Many innovative steps have been taken by IR Medical Services to augment the health services for better patient care, like starting a super specialty cardiac centre at BR Singh Hospital, Eastern Railway, Kolkata and OPD and Physiotherapy wing in upcoming Metro Hospital at Kolkata, sanctioning of 20 road mobile medical vans manned by doctors/paramedical staff with emergency equipments to attend to ailing railway employees/families in far flung areas, extending pilot project for providing medical team in Duronto trains for another year, including legally dependent divorced daughter of railway employees for availing health care services, providing dormitories for attendants of patients in divisional hospitals, etc.

A Memorandum-of-Understanding has been signed between Ministry of Railways and Ministry of Health & Family Welfare to develop health care infrastructure on vacant Railway land for opening of OPDs & Diagnostic Centres, etc. for Railway passengers and their families.

Resources available:	2010-11
No. of hospitals	125
No. of total indoor beds	13,963
No. of health units/polyclinics	587
No. of lock up dispensaries	92
No. of private hospitals recognized for medical treatment	150
Performance during 2010-11:	
Total OPD cases attended	2,57,30,614
Total indoor cases admitted	4,90,297
No. of major surgeries performed,	49,044
Bed occupancy ratio (BOR)	62.92
Average length of stay (ALS)(in days)	6.61
Percentage of mandays lost on account of sickness	0.72
Percentage of mandays lost on account of sick/Private Medical Certificate/Hurt on Duty	1.60
No. of new candidates examined for fitness	31,807
No. of employees who underwent periodical medical examination.	1,40,354
No. of medical boards constituted	2,934
No. of food samples collected under Prevention of Food Adulteration (PFA) Act	6,335
No. of water samples examined:	
For residual chlorine	8,49,351
For bacteriological test	65,905
No. of sick passengers attended to by Railway doctors	32,095

Pension Adalats:

Long-standing disputes or delays in the settlement of dues of superannuated railway employees are decided on the spot in Pension Adalats organized at Zonal and Divisional Headquarters level. 5,303 cases were decided in the Pension Adalats held during the year.

Railway Minister's Welfare and Relief Fund:

The Fund provides financial assistance and relief to railway employees and their families at times of distress. Voluntary contributions from the employees and Railway Women's Welfare Organizations constitute the primary source of the Fund. In 2010-11, a sum of approximately ₹ 67.8 lakhs was received as contributions from railway employees to this Fund.

Railway Schools:

IR runs and manages one Degree College and 221 Railway Schools which include nearly 100 Senior/Secondary/High Schools. These schools provide quality education at subsidized cost to about 44,792 children of railway employees and about 39,346 non-railway wards. Around 3,097 teachers and about 825 non-teaching staff are employed in these railway schools. IR also supports 77 Kendriya Vidyalayas for the benefit of wards of railway employees.

Promoting Hindi:

Under the provisions of the Official Languages Act, 1963 and the Official Language Rules, 1976, progressive use of Hindi has been a continuing endeavour on IR. As on March 31, 2011, the total number of notified Railway offices is 3,534. In these offices, employees who are proficient in Hindi have been directed to transact cent percent work in Hindi on subjects specified under Official Language Rules.

Training in Hindi including Typewriting and Stenography:

In addition to the Training Centres set up by the Ministry of Home Affairs, IR also makes arrangements to provide in-service training in Hindi language, Hindi typing and Hindi stenography. The number of employees trained during 2010-11 as against 2009-10, were as follows:

Activity	As on March 31, 2010	As on March 31, 2011
Working knowledge	8,33,196	7,78,505
Typewriting	5,917	5,817
Stenography	3,116	3,062

Other Activities:

The existing policy of acquiring bilingual electronic equipments including computers is being followed. At the end of the year 2010-11, 34,716 bilingual personal computers were

available in various offices of IR. In order to promote usage of Hindi in Railways offices, various Manuals, Station-Working Rules etc. are being published bilingually. At present, all Codes/Manuals of Railway Board are bilingual. Out of 6,517 Station Working Rules on the Zonal Railways, 6,152 are in Hindi and out of the total of 28,654 local, statutory and standard forms on the Zonal Railways and Production Units, 28,559 forms have been made bilingual and the rest are under translation. Presently, more than 17 lakh books in Hindi are available in 1,001 libraries on IR.

Official Language Implementation Committees:

To review the progress of the use of Hindi, 997 Official Language Implementation Committees are functioning on the Railways and Production Units including those at stations and other railway offices. Besides, at the Railway Board level, Railway Board Official Language Implementation committee has been constituted which conducted three meetings in 2010-11.

Incentive Schemes for the use of Hindi:

Various incentive schemes have been implemented to encourage railway personnel to work in Hindi. Prominent among them are the individual Rajbhasha Cash Awards, Group Award Scheme, Prem Chand and Maithili Sharan Gupt Awards besides other awards for elocution/noting/drafting in Hindi. In order to encourage railway personnel to write technical books in Hindi on railway functioning, they are awarded under Lal Bahadur Shastri Original Technical Books Writing Scheme every year.

In the year 2010-11 too, Ministry of Railways received the First prize under Indira Gandhi Rajbhasha Award Scheme from the Honourable President of India for the outstanding usage of Hindi in official work.

Outstanding Achievements in Sports:

Starting only with hockey, athletics and table tennis in 1928, the Railway Sports Promotion Board (RSPB) have 29 sports disciplines now, including some popular indigenous games. IR's sports-persons have won acclaim both at International and National levels.

At International level like Asian Wrestling Championship and USIC (Union Sportive Internationale des Cheminots), etc. Railway Sportspersons exhibited exemplary skill and won Gold, Silver and Bronze Medals in various disciplines like Wrestling, Table Tennis, Shooting and Golf. In the Commonwealth Games 2010 held at New Delhi, IR sportspersons have made commendable achievements by winning 13 Gold, 3 Silver and 9 Bronze Medals in various disciplines out of 101 Medals won by the Indian contingent. In the Asian Games 2010, held at Guangzhou (China), out of 65 Medals won by the Indian contingent, 15 (7 Gold, 1 Silver and 7 Bronze) were won by the IR sportspersons.

At the national level, during 2010-11, IR teams participated in 53 National Championships and were winners in 25 disciplines and stood runners-up in 8. National titles in Men's section were for Athletics, Basketball, Boxing, Cycling (Road & Track), Diving, Gymnastics, Powerlifting, Kho-Kho, Kabaddi, Water Polo and Wrestling (Free Style & Greco Roman). In Women's section, the titles won were for Athletics, Archery, Basketball, Cricket, Cross Country (8 kms), Diving, Gymnastics, Handball, Hockey, Kabaddi and Volleyball. Besides, seven IR sportsperson have received the National Sports Awards 2011.

Finance

IR's financial results for 2010-11 compared with the previous year are tabulated below:

	2009-10	(₹ in crore) 2010-11
Capital-at-charge	87,654.64*	1,04,544.64**
Investment from Capital Fund	35,346.05	37,805.23
Total	1,23,000.69	1,42,349.87
Passenger Earnings	23,488.17	25,792.63
Other Coaching Earnings	2,235.12	2,469.84
Goods Earnings	58,501.68	62,844.72
Sundry Earnings	2,879.68	3,418.27
Gross Earnings	87,104.65	94,525.46
Suspense	(-) 140.68	10.17
Gross Traffic Receipts	86,963.97	94,535.63
Ordinary Working Expenses	65,810.35	68,139.22
Appropriation to Depreciation Reserve Fund	2,187.00	5,515.00
Appropriation to Pension Fund	14,918.00	15,820.00
Total Working Expenses	82,915.35	89,474.22
Net Traffic Receipts	4,048.62	5,061.41
Miscellaneous Transactions	1,495.47	1,284.73
Net Revenue Receipts	5,544.09	6,346.14
Dividend payable to General Revenues \$	5,543.34	4,941.25
Excess (+)/Shortfall (-)	(+)0.75	1,404.89
Percentage of Net Revenue to Capital-at-charge (including investment from Capital Fund)	4.51	4.46
Operating Ratio (%age)	95.28	94.59
Capital-at-charge (including investment from Capital Fund) per NTKM (in paise)	187	205
* Excludes ₹ 5,941.59 crore of MTP's, ₹ 480.15 crore of Circular Railways and ₹ 6,125.06 crore of Udhampur-Srinagar-Baramulla Project (National Investment) and ₹ 11,954.00 crore appropriation to SRSF and includes ₹ 8,824.61 crore of Production Units.		
** Excludes ₹ 6,491.60 crore of MTP's, ₹ 480.27 crore of Circular Railway and ₹ 7,069.75 crore of Udhampur-Srinagar-Baramulla Project (National Investment) and ₹ 11,954.00 crore appropriation to SRSF and includes ₹ 9,083.18 crore of Production Units.		
\$ Includes payment in lieu of Passenger Fare Tax and contribution to Railway Safety Fund during 2009-10 and 2010-11.		

Revenue:

Revenue from Freight accounted for 66.5% of Gross Earnings. Passenger Earnings constituted 27.19% of the Gross Earnings, of which 6.95% was from Suburban Services, 75.61% from Express Long distance and 17.44% from Ordinary Short Distance traffic. Bulk freight like coal, ores, iron & steel, cement, foodgrains, fertilizers, POL products, limestone, dolomite, stones other than marble, salt and sugar contributed 87.8% of the total goods earnings, while commodities other than the above accounted for 8.77%. Miscellaneous realization like demurrage, wharfage, shunting and siding charges etc. made up the remaining 3.43%.

Balance Sheet:

A brief summary of the balance sheet as on 31st March, 2011 compared with the previous year is given below:

	As on 31.3.2010	As on 31.3.2011	(₹ in crore) Variation
Assets			
Block Assets	2,03,315.37	2,31,615.25	28,299.88
Funds with Central Government			
(i) Reserve Funds	5,032.06	342.51	(-)4,689.55
(ii) Banking Accounts	27,379.65	30,856.09	3,476.44
Sundry Debtors	2,375.68	2,760.95	385.27
Cash in hand	811.79	858.83	47.04
Total	2,38,914.55	2,66,433.63	27,519.08
Liabilities			
Represented by:			
Capital-at-Charge	*93,779.71	**1,11,614.40	17,834.69
Investment financed from internal resources etc.	1,09,535.66	1,20,000.85	10,465.19
Total (i)	2,03,315.37	2,31,615.25	28,299.88
Reserve Funds	5,032.06	342.51	(-)4,689.55
Total (ii)	5,032.06	342.51	(-)4,689.55
Banking Accounts			
i) Provident Fund	19,553.15	21,965.33	2,412.18
ii) Miscellaneous Deposits etc.	7,494.13	8,605.14	1,111.01
iii) Loan and Advances	332.37	285.62	(-)46.75
Total (iii)	27,379.65	30,856.09	3,476.44
Sundry Creditors etc.	(iv) 3,187.47	3,619.78	432.31
Total (i) to (iv)	2,38,914.55	2,66,433.63	27,519.08

* Excludes ₹ 5,941.59 crore of MTP's, ₹ 480.15 crore of Circular Railway and ₹ 11,954.00 crore appropriation to SRSF and includes ₹ 6,125.06 crores of Udhampur-Srinagar- Baramulla project (National Investment).

** Excludes ₹ 6,491.60 crore of MTP's, ₹ 480.27 crore of Circular Railway and ₹ 11,954.00 crore appropriation to SRSF and includes ₹ 7,069.75 crores of Udhampur-Srinagar- Baramulla project (National Investment).

Cash Flow:

(₹ in crore)

Acquisition of new assets and replacement of existing assets:

Acquisition of new assets and improvement element in replacement of assets	23,946.42	}	29,517.63
Like by like replacement of assets	5,571.21		

Interest on loans, repayment of loans and increase/decrease in Reserve Funds:

Interest on Capital Fund loan	0.00	}	(-4,689.57)
Repayment of loan for Capital Fund	0.00		
Increase (+)/ Decrease (-) in Funds balances	(-4,689.57)		
Payment for Accident Compensation	0.00		
Total	24,828.06		

Finance for these requirements was provided from the following sources:

Internal sources:

Contribution from Revenue/Capital to fund and interest accruing on the balances of the fund.	5,561.95	}	7,938.10
Development Fund financed from surplus	1,404.89		
Capital Fund financed from surplus	0.00		
Capital Fund Finance from Railway Revenue (for capital component of IRFC lease charges)	0.00		
Railway Safety Fund financed from surplus	0.00		
Railway Safety Fund financed from General Revenues	935.42		
Special Railway Safety Fund financed from surplus	0.00		
Special Railway Safety Fund financed from General Revenues	0.00		
Open Line Works financed direct from Revenue	35.84		
Cash-excess in working results	1,404.89		
Appropriation to Development Fund	-1,404.89		
Appropriation to Railway Capital Fund	0.00		
Appropriation to Railway Safety Fund	0.00		
Appropriation to Special Railway Safety Fund	0.00		
Borrowing from General Exchequer for capital expenditure*	16,889.96		
Total:	24,828.06		

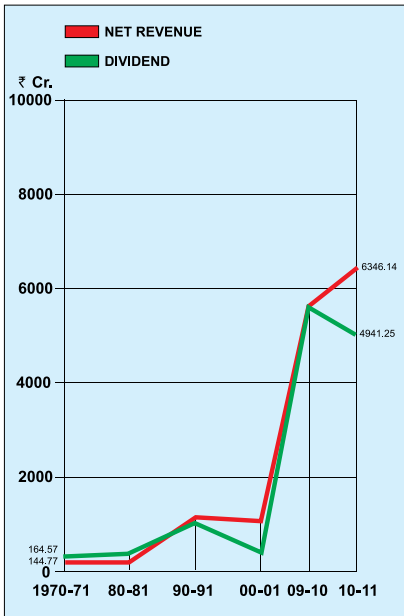
* Excludes ₹ 550.01 crore of MTPs, ₹ 0.12 crore of Circular Railway and ₹ 944.69 crore Udhampur –Srinagar-Baramula). Includes ₹ 293.46 crore of PUs.

With a view to reduce the burden on common man passenger fares and freight rates on products for mass consumption were kept low. The gap between the unit revenue and increase in input costs

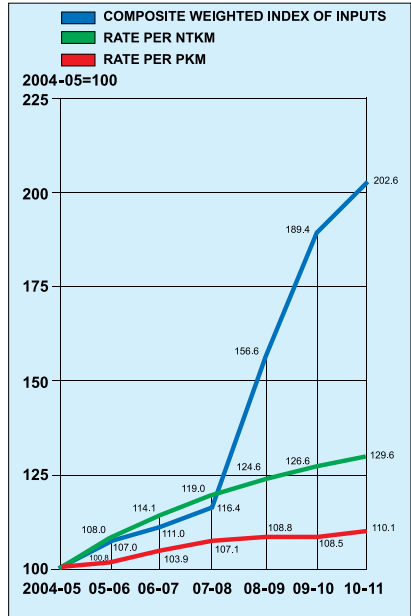
is given below:

(Base 2004-05= 100)	2009-10		2010-11	
	Revenue Index	Cost Index	Revenue Index	Cost Index
Unit Revenue:				
Average receipt per pkm	108.5		110.1	
Average receipt per ntkm	126.6		129.6	
Inputs:*				
Average annual wage per employee @		241.9		257.7
Diesel (H.S.D.)		133.0		151.7
Electricity (Railway traction)		106.9		113.8
Transport equipment and parts		116.8		120.3
Non ferrous metals		145.8		153.5
Electrical machinery, equipment & battery		122.1		123.9
Lub. Oil		174.5		192.6
Manufactured products		123.1		130.1
Ferrous metals (Ferro Alloys)		126.8		148.1
Composite weighted index of inputs		189.4		202.6
* revised				
@ Based on Annual Statistical Statement No.40				

NET REVENUE AND DIVIDEND



UNIT RECOVERY VS UNIT OF INPUT COST



Social Service Obligation

Indian Railways, carries out certain transport activities which are essentially uneconomic in nature in the larger interest of the economically disadvantaged sections of the society. Losses incurred on this account fall under Social Service Obligation of IR.

Net Social Service Obligation borne by IR in 2010-11 is assessed at ₹ 15,713.51 crore excluding staff welfare cost (₹ 3,555 crore) and law and order cost (₹ 2,115.30 crore). These costs impinge upon the viability of Indian Railways system.

Elements of Social Service Obligation:

The main elements of Social Service Obligation of IR are losses relating to:

- (i) Essential commodities carried below cost;
- (ii) Passenger and other coaching services;
- (iii) Operation of uneconomic branch lines; and
- (iv) New lines opened for traffic during the last 15 years.

Losses on Transportation of Essential Commodities carried below cost:

As part of the Railways' Social Service Obligation, certain essential commodities of mass consumption like fruits and vegetables, organic manures, paper, charcoal, bamboos, cotton raw pressed etc. are carried below cost of operation in order to contain their market prices. The total losses on the movement of these commodities in 2010-11 amounted to ₹ 59.96 crore.

Commodities	Losses (₹ in crore)
Fruit &Vegetables	33.56
Organic Manures	6.13
Paper	5.22
Charcol	4.58
Bamboos	3.99
Cotton Raw Pressed	2.05
Provision	1.71
Others (Cotton Manufactured, Sugarcane, Wool Raw waste, Coir Products, Fire Wood & other fuel)	2.72
Total	59.96

These commodities constituted 00.86% of the total revenue NTKMs and 0.39% of freight earnings in the year 2010-11.

Losses on passenger and other coaching services:

Analysis of the profitability of Coaching Services in 2010-11 has revealed an overall loss of ₹ 21,323.85 crore to which net suburban losses in Chennai, Kolkata and Mumbai provided with EMU and Non-EMU services contributed ₹ 2,363.78 crore. While the lag in the rise of passenger fares with respect to inflationary pressures prevalent in the economy has contributed to coaching losses, other factors have also exacerbated the situation which include:

- (i) Low Second Class Ordinary Fares;
- (ii) Non-Suburban commuters availing season ticket concessions up to a distance of 150 kilometres. These journeys constituted 23.2% of Non-Suburban Traffic;
- (iii) Commuters availing concession Monthly and Quarterly Season Tickets on Suburban Sections of Mumbai, Kolkata and Chennai. Journeys performed by passengers holding season tickets formed 65.9% of Suburban Traffic;
- (iv) Concessions in fare extended to various categories such as recipients of gallantry awards and National sports awards, participants in National and State sports tournaments,

teachers honored with National awards, Shram awardees, war widows, patients suffering from cancer, tuberculosis and other serious diseases, handicapped persons, press correspondents, film technicians etc. and

- (v) Concessions are also extended to military traffic, postal traffic, transportation of seeds, milk etc. and traffic to the North East. IR also steps in to provide emergency relief by transporting materials like food, water, fodder etc. to areas affected by natural disasters like drought, cyclone, earthquake etc.

Compensation for Social Service Obligations in Other Countries:

Railways, the world over, are called upon to meet certain public service obligations at lower tariffs for which they are adequately compensated for by the government. Such support is provided in various forms and for different purposes like:

- (i) Compensation for losses on account of concessional tariffs;
- (ii) Out-right grant to cover deficits;
- (iii) Soft loans to meet the deficits;
- (iv) Financial support to maintain viability of the system and to earn marginal profits;
- (v) Writing off of accumulated debts and unproductive capital; and
- (vi) Support for investment and infrastructure maintenance.

IR incur losses every year by performing a variety of unremunerative services. These losses are mostly due to low ordinary second class fare, suburban and non-suburban season fare, a variety of concessions granted on passenger ticket and transportation of certain commodities below cost. Working of uneconomic branch lines, too, imposes a heavy burden on IR's finances. A gap is thus created between the revenue income generated through these services and their running costs.

The Net Social Service Obligation borne by IR in 2010-11 assessed at ₹ 15,713.51 crore, constitutes 16.62% of the total revenue earnings and 17.57% of the total expenditure.

Uneconomic Branch Lines:

Despite concerted efforts to enhance earnings on branch lines, most of these lines remain commercially unviable. The Railway Reforms Committee recommended closure of 40 such lines but due to stiff public resistance and opposition by State Governments towards withdrawal of such services, only 15 lines have been closed permanently by the Railways. A review of the financial results of existing 89 uneconomic branch lines for the year 2010-11 shows that, on an original investment on these lines of the order of ₹ 1,454 crore, loss during the year 2010-11 amounted to ₹ 1,179 crore.

New lines opened for traffic during the last 15 years:

The Railway Convention Committee (RCC) in its 9th Report on this subject has noted that in the present state of Railway finances and prevalent high costs of construction, the Railways are not in a position to inject adequate capital investment in under-developed areas. Therefore, they have felt that reliefs like making available land free of cost and waiver of dividend payment on such lines for a minimum period of twenty years are justified. Periodic reviews have revealed that of the 3 lines examined in 2010-11, as part of Social Service Obligations of the Railways for development of backward areas, all lines are showing either negative or unremunerative returns:

FINANCIAL RESULTS OF NEW LINES FOR THE YEAR 2010-11

S. No.	Name of the branch line	Date of opening	Cost (₹ in crore)	Expected return on investment (%)	Actual return on investment		
					2008-09 (%)	2009-10 (%)	2010-11 (%)
DEVELOPMENTAL LINES							
1	Kolayat-Phalodi(BG) 112 Kms.	2007	170.77	(-) 3.06	(-) 5.7	(-) 11.03	(-) 9.56
2	Kakinada-Kotipali (BG) 45 Kms.	13.5.05	153.58	19.87	(-) 9.00	(-) 9.00	(-) 8.00
3	Penukonda-Dharmavaram via Puttaparthi (BG) 45 Kms.	2002	64.50	14.14	(-) 16.00	(-) 37.24	(-)33.18

Research and Development

Research, Designs & Standards Organisation (RDSO), the R&D Organisation of Indian Railways, functions as the technical adviser to Railway Board, Zonal Railways and Production Units. Its manifold achievements in developing new and improved designs and adopting new technologies for use on IR have attracted world-wide attention. RDSO is striving to achieve breakthroughs which would have a significant impact on infrastructure, rolling stock and operating framework of IR.

Some of the major activities and projects undertaken/completed by RDSO during the year are given below:

Safety:

- Development of a new crashworthy design of 4500 HP WDG4 locomotive incorporating new technology to improve dynamic braking and attain significant fuel savings.
- Development of Drivers' Vigilance Telemetric Control System which directly measures and analyzes variations in biometric parameters to determine the state of alertness of the driver.
- Development of Train Collision Avoidance System (TCAS).
- Development of Computer Aided Drivers Aptitude test equipment for screening high speed train drivers for Rajdhani/ Shatabdi Express trains to evaluate their reaction time, form perception, vigilance and speed anticipation.
- Assessment of residual fatigue life of critical railway components like rail, rail weld, wheels, cylinder head, OHE mast, catenary wire, contact wire, wagon components, low components, etc. to formulate remedial actions.
- Modification of specification of Electric Lifting Barrier to improve its strength and reliability.

- Design and development of modern fault tolerant, fail-safe, maintainer friendly Electronic Interlocking system.

Passenger Amenities:

- Development of 4500 HP Hotel Load Locomotive to provide clean and noise free power supply to coaches from locomotive to eliminate the existing generator car of Garib Rath express trains.
- Field trials conducted for electric locomotive hauling Rajdhani/Shatabdi express trains with Head On Generation (HOG) system to provide clean and noise free power supply to end on coaches.
- Development of WiMAX technology to provide internet access to the passengers in running trains.

Infrastructure:

- Redesigning of Traction Sub Station (TSS) Layout which can be accommodated in smaller footprint.



Inside view of Taj Commonwealth Games Express train introduced to run between New Delhi.

- Setting up of XRD testing facilities for porcelain insulators.
- Development of Internet Protocol (IP) Based train control communication system.
- Development of Lightning & Surge Protection and Earthing Arrangement for Signal and Telecommunication equipments.
- Development of non-metallic Telecom Cable Termination box.
- Development of track side bogie monitoring system to monitor bearing and bogie condition.
- Development of technology in collaboration with Indian Institute of Technology to measure wheel dynamic calibration Rolling Rig.
- Development of 500t Universal Spring structure fatigue testing machine.

Operational Efficacy:

- Design and development of 5000 HP WDG5 diesel locomotive for faster, longer and heavier trains.
- Development of improved rubber side bearer for locomotive bogies to improve fatigue life and reliability.
- Framing of technical specification of Guidance for Optimised Loco Driving (GOLD) - an in-cab service system – to help loco pilot to save fuel.
- Trial of modified bogie for WDP1 locomotive incorporating certain changes to make it reliable and maintenance friendly.
- Design and development of high performance fuel-efficient 2300 HP freight/industrial/shunting locomotive (WDS7A).
- Development of GPS based Destination Board Display-cum-Passenger Information System (Audio & Visual) for BG DEMUs for passenger convenience.

- Development of oil free compressors for electric locomotives to attain reduced maintenance cost and down time locos, etc.
- Development of Roof Mounted Force Cooled Dynamic Braking Resistors for AC electric locomotives.
- Development of air operated Pantograph, with distinct advantage of light weight, improved dynamic behaviour and low maintenance free operation.
- Development of stranded type galvanized steel traction bond and galvanized steel stranded wire for theft prone areas.
- Development of Block Proving by Axle Counter to reduce human dependence in train operation and improve safety.

Indigenous Development:

- Development of Transformer Tank for 3-phase electric locomotives to eliminate dependence on import.
- Development of indigenous CCC Rod for manufacture of 107 square mm contact wire.
- Development, installation and commissioning of user-friendly software consisting of mind games for sharpening mental skills and safety aptitude for hands-on-practice for trainees.

Inspection & Quality Audit:

- Inspection of fabrication of 27,770 MT of steel girders.
- Inspection and quality audit for various geotechnical problems and issue of consultancies to various Zonal Railways.
- Inspection of various developmental items like welded components of steel bridges and quality audit on ultrasonic testing of axles, etc.

Consultancy:

- Review of Equipment Ratings of Traction Sub-station.
- Consultancy on design tools for checking the design adequacy of straight alignment bridges for use on curvatures up to 3 degrees.
- Consultancy for addressing failure of cross girder of rail-cum-road bridge on river Ganga near Mokama.
- Consultancies suggesting remedial measures for rehabilitation of weak formations.

Tests and Trials:

- Prototype of four-wheeler tower wagon for preventive maintenance of overhead equipment approved and regular inspection and dispatch clearance accorded.
- Trials conducted to evaluate effectiveness of mobile jammers for locomotives along with GPS based speed sensing device to activate the jammers.
- Field trials conducted for guidelines and specifications of design of formation for heavy Axle Load.
- Fatigue testing of newly designed monoblock pre-stressed concrete sleepers.
- Fatigue testing of composite sleepers for 2.0 million cycles of loading.
- Fatigue and bending test of joggled fish plate.

Undertakings and other Organizations

As many as 16 Public Sector Undertakings and other Organisations are functioning under the Ministry of Railways, as detailed below:-

S.No.	Name	Year of Incorporation/ Inception	Core competence
1	RITES	1974	To design, establish, provide, operate, maintain and perform engineering, technical and consultancy services for development of projects/systems of all types and descriptions pertaining to Railways and Other Sectors/Industries in India and outside India.
2	IRCON	1976	To undertake construction activities in India and abroad on turnkey basis or otherwise in various fields of infrastructure like Railways, Bridges, Roads, Highways, Industrial and Residential Complexes, Airports, etc.
3	CRIS	1986	To provide consultancy and IT services to IR as partners to conceptualize and realize technology initiatives, to build new products or services and to implement prudent business and technology strategies.
4	IRFC	1986	To raise funds from the market to part finance the Plan Outlay of IR.
5	CONCOR	1988	To develop multi-modal logistics support for India's international and domestic containerized cargo and trade.
6	KRCL	1990	To construct and operate railway lines, construct Road Over Bridges and rail line projects.
7	RCIL (RailTel)	2000	To utilize the surplus telecom capacity and right of way available with the IR to build nationwide optical fibre cable based broadband telecom and multimedia network.
8	IRCTC	2001	To undertake catering and tourism activities of the Railways. Also facilitates internet ticketing through its website.
9	PRCL	2001	To execute the Surendranagar-Rajula-Pipavav Port gauge conversion and new line projects in Gujarat.

10	RVNL	2003	To create and augment the capacity of rail infrastructure. To mobilize resources mainly through multilateral/bilateral funding agencies and also through domestic market for successful implementation of projects.
11	RLDA	2005	To develop vacant railway land for commercial use for the purpose of generating revenue by non-tariff measures for IR.
12	DFCCIL	2006	To plan and construct Dedicated Rail Freight Corridors (DFCs) for movement of freight trains on the corridors.
13	MRVC	1999	To plan & implement rail projects in the Mumbai Metropolitan Region.
14	BWEL	1978 (In MoR from 2008)	To manufacture Wagons and undertake structural fabrication jobs.
15	BACL	1976 (In MoR from 2010)	To manufacture Railway rolling stock.
16	BCL	1976 (In MoR from 2010)	To manufacture wagons, undertake structural fabrication jobs and manufacturing, retrofitting of EOT crane.

RAIL INDIA TECHNICAL AND ECONOMIC SERVICES LIMITED (RITES):

Rail India Technical and Economic Services Ltd. (RITES), is internationally reputed engineering, design and project management consultancy organization providing single roof services to wide range of infrastructure and transport sectors like Railways, Highways, Ports, Airports, Waterways, Ropeways, Urban Transport, Urban Planning, Container Depots, International Buildings, Power Transmission and Rural Electrification, etc. It is registered with World Bank, African Development Bank, Asian Development Bank and other multilateral funding agencies and have provided services in over 60 countries in Africa, Asia, Middle East, Central & Latin America.

RITES, with recognition from multi-lateral funding agencies, has experience in over 55 countries in Africa, Middle East, Latin America, South East Asia, UK, USA and Europe and is recognized by multi-lateral funding agencies.

Business Operations:

Some of the important assignments undertaken in the recent past are:

Overseas:

- Development of 2300HP and 3000HP Cape Gauge locomotives for export and design of bottom discharge covered hopper wagons for carrying fly-ash and clinker.
- Sri Lankan Railway projects for supply of 20 sets of DMUs, setting up of DMU maintenance facilities.
- Supply of 3 locomotives & training of 600 personnel, supply of 20 in-service MG locomotives & passenger coaches, wagons, mobile cranes, workshop machinery & equipment to Myanmar Railways.
- Loco leasing contract with CFM (South), Maputo Mozambique for 6 Cape Gauge locos.
- Maintenance of 6 Cape Gauge locomotives at CDN/Nacala, Mozambique.
- Feasibility study for Mayumba new standard Gauge Railway line in Gabon-Government of Gabon.
- Feasibility study for rail line from Moatize to Matundo & connections at Beira port, Mozambique-JSPL Mozambique Minerals Ltd.

In India:

- Construction management for railway infrastructure to handle coal & fuel oil traffic of Raghunathpur TPS-Damodar Valley Corporation.
- General consultancy for Bangalore Metro.
- Safety consultancy for PPP (Public Private Partnership) project-National Highway Authority of India.
- Development of Multi-disciplinary training centre at Cooch Behar, Kharagpur, Beliaghata and Malda.

- Quality control works of Goa, Public Works Department.
- Offering shunting locomotives on wet lease including operation & maintenance.
- Enhancement of LHB coach production facilities at Rail Coach Factory, Kapurthala.
- Development, operation & maintenance of Multi Functional Complexes (MFCs) at/in the vicinity of identified or prescribed premises of Railway stations, etc.
- Has formed a joint venture company with Steel Authority of India Limited for manufacture of wagons for IR.

Financial Performance:

The comparative financial performance of RITES during the last 2 years, is as follows:

	(₹ in crore)	
	2009-10	2010-11
Total turnover	623	881
Net Profit	112	244

IRCON INTERNATIONAL LTD. (IRCON):

Ircon International Ltd. (IRCON), a 'Mini-Ratna' category and a Scheduled 'A' Company with ISO-9000 certification was incorporated as a railway construction Company in 1976. The Company has diversified its activities to other sectors of infrastructure outside the Railways, viz., highways, roads, ports, housing, signal & telecommunications, electrification, etc. and bagged many projects through competitive bidding, earning foreign exchange for the country.

The Company has rich and varied experience of executing more than 400 landmark construction projects in India and abroad. Presently, IRCON is executing several nation building projects including 340 kms Jammu & Kashmir rail link project-the biggest broad gauge railway line construction project

ever undertaken in the high mountain region of India, a new broad gauge railway line from Sivok in North Bengal to Rangpo in Sikkim to provide rail connectivity to Sikkim State and rail-cum-road bridge on river Ganga in Patna. In Malaysia, the Company is executing an electrified double track railway line costing more than one billion USD.

Financial Performance:

IRCON has declared a profit of ₹ 401 crore during 2010-11. Its financial performance during the last two years is as follows:

	2009-10	(₹ in crore) 2010-11
Total income/Gross sales	3,216.91	3,254.15
Operating income	3,152.88	3,175.33
Profit before tax	264.01	401.25
Profit after tax	182.10	240.51
Gross margin	305.28	440.31
Net worth	1,199.36	1,382.31

CENTRE FOR RAILWAY INFORMATION SYSTEMS (CRIS):

The progress of computerization of various railway projects undertaken by Centre for Railway Information Systems (CRIS) are outlined below:

National Train Enquiry System (NTES):

It aims at providing prompt and reliable information to general public through user friendly interfaces and PAN India accessibility. The information is now conveniently available to public all over the country through various delivery channels like web browsing, mobile phone, etc. NTES was given National e-Governance Silver Award on 9.2.2011.

Terminal Management System (TMS):

TMS generates on line Railway Receipts and has been deployed at 631 field locations during 2010-11. Total deployment of TMS at 2,000 locations captures about 99% of goods traffic.

During the year, an amount of ₹ 33,342 crore of freight payment was realized through e-payment which accounts for 58% of total freight collected.

Passenger Reservation Services (PRS):

Countrywide Network of Computerized Enhancement Reservation and Ticketing (CONCERT) has been installed at more than 2,355 locations having 8,277 terminals for reserved segment of ticket bookings. IR's website www.indianrail.gov.in facilitates internet-based rail reservation related enquiries. IR Web Portals are operational for Complaint Management, Cloak Room and Retiring Room applications at selected stations.

Unreserved Ticketing Services (UTS):

UTS has been made functional at 4,906 locations with 8,880 terminals as on 31st May, 2011. A total of 664.66 crore passengers were served, resulting in total earnings of ₹ 10,838.47 crore during 2010-11, as compared to 587.79 crore passengers and ₹ 959.31 crore earnings in 2009-10.

Integrated Coach Management System (ICMS):

Mobile version of ICMS for monitoring punctuality of trains, has been released as trial version.

Control Office Application (COA):

COA has gone live in all the 77 Divisions/Area Control Offices of IR. Integration between COA and FOIS, adjoining COA, NTES and ICMS has been completed in all 68 Divisions of IR.

Track Management System (TMS):

TMS was introduced in the works programme 2008-09 as a pilot project and has been implemented in 6 divisions in 2010. It has won 'The Great Mind Challenge for Business Awards, 2010' as most innovative solution under Lotus Category.

Crew Management System (CMS):

CMS manages around 90,000 crew online at 317 crew lobbies. Approximately, 36,300 calls were served daily by the

system and bio-data in CMS database has crossed 1,03,650 in March, 2011.

Parcel Management System (PMS):

6,81,136 Parcel Way Bills (PWBs) and 54,15,475 packages were issued through the PMS during 2010-11 earning revenue to the tune of ₹ 56.24 crore.

E-Procurement System (EPS):

EPS has been implemented to improve efficiency and transparency in materials purchases thus reducing the cost of material/purchase due to savings in logistics and transaction cost. More than 1.9 lakh tenders have been uploaded so far.

INDIAN RAILWAY FINANCE CORPORATION LIMITED (IRFC):

Indian Railway Finance Corporation Limited (IRFC) was set up as a public limited company in December 1986 with the sole objective of raising money from the market to part finance the Plan outlay for meeting the developmental needs of IR. Funds are raised through issuance of bonds, term loans from banks/ financial institutions and availing external commercial borrowing/ export credit. The Department of Public Enterprises has rated IRFC as 'Excellent' on 12 occasions in the last 13 years. The Company maintained the highest credit ratings from three domestic Credit Rating Agencies indicating highest safety of the lenders' funds and investment grade ratings equivalent to the rating of Indian 'sovereign' from four major international Credit Rating Agencies.

The Company has leased rolling stock assets worth ₹ 69,843 crore to the Ministry of Railways (MoR) up to March 31, 2011. Ministry of Railways has been making lease payments to IRFC regularly in respect of about 60% of the rolling stock assets which include 5,567 locomotives, 33,856 coaches and 1,49,030 wagons. The lease rentals form just about 5.94% of the Railways' Gross Traffic Receipts. The Company has also provided funding

assistance to sister railway companies to the extent of ₹ 2,394 crore till the end of 2010-11.

IRFC has a consistent profit earning track record. It has so far paid ₹ 1,568 crore as dividend to its shareholders, the Government. The Company earned a net profit of ₹ 485.20 crore during 2010-11. The Overhead to Turnover ratio of the Company is 0.12%.

CONTAINER CORPORATION OF INDIA LTD. (CONCOR):

Container Corporation of India Ltd. (CONCOR) was set up in November 1989 with the prime objective of developing multi-modal transport and logistics support for India’s domestic and international containerized cargo and trade.

CONCOR’s core business is characterized by three distinct activities-carrier, terminal operator and warehouse/CFS operator. CONCOR derives its strength mainly from a dedicated network of terminals at multiple locations. During 2010-11, CONCOR handled over 2.5 million Twenty feet Equivalent Units (TEUs).

CONCOR paid a total dividend of ₹ 201.48 crore on its paid up capital for the year 2010-11.

Financial highlights:

The financial performance of CONCOR in the last two years is as follows:

	2009-10	2010-11
Turnover (₹ in crore)	*3,705.68	3,828.12
Net Profit as % of Turnover	*21.23	22.88
EPS (in ₹)	60.52	67.39
*revised		

KONKAN RAILWAY CORPORATION LIMITED (KRCL):

Konkan Railway, the first Railway project in the country executed on BOT (Build, Operate and Transfer) principle, was formed with equity participation of Government of India along

with the four States viz., Maharashtra, Goa, Karnataka and Kerala. It has reduced the journey time from Mumbai to Mangalore by almost 26 hours.

Konkan Railway has completed 12 years of operation of RORO (Roll On Roll Off) truck-on-train service proving that Railways and Roadways can co-exist in a symbiotic relationship apart from saving the diesel to the tune of about 35 lakh litres in a year.

KRCL has been assigned the implementation of Anti-Collision Device (ACD) project on Southern, South Central and South Western Railways after the successful commissioning of a pilot project on Northeast Frontier Railway. ACD can prevent mid-section head-on collisions, side collisions and read-end collisions of trains in addition to having many other safety features.

‘Shravan Seva’, free-of-cost service, introduced by KRCL for helping the senior citizens traveling alone can be availed by



RO-RO Service on Konkan Railway.

sending SMS on mobile No.09664044456, four hours in advance of journey. The service is available at Chiplun, Ratnagiri, Thivim, Karmali and Madgaon.

Financial performance:

During 2010-11, KRCL's total earnings were ₹ 924.43 crore including ₹ 297.45 crore of freight earnings. The Corporation earned profit-before-tax of ₹ 2.84 crore, an operating surplus of ₹ 227.40 crore and an operating ratio of 81.35%.

RAILTAIL CORPORATION OF INDIA LTD. (RailTel):

The Railtel Corporation of India Limited (RailTel) was incorporated in the year 2000 for modernization of IR's communication network for safe and efficient train operation and for revenue generation through commercial exploitation of network. It has now emerged as a national level operator in the telecom sector by using Railways' right of way on about 63,000 route kilometers for creation of Optic Fibre Cable (OFC) network.

RailTel has modernized train control and emergency communication system of IR by providing OFC network along the railway track and high bandwidth Point of Presence (PoP) at more than 3,918 stations. It has also connected railways' electronics telephone exchanges at E1 level to provide seamless railway STD services. The long haul network coverage for STM 16 is 28,362 route kms. with multiple rings on common section of 27,255 route kms. During the year the utilization of RailTel's network has increased considerably.

RailTel is the lead creator of National Knowledge network-a project of national importance through which a number of Research and Development institutions of Government of India have been connected. RailTel has also undertaken the project of laying Optical fiber in 6 States of North East for creation of intra/inter district network connecting all District and Sub-District Head Quarters in the respective States.

RailTel's operating income was ₹363.07 crore during 2010-11 resulting in a net profit of ₹ 95.41 crore.

INDIAN RAILWAY CATERING AND TOURISM CORPORATION LTD. (IRCTC):

Catering Services:

Pursuant to the implementation of New Catering Policy, 2010, most of Licensee Catering Units have been transferred to the Railways. However, as of now the Departmental Catering is continuing with IRCTC. It is providing catering in all newly introduced Duronto trains and also cafeteria facilities to many institutes and Ministries. Presently IRCTC is managing 1,271 Book Stalls at various railway stations and running 4 hotels/Yatri Niwas on Public Private Partnership basis. The Company has obtained ISO Certification for its manufacturing facilities such as base kitchen and for departmental managed trains.



Jan-Aahar at Mumbai Central

Travel and Tourism:

There has been tremendous growth in e-ticketing through IRCTC's internet ticketing service website www.irctc.co.in. During the year IRCTC sold 9.69 crore e-tickets as against 7.20 crore during 2009-10 valued at ₹ 8,007 crore in 2010-11 as against ₹ 6,011 crore in 2009-10. The booking of railway tickets through internet is now available from 00:30 hrs to 23:30 hrs 365 days a year.

IRCTC manages the enquiry services of IR known as 'Rail Sampark 139' (Integrated Train Enquiry System) under Public Private Partnership. In 2010-11, 24.68 crore voice calls and 2.61 crore SMS were handled.

IRCTC offers a wide range of travel and tourism products and services like Bharat Darshan Tourist Trains (Village On Wheels), Bharat Tirath Trains, Educational Tours, Mahaparinirvan Express-Buddhist Circuit Special Train, Rail and Land Tour Packages, Chartered Trains and Coaches, Hill Charters, Luxury Tourist Train, Cab Rental Services, On-line Hotel Booking Services and Budget Hotels to meet the requirement of different segment of tourists. Travel and tourism business generated an income of ₹ 67.57 crore in the year 2010-11 as compared to ₹ 44.72 crore in the previous year, thus recording a growth of 50%.

IRCTC also ventured into the field of Corporate travel in 2010-11. It is offering complete travel services to Corporates which include air ticketing, booking of domestic as well as international hotels, cab rentals, passport and visa facilitation, insurance & forex. IRCTC tourism portal www.railtourismindia.com is a one stop travel shop.

Packaged Drinking Water Project (Railneer):

During the year, two plants manufacturing Rail Neer Packaged drinking water, at Delhi and Danapur (Bihar), produced 3.28 crore and 3.12 crore bottles respectively. One more packaged drinking water plant with installed capacity of 1.8 lakh bottles per day became operational at Chennai in July, 2011.

Commonwealth Games (CWG) Delhi, 2010:

IRCTC was appointed as the official ticketing agency for the XIX Commonwealth Games (CWG) Delhi, 2010. It successfully handled the ticketing operations for the event for a total seating inventory of 1.4 million seats for 290 sporting sessions in 17 sports.

Financial Performance:

During the year, IRCTC earned a total income of ₹ 764.93 crore as compared to ₹ 721.97 crore in 2009-10. A net profit of ₹ 60.79 crore was earned during 2010-11 as against ₹ 63.05 crore in 2009-10. During the year, the Corporation contributed a sum of ₹ 55.59 crore to the revenues of IR, in the form of haulage charges, concession fee, user charges and dividend.

Awards/Recognition:

In recognition of the excellent performance of the Corporation in various fields, the following awards have been conferred on IRCTC during the year:

1. The 3rd DSIJ PSU Award 2011, for being fastest growing non-manufacturing companies with balance sheet size less than ₹ 4,000 crore. The Company was awarded 'Speed King (Miniratna)' in April, 2011.
2. The SKOCH's-The World Open Award for Integrated Train Enquiry System (ITES) from the Controller of Certifying Authority, Government of India in October, 2010.
3. The India Pride Award-Gold for Internet Ticketing in September, 2010.
4. GMR Travel World Award 2010 for 'Excellence in Operations' for the Bharat Darshan Train in July, 2011.

PIPAVAV RAILWAY CORPORATION LIMITED (PRCL):

Pipavav Railway Corporation Limited (PRCL), a joint venture company of Ministry of Railways and Gujarat Pipavav Port Limited (GRPL) with equal equity participation was

formed to execute the Surendranagar-Rajula-Pipavav Port (APM Terminals, Pipavav) gauge conversion & new line project. PRCL is the first railway infrastructure project executed through private sector participation. PRCL has concessionaire rights to construct, operate and maintain this project line for 33 years. PRCL is entitled to the rights, obligations and duties of a Railway Administration enumerated in the Railways Act, 1989 and has rights to give volume discounts on transportation of cargo.

PRCL has permission to run container trains on rail corridors serving the Ports of Pipavav, Mundra, Chennai, Ennore, Vizag and Kochi and their hinterlands. The Company started its container operations on 20th August, 2009 from Asaoti Railway Station to Morbi in Gujarat. During 2010-11, PRCL handled 3,310 trains including 2,018 container trains and transported 4.37 million tones of cargo. The total apportioned earnings were ₹ 89.56 crore from freight operations during 2010-11. 12 pairs of passenger trains are running on different sections of Pipavav Railway.

RAIL VIKAS NIGAM LIMITED (RVNL):

Rail Vikas Nigam Limited (RVNL), a Special Purpose Vehicle (SPV) under the Ministry of Railways was incorporated in the year 2003 to raise non-budgetary resources for rail capacity projects and to implement them on a fast track basis.

During 2010-11, RVNL has achieved the construction of 240 kms. of doubling, 62 kms. of gauge conversion, 159 kms of railway electrification and 9 kms of new line, making a total of 470 kms. Upto 31.3.2011, RVNL completed 23 projects covering 194 kms. of new lines, 1,579 kms. of gauge conversion and 662 kms. of doubling and 1,335 kms. of railway electrification, making a total of 3,770 kms.

RVNL is executing the construction of 15 kms. of rail connectivity to Vizhinjam International Sea Port Limited, Kerala, as a deposit work. Out of 7 Asian Development Bank funded projects (Phase-I), 2 have been commissioned.

During the year 2010-11, turnover was ₹ 1,444.65 crore, profit after tax ₹ 61.09 crore and surplus at the end of the year 2011 stands at ₹ 151.50 crore.

RAIL LAND DEVELOPMENT AUTHORITY (RLDA):

Rail Land Development Authority (RLDA) was set up in 2005 through an amendment of the Indian Railways Act 1989 for development of vacant railway land for commercial use for the purpose of generating revenue by non-tariff measures for IR.

Railway land sites, not required for operational purposes for future expansion, are identified by Zonal Railways and entrusted to RLDA for commercial development. The Authority initially engage a consultant to ascertain the suitability and potential for commercial development of the site and thereafter based on the feasibility report, identify a suitable development model for its commercial development through an open and transparent bidding process to generate maximum revenue for the Railways.

During 2010-11, letter of award for commercial site at Gaya, Vijayawada and Delhi Sarai Rohilla were issued and a lease premium of about ₹ 380 crore was received. During the year, market study for 35 sites has been taken up. RLDA has been assigned the responsibility of developing Multi-Functional Complexes (MFCs) to provide multiple facilities like shopping, food stalls/restaurants, book stalls, PCO booths, ATMs, Medicine and variety store, parking spaces and other similar amenities to rail users at Railway Stations. 47 MFCs are being developed through Railway PSUs while 127 MFCs are proposed to be developed by RLDA through private developers.

DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LTD. (DFCCIL):

Dedicated Freight Corridor Corporation of India Ltd. (DFCCIL), a special purpose vehicle was created to undertake planning and development, mobilization of financial resources,

construction, maintenance and operation of Dedicated Freight Corridor. DFCCIL was registered as a Company under the Company's Act 1956 on 30th October, 2006.

DFCCIL, one of the largest ever infrastructure projects being undertaken by the Railways since Independence, will grossly reduce the travel time of freight trains and will bring down the unit cost of transportation by segregating freight and passenger trains. Freight corridor envisages long haul operation with trailing loads to increase from 5,000 to 15,000 and carrying capacity to 400 against existing 90 containers.

The construction work has already started on Eastern and Western Corridors from April, 2009 over a length of about 300 kms. The approved network was 3,300 routes kms. with Eastern Corridor (about 1,839 kms) from Ludhiana to Dankuni and Western Corridor (about 1,534 kms.) from Jawahar Lal Nehru Port to Tughlakabad/Dadri along with interlinking of two corridors at Dadri. The Eastern and Western Corridors pass through 9 States, 60 districts and 2,500 villages.

DFCCIL has engaged M/s RITES to carry out feasibility study for the following four additional corridors:-

1. East-West Corridor (Kolkata-Mumbai) of approximately 2,000 kms.
2. North-South Corridor (Delhi-Chennai) of approximately 2,173 kms.
3. East Coast Corridor (Kharagpur-Vijayawada) of approximately 1,100 kms. and
4. Southern Corridor (Chennai-Goa) of approximately 890 kms.

Self – Sufficiency

Stores imported by IR constitute 3.86% of the total stores purchased. The cost of stores imported in the last three years are as under:

Item	(₹ in crore)		
	2008-09	2009-10	2010-11
Diesel loco parts and fittings	367.1	781.9	828.2
Electric loco parts and fittings	103.7	89.9	52.5
Carriage, wagon and EMU parts and fittings	78.7	114.1	66.4
Electrical stores	1.8	0.7	0.9
Engineering stores	31.4	52.0	28.6
Ball and roller bearings	0.1	0.1	0.9
General stores covering acids, chemicals, drugs, etc.	32.0	44.5	6.8
Other items including metal ferrous, complete units of rolling stock i.e. bogies, wheel -sets, couplers, etc.	138.2	67.7	98.1
Grand Total	753.0	1,150.9	1,082.4

Strategy for Self-Sufficiency:

Adequate capacity has been developed for manufacturing a range of components in workshops owned by IR as well as through public/private sector units with indigenous designs and competency. All Production Units of IR are accredited with ISO:9001/9002 certification.

Locomotives:

Locomotives are manufactured by Chittaranjan Locomotive Works (CLW), Chittaranjan and Diesel Locomotive Works (DLW), Varanasi. During 2010-11, CLW manufactured 230 BG Electric Locomotives including 70 state-of-the-art 3-phase 6000 HP electric locomotives. DLW produced 267 BG diesel locos including 150 high powered GM locomotives and 35 Diesel locomotives for non-railway customers. It also exported spares worth ₹ 2.18 crores.

Import content in the Railway Production Units expressed as percentage of total production cost (excluding proforma charges) is as follows:

Locomotive	Import content (%)	
	2009-10	2010-11
BG goods diesel electric (WDG-3A)	2.03	1.87
BG mixed diesel electric (WDM-3D)	2.04	1.89
BG mixed diesel electric (WDS-6)	-	2.23
BG goods AC electric (WAG-7)	0.83	-
BG passenger AC electric (WAP-4)	0.54	-
BG goods diesel electric (WAG-9)	7.05	1.83
BG passenger diesel electric (WAP-7)	7.17	1.78
BG passenger diesel electric (WAP-5)	9.25	1.40
Coaches		
SCZAC/LHB	-	2.84
AC EMU B	2.30	1.45
AC EMU C	7.65	5.74
AC EMU D	7.50	5.60
AC DC EMU B	1.32	0.82
AC DC EMU C	6.30	4.56
AC DC EMU D	6.15	4.47
AC DC EMU D/HC	6.47	4.65
SCZAC/LHB	-	2.84
WLRRM/LHB	-	2.16
WFAC/LHB	-	2.57
ACCW/LHB	-	2.82
ACCN/LHB	-	2.85
CBAC/LHB	-	2.78
WCZDAC/LHB	-	1.42
WSCZ/LHB	-	3.19

Diesel Loco Modernisation Works:

Diesel Loco Modernizations Works (DLMW) at Patiala, upgraded 109 diesel electric locomotives (WDM 2 class) from 2,600 HP to 3,100 HP. DMW also exported spares worth ₹ 93.38 lakh to various countries.

Passenger Service Vehicles:

During the year, Integral Coach Factory (ICF), Chennai manufactured 1,503 coaches including 535 Electric Multiple Units (EMUs) and 52 coaches for Non Railway customer. ICF exported spare worth ₹ 28.16 lakhs. Rail Coach Factory (RCF), Kapurthala manufactured 1,576 coaches including 316 light weight LHB coaches and 140 hybrid stainless steel coaches with high passenger comfort and amenities. RCF supplied 17 coaches to Non Railway customer.

Wagons:

The bulk of wagon requirement of IR is met from wagon manufacturing units in both public and private sectors supplemented by Railway workshops. During the year, 16,638 wagons in terms of Vehicle Units (VUs) were produced. Of this, 1,570 VUs (including BLC wagons) were manufactured by railway workshops and 15,068 VUs (including 1,347 VUs against WIS, BLC, etc.) by wagon industry.

Wheels and Axles :

Rail Wheel Factory (RWF), Bangalore, produced 61,281 wheel-sets during 2010-11. It also manufactured 1,80,810 wheels and 83,353 axles.

Signalling:

Railways signalling installations use a number of specialized equipment for safe running of trains. With upgradation in technology and shift towards electrical/electronic system of signalling, the demand for these equipments has gone up. To attain self sufficiency in meeting this increased demand, IR's Signal Workshops on Southern, South Central, North Eastern Railway, Eastern and Central Railways have been manufacturing items like Axle-Counters, Electric Point Machines, various types of relays, tokenless Block Instruments etc.

The quantity of important items produced by these workshops during 2009-10 and 2010-11 is as under:

Items	Production (Nos.)	
	2009-10	2010-11
Relays	73,843	84,966
Electric Point Machines	2,784	3,060
Axle Counters	217	124
Tokenless Block Instruments	853	820
Double line Block Instruments	470	364
Panels	111	98

Traction Motor Shops:

IR has in-house facility for rewinding, repairing and reshafting of traction motors at its workshops at Nasik Road, Kanpur, Tatanagar and Kanchrapara. The workshop at Nasik Road and Kanpur have since obtained ISO:9002 series certification of quality.

The quantum of important jobs carried out by these shops are as under:

Item	No. of jobs undertaken	
	2009-10	2010-11
Rewinding		
TAO 659 TM armature	417	453
HS 15250A TM armature	472	524
EMU TM armature	338	330*
3-phase TM stator	80	41*
Re-shafting		
TAO 659/HS 15250A TM armature	1037	839*
3-phase TM rotor repairs	33	74
EMU TM armature	163	159*
* Due to reduction in arising		

Materials Management

Stocking Depots:

Zonal Railways and Production Units run 259 Stocking Depots over the railway network for uninterrupted supply of railway materials and stores. Over 1.8 lakh materials components of various descriptions are stocked in these depots.

Disposal of unserviceable Items:

Creation of revenues through disposal of surplus and obsolete items and industrial wastes is another important function of materials management. During 2010-11, ₹ 4,409 crore was realized from disposal of unserviceable stores.

Expenditure on Purchases:

During 2010-11 expenditure on materials purchases towards the requirements for operation, maintenance and production etc. (excluding cost of ballast, track related items, materials supplied by contractors for civil construction works) was ₹ 29,099 crore.

A broad analysis of purchases made is given below:

	(₹ in Crore)	
	2009-10	2010-11
Stores for operation, repairs and maintenance	8,277	8,539
Stores for construction	986	925
Fuel	7,619	8,263
Stores for manufacture of Rolling Stock and purchase of complete units	10,994	11,372
Total	27,876	29,099

Mode of Procurement:

Zonal Railways and Production Units procure most of the materials directly. However, some items are procured through Railway Board. Certain purchases are also made through Director General of Supplies and Disposal (DGS&D). Of the ₹ 29,099 crore of stores procured in 2010-11, the share of Zonal Railways and Production Units, Railway Boards and DGS&D and other sources was 53%, 45% and 2% respectively.

During 2010-11, stores worth ₹ 1,701 crore were purchased from Small Scale Sector and Khadi and Village Industries. Public Sector Undertakings contributed 29% and other industries contributed 71% towards supplies.

Indigenous Development:

Indigenous purchase of stores (₹ 28,017 crore) comprised 96% of the total purchase in 2010-11. However, IR had to depend on imports for certain components for its recently acquired diesel and electric locomotives, coaches as well as for the procurement of certain signal and telecom equipments and materials.

Inventories:

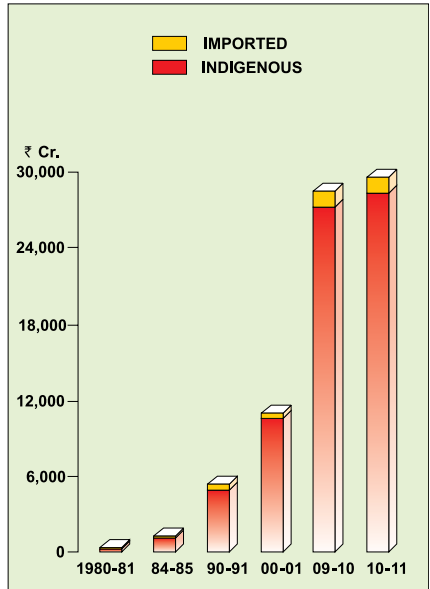
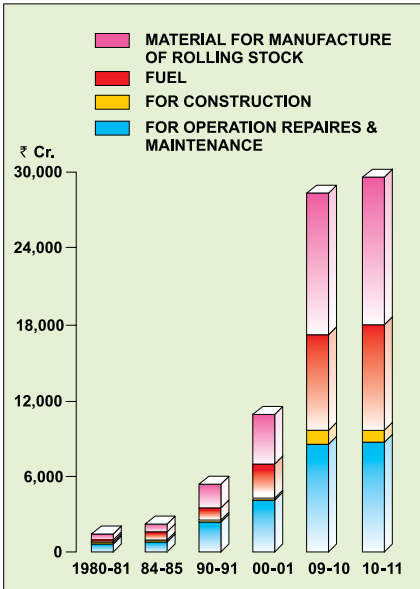
During 2010-11, the Turn Over Ratio (TOR) - the efficiency indicator for inventory management - was 13% (without fuel) and 11% (with fuel).

The inventory (without fuel) held by IR as a whole was ₹ 2,092.93 crore (₹ 2,598.37 crore with fuel) during the year against total issues of ₹ 16,091.32 crore (₹ 24,584.46 crore with fuel).

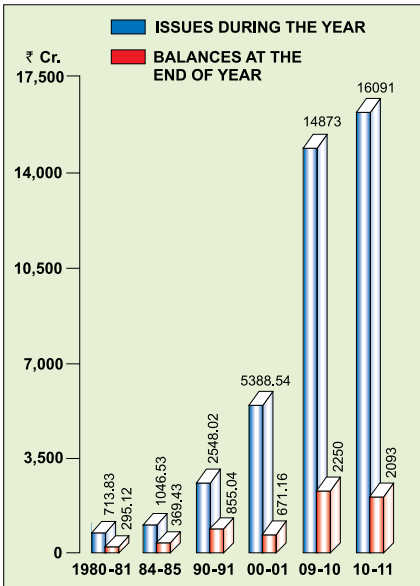
Printing and Stationery:

Eleven general printing presses, an equal number of ticket printing presses and Books and Forms Depots' on I.R., meet the requirement of passenger for card tickets, blank computer stationery, SPTM rolls, PRS ticket rolls and money value books and forms.

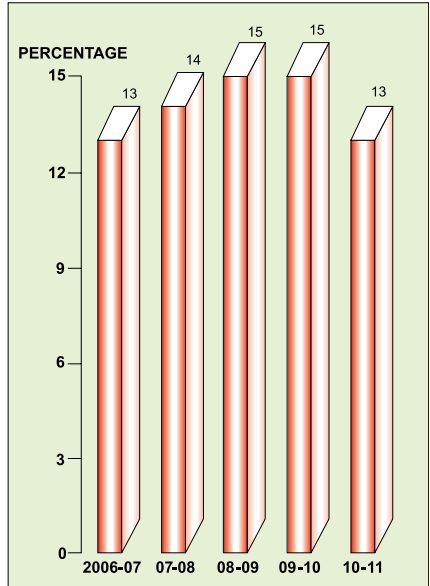
VALUE OF STORES PURCHASED



STORES-BALANCES & ISSUES (TOTAL WITHOUT FUEL) (ZONAL RAILWAYS AND PRODUCTION UNITS)



INVENTORY TURNOVER RATIO (EXCLUDING FUEL)



General printing presses gave an out-turn of 56.13 crore A-2 standard size impressions in 2010-11. Considerable progress was made in implementing Government's directive to print forms and rule books in bilingual form by expanding the capacity for Hindi composing through DTP. In order to avoid loss of revenue to the Railways, the availability of vital money value items like Parcel Way Bill, Railway Receipts, Excess Fare Tickets, Luggage Tickets, Blank Paper Tickets, Time Tables, etc. has been ensured throughout the year by all Zonal Railways. The Ticket Printing Presses printed 41.24 crore card tickets in 2010-11. The book and form depots stocked 6,330 different items. Transactions of receipts and issues at these depots were worth ₹ 42.14 crore and ₹ 43.04 crore respectively in 2010-11.

Security

Railway Protection Force (RPF) is an 'Armed Force of the Union', constituted under the Railway Protection Force Act, 1957 (as amended from time to time), for better protection and security of Railway property, passenger areas and passengers. The Force is empowered under the Railways Act, 1989 to deal with offences such as unauthorized alarm chain pulling, roof travelling, touting, ticketless travel, unauthorized entry into coaches earmarked for ladies, unauthorized vending, trespass etc. and under the Railway Property (Unlawful Possession) Act to deal with offences related to unlawful possession of railway property.

Sanctioned staff strength of the RPF is 74,538. The administrative set-up of the RPF is on the same pattern as that of Indian Railways. RPF has also got Special Force viz., Railway Protection Special Force (RPSF) which is organized on battalion pattern. At present there are 12 battalions of RPSF, located in various parts of the country including vulnerable sections of Jammu & Kashmir, left-wing/naxal affected areas and North East to ensure smooth transportation of goods and passengers and to secure Railway property during bundh, dharna, agitation etc. RPF personnel have also been deployed overseas under the aegis of United Nations Peace Keeping Missions in countries like Sudan, Kosovo and Cyprus.

On an average, 1,275 trains are escorted by RPF daily, besides escorting 2200 Mail/Express trains by Government Railway Police (GRP). The force is actively supplementing the efforts of GRP which functions under the respective State Governments in controlling crime on Railways. A total of 16.27 lakh offenders were prosecuted during the year under various sections of the Railways Act. During the year, 75 cases of drugging, 187 cases of luggage lifting, 42 cases of carrying illegal arms, 61 cases

of chain snatching, 111 cases of pickpocketing, 270 cases of trafficking of contraband goods, 117 cases of offences against women and 241 cases of other criminal offences were detected by RPF and 973 offenders were arrested and handed over to GRP for legal action. Also, 1,508 destitute minor girls and boys were rescued and restored to their parents or non-Governmental Organizations.

Comparative position of crime against Railway property dealt under the Railway Property (Unlawful Possession) Act by RPF during 2010-11 vis-à-vis 2009-10, is as follows:

	No. of cases registered	No. of persons arrested	Value of (₹ in crores)	
			Stolen	Recovered
Railway materials and fittings				
2009-10	6,290	5,547	3.42	1.85
2010-11	6,064	5,602	3.92	2.38
Booked consignments				
2009-10	1,123	788	1.74	1.01
2010-11	1,116	889	1.66	0.79

Security Upgradation:

Integrated security system consisting of IP based CCTV Surveillance System, Access Control, Personal and Baggage Screening System and Bomb Detection and Disposal System is in place to strengthen surveillance mechanism at 202 sensitive railway stations of IR.

For further strengthening of manpower, a massive recruitment drive has been launched by notification of 11,952 posts of Constables and 511 posts of Sub-Inspectors out of which 10% vacancies have been reserved for eligible female candidates and 10% for ex-servicemen.

An All India Security help-line, which can be accessed by the passengers round the clock, is being set-up. Various other measures like networking of RPF Posts and Security Control Rooms, setting-up of a commando training centre for RPF personnel and procurement of modern security equipments have been undertaken.

Amendment to the Railway Property (Unlawful Possession) Act, 1966 has been introduced in the Parliament to widen the ambit of penal sections of the Act and empowering RPF Officer to conduct enquiry on receipt of information about occurrence of an offence against Railway property. Proposal for amendment in the RPF Act 1957 to empower RPF to deal with passenger related offences is also under process.

Encounters with Criminals:

During 2010-11, 2 RPF/RPSF personnel laid down their lives and 74 sustained injuries while protecting railway property/passengers.

Meritorious Service:

On the occasion of Republic Day and Independence Day 2011, 33 RPF/RPSF personnel were awarded Police Medals for their distinguished and meritorious services by the President of India. Three RPF personnel have been awarded with Railway Minister's Medal for Best Investigation and three RPF personnel were awarded with Railway Minister's Medal for Bravery.



RPF personnel on duty at New Delhi Railway Station, Northern Railway.

Vigilance

Vigilance organization is a major area of management in the Railways. Its role is to ensure that management decisions at all levels are taken in accordance with extant rules and procedures and in an objective and transparent manner.

Steps taken in the direction of preventive vigilance include organizing courses and seminars to educate the staff and officers about correct rules and procedures; distributing educative literature in the form of vigilance bulletins; suggesting modifications in system to make it more responsive and transparent; adopting leveraging technology in decision making to reduce the role of discretionary powers; conducting campaigns through print and electronic media bringing out the role of public at large in curbing corruption; exhorting citizens to make use of the 'Vig Eye' facility set up by the Central Vigilance Commission and 24 hour vigilance helpline of the Railways.

Other measures taken by Vigilance organization to reduce corruption include intensifying checks at reservation offices, booking counters, parcel and goods booking offices and other such offices which deal with the public; keeping a watch on the working of officials of doubtful integrity; stringent exemplary action against those found guilty of corruption; educating and training of senior officers in the matter of tenders and contracts; devising steps to empower Railway Protection Force for taking action against touts and unauthorized travel agents; implementation of rotational transfers of officials posted on sensitive seats; preventing leakage of revenue by conducting special drives in mass contact areas, accountal and disposal of scrap, detecting undercharges on account of overloading, leasing of SLRs, etc.

Detection of systemic inadequacies during preventive checks by Vigilance department leads to recommendation of measures

to improve working systems. During the year, a number of system improvements were carried out in the organization at the behest of Vigilance.

In the area of preventive vigilance, the aim is thus to improve the knowledge level of staff and officers, to make systems more transparent and predictable, to enhance the use of technology in decision making and to create greater awareness among the public about corruption.

Punitive Vigilance:

A comparative statement of the complaints received, investigated and preventive checks carried out during the years 2009-10 and 2010-11 is as under:

Activity	2009-10	2010-11
No. of complaints investigated	1,931	2,295
No. of preventive checks conducted	24,913	26,297

For ensuring transparency in working various measures are being initiated towards Leveraging of Technology which envisage posting of certain information on the website of the Railways such as application forms/proforma and laws, rules & procedures governing registration of contractors, suppliers, vendors for expenditure contracts, firms/hospitals for medical supplies; allotment of rakes, commercial plots; leasing of Food Plazas; licenses of Rail Travellers’ Service Agents and City Booking Agents; recruitment of Railway Recruitment Boards, etc.

Preserving IR's Heritage

Indian Railways have a glorious history and rich heritage spanning over 150 years. The advent of Railways in India has influenced the social, economic and cultural fabric of the country. The Indian Railways have been and continue to be the Lifeline of the Nation.

The National Rail Museum was set up at New Delhi in 1971 to showcase its vibrant and rich history. The Museum houses extensive collection of history, heritage, romance and nostalgia of India's rail heritage through its life size exhibits in the open area ranging from vintage steam, diesel and electric locomotives, coaches, saloons, wagons and cranes dating as far back as 1862. One of the exhibits housed earlier was the 'Guinness Book of World Record' holder steam locomotive 'Fairy Queen' manufactured in 1855 which is the oldest steam locomotive in working order and is used for tourist services from Delhi. Other prime exhibits include the steam locomotive 'Ramgotty' of 1862, priceless saloons of royalty, 'Patiala State Monorail train' of 1907, a 'Fireless Locomotive' and the 'Morris Fire Engine' of 1914. The indoor gallery has a vast collection of working and stationary models, miniature train systems and rail equipment of historical importance. The 'Rail Archives' unfolds the evolution and expansion of the Railways in India. The Museum also has video films, joy-train ride, cafeteria and

special facilities for the physically handicapped. A state-of-the-art Auditorium with a capacity of 194 seats in the Museum complex provides facilities for holding conferences, film projections and stage shows. The Museum is a prime attraction on the tourist circuit of Delhi. The Museum is accessible on the internet through website www.nationalrailmuseum.org and www.nrm.indianrailways.gov.in

Encouraged by its success, Regional Rail Museums at Kolkata, Chennai, Nagpur and Mysore have also been set up. A Rail Museum at Lonavala for Western Region is also being set up. In addition a Mini-Museum has also been set up at 'Ghoom' on the Darjeeling Himalayan Railways.



'Garratt'-built in 1930, the heaviest steam loco ever used on IR, capable of hauling 2400t on a 1 in 100 gradient.

Four sites of Indian Railways have been declared as 'World Heritage Site' by the UNESCO - Darjeeling Himalayan Railway (DHR) inscribed in 1999, Mumbai CST building inscribed in 2004, Neelgiri Mountain Railway (NMR) inscribed in 2005 and Kalka Shimla Railway (KSR) inscribed in 2008.



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