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INDIA: Railway Sector Investment Program (Financed by the Japan's Special Fund)

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For Ministry of Railways
Rail Vikas Nigam Ltd

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Asian Development Bank

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List of Acronyms

Acronyms	Description
ADB	Asian Development Bank
BOLT	Build Operate Lease & Transfer
BTKMS	Billion Tonne Kilometers
BPKMS	Billion Passenger Kilometers
BE	Budget Estimate
CFL	Compact Fluorescent Lamp
CONCOR	Container Corporation of India Ltd.
DFC	Dedicated Freight Corridor
EPC	Engineering Procurement & Construction
EMU	Electric Multiple Units
FOIS	Freight Operation Information System
FMIS	Financial Management Information System
FYP	Five Year Plan
GDP	Gross Domestic Product
IR	Indian Railway
IRMP	Indian Railway Modernization Plan
IRCTC	Indian Railway Catering and Tourism Corporation
MUTP	Mumbai Urban Transport Project
MT	Metric Tonnes
MTFF	Multi Tranche Financing Facility
NTPC	National Thermal Power Company
OHE	Over Head Equipment
OED	Operations Evaluation Department
PPP	Public - Private Partnership
PPTA	Project Preparatory Technical Assistance
RE	Revised Estimate
RLDA	Railway Land Development Authority
RVNL	Railway Vikas Nigam Limited
SPV	Special Purpose Vehicle
ToR	Terms of Reference

Reference:

1 Million = 10 Lakhs
1 Billion = 100 Crores
\$1 (USD) = INR 45

Executive Summary

1. Transport sector and Indian Railways' position:

a) Transport sector and IR's position over the past years and projected demand

India's transport sector is large and diverse as it caters to the needs of more than 1.1 billion people. Roads are the dominant mode of transportation in India today. They carry almost 80 percent of the country's passenger traffic and 65 percent of its freight. Railways are the other large player in the sector as it carries about 14 million passengers a day and is the world's largest employer. The market share of Railways has been decreasing both on account of freight and passenger traffic (except in the last decade). The share of Railways in freight dropped from about 65% in 1970-71 to about 30% in 2002-03 which is a very sharp decline. The road sub-sector, which already had an estimated 80% share of land transport demand in 1990, witnessed annual growth of about 12% in freight demand and 8% in passenger demand. Both air and ocean transport also showed healthy growth, whereas the demand for rail transport grew more slowly, at just 1.4% a year for freight and 3.6% a year for passenger traffic.

Over the last few years, Indian Railways has managed to achieve a dramatic reinvention of its business and is presently witnessing one of the most impressive and unprecedented expansions in its history. The freight and passenger traffic on Indian Railways has been growing at average rate of 9.4% and 7.4% respectively during the last few years; the revenue has grown even faster. It is projected that the share of railways will be about 29% in overall freight market compared to 61% of road by 2011-12, the balance being with the other modes of transport.

b) Current status of the Railway sector

Indian Railways (IR) with 63,327 route Kms. of network, 1.42 Million employees, 440 BTKms and 615 BPKms of traffic is one of the largest rail networks of the world. IR constitutes the lifeline and the mainstay of the country's transport infrastructure. The remarkable performance of the Indian economy created a buoyant market and through innovative policies Indian Railways expanded its transportation capabilities, thus spurring further economic growth. The unprecedented increase in freight and passenger traffic has led to greater focus on strategic investments to augment capacity. The challenge today is to make quick and good investments, reap the benefits and strategically reinvest to sustain this virtuous cycle of growth and prosperity.

IR has been on a turnaround since the last 4-5 years. The cash surplus of the Railways rose steadily from Rs 90 billion (\$2 Billion) in 2005 to Rs 140 billion (\$3.11 Billion) in 2006 to Rs 200 billion (\$4.44 Billion) in 2007. The operating ratio of Indian Railway has also improved to 76%. In the last four years, Indian Railways have turned in a cumulative cash surplus before dividend of Rs. 687.78 billion (\$15.28 Billion). Out of this Rs. 158.98 billion (\$3.53 Billion) has been paid as dividend, Rs. 392.15 billion (\$15.28 Billion) has been invested in rail infrastructure and Rs. 136.65 billion (\$3.04 Billion) has been added to fund balances to reach Rs 204.83 billion (\$4.55 Billion). Freight loading to end of December 2007 registered a growth of 8.2% and earning from freight was Rs. 334.47 Billion (\$7.43 Billion). Similarly, Passenger Earnings have registered an increase of 14% to end of December 2007. This is in sharp contrast to the historical trend rates of growth at 3-4% per annum. The growth in railway traffic – both freight and passenger - has been exceeding the GDP growth rate. The outlook for the future is bright and opportunities for growth are abundant. Highlights of the Railways' performance in the last 3 years are as follows:

Table: Highlights of the Railways’ performance in the recent 3 years

Figures in Billions, except %

Sl. No	Particulars	2006 – 2007 (RE)	2007 – 2008 (RE)	2008 – 2009 (BE)
1	Plan outlay	Rs. 234.75 (\$5.22)	Rs. 310 (\$6.89)	Rs. 375 (\$8.33)
2	Freight Revenue Target	422.99 (\$9.40)	477.43 (\$10.61)	527.00 (\$11.71)
3	Passenger Revenue Target	174.00 (\$3.87)	200.75 (\$4.46)	216.81 (\$4.82)
4	Cash surplus before dividend	200.00 (\$4.44)	250.00 (\$5.55)	247.83 (\$5.51)
5	Operating Ratio (%)	73.7%	76%	81.4%

Reasons that have contributed for achieving this unprecedented growth for IR can be categorised under the following three heads:

(a) **Global preference towards railways** – If we look at the global transportation market and the preference for railways, we see that there is a global shift towards railways as traveling by rail is on average 3-10 times less CO2 intensive compared to road or air transport. In 2000–2005, global rail freight traffic grew about 25 percent (UIC 2006). The five-year global growth of rail passenger traffic has been about 19 percent. Railways have also been performing a valuable economic and social role in transporting passengers in dense intercity corridors, in major cities, and in some rural regions where population density permits. In many cases these roles could only be transferred to road transport at a higher cost in road infrastructure, traffic congestion, vehicle emissions, and traffic accidents.

(b) **Growth in core sector in India** – IR’s main market for transportation i.e. the core sector (coal, iron & steel and cement accounting for almost three-fourths of traffic) has been growing at an average of 10-12% over the last 5 years compared to 5-6% before that. This has led to an increased movement in such items thus contributing heavily towards the overall market share of IR.

(c) **Internal reforms** – IR has undertaken variety of internal reforms to ensure that the required measures for continuous improvement and capacity building are not a one-off activity but a regular one. Factors like effective utilization of assets, judicious tariffs and a collaborative approach have paid-off. Reforms to bring in greater commercialisation in operations by empowering railway officers to take commercial decisions, creation of FBOs e.g. CONCOR to bring in focus on container movement and like measures have already yielded results. Measures to separate the non-core business from the core operations and bring in more efficiency and customer-orientation, FBO like IRCTC have been formed to deliver value in services to the customers and meet the requisite performance standards. Reforms in internal functioning e.g. initiation of accounting reforms, computerisation of various processes and initiation of study for reengineering of internal business processes and customer interface are steps in the right direction. IR has also taken path-breaking steps in inviting private parties for participation in railways through the PPP mode.

Railways should continue their process of continuous improvement as it will go a long way in contributing to the overall operations and efficiency improvement.

c) Railway sector in the XIth Plan

As per the Plan document, the main objective in the XIth Five-Year Plan (2007-2012) is creation of adequate transport capacity to handle the projected growth in the medium term and the long term, of both passenger and freight traffic and provide improved services to both segments. It is important to note that some of the major network capacity addition would be beneficial for the Twelfth Plan rather than the XIth Plan period. Thus the key element of the XIth Plan strategy is to fully exploit the additional capacity created in Rolling Stock assets combined with capacity enhancement of the network through quick yielding investments. The planned expenditure has increased from Rs. 847.08 Billion (\$18.82 Billion) to Rs. 2,510 Billion (\$55.77 Billion), an increase of almost 3 times.

The major thrust areas of XIth Five Year plan may be summarized as under:

- (a) **Freight Business** - The Railways plan to increase their market share in both bulk and non-bulk freight traffic by improving the quality of service with reduction in transit time and better reliability and availability.
- (b) **Passenger Business** - The opening up of the economy, renewed emphasis on passenger business and the increased propensity to travel has resulted in the increase in the number of passengers. Keeping in view these factors it is expected that there will be 3 per cent growth in suburban traffic while overall passenger traffic (suburban and non-suburban) is expected to grow at the rate of 5 per cent per annum.
- (c) **Capacity Enhancements** - Till now the major focus of the Indian Railways was on incremental capacity enhancements but the XIth Plan will mark a significant change in the Railways' investment strategy for capacity augmentation with the announcement of a dedicated freight corridor initially covering about 2700 route Kms. equivalent to over 5000 of Track Kms. at an approximate Cost of Rs. 220 Billion (\$4.89 Billion), linking the ports of western India and the ports and mines of eastern India to Delhi and Punjab.
- (d) **Infrastructure and technology upgradation** - The XIth Plan will pursue the Indian Railways Modernization Plan (IRMP), 2005-2010, for modernization of passenger and freight business segments and computerisation e.g. Freight Operation Information System (FOIS).

IR has made a plan to invest Rs. 2,510 Billion (\$55.78 Billion) within the next 5 years. This is to be financed from the (a) Gross Budgetary Support - 860 Billion (\$19.11 Billion), (b) Internal Resources - 900 Billion (\$20.00 Billion) and (c) Extra Budgetary Resources - 750 Billion (\$16.67 Billion). The projected year-wise sequencing of XI Plan expenditure as worked out based on Xth Plan expenditure pattern and actual BE/ RE is as follows:

Table: Projected year-wise sequencing of XI Plan expenditure

Year	Projected expenditure	% of Total	Growth % over previous year
2007-08 (RE)	310.00 (\$6.89)	12%	
2008-09 (BE)	375.00 (\$8.33)	15%	21%
2009-10	490.00 (\$10.89)	20%	31%
2010-11	600.00 (\$13.33)	24%	22%
2011-12	735.00 (\$16.33)	29%	22%
Total	2,510.00 (\$55.77)	100%	24% (CAGR)

2. Recommendations for improvement in efficiency and greater commercialisation:

Indian Railways should continue its present initiatives for internal reforms and increasing customer orientation of services. Strategies like that for tariff setting have not only brought credibility to the entire system but have also paid-off very well. This should be continued in future also. Collaborative approach for involving private parties in PPP projects has also been welcomed by the industry and should be used by IR for both core and non-core activities. IR needs to build up its capabilities for project and contract management as the XI Plan envisages implementation of almost 3 times as compared to X Plan figures. Creation of SPVs, long term procurement contracts, etc. is the need of the hour to bring in latest technologies in the railway sector to meet the challenges of XI Plan. Some of the specific recommendations are as follows:

a) *New Efficiency Improvement Measures*

(i) **PPP cell**

Indian Railways has formed a PPP cell at the Board level to guide in the initiatives of Indian Railways on PPP. This is a very good and welcome initiative of Indian Railways so as to

bring in all the knowledge within a group of people who would become specialists in this area. However, the existing responsibilities of the PPP cell are concentrated at a transaction level rather than at a more policy and strategic level.

(ii) PPP policy document

There is no comprehensive policy document on PPP resulting in subjectivity and interpretation of implementing officers. This also leads to delays during implementation as there is no guiding factor and decisions have to be approved at the top most level. Thus a policy always helps which can be based on principles rather than rules. The documents can be a living document and updated on a regular basis, based on experiences.

(iii) Increased use of technology

Indian Railways has been working on the aspects of increased use of technology in performing its functions both in passenger as well as freight services. However, there are areas where increased use of technology can be done to increase efficiency. Use of technology in parcel loading and unloading, at freight terminals, maintenance of rolling stock, tracks, etc. are some of the examples.

(iv) Increased use of IT

Indian Railways has been using IT increasingly in its operations. The responsibility has been given to CRIS and the Directorate of Computerisation & Information Systems within the Ministry of Railways. The initiatives taken-up by Indian Railways are no doubt laudable and commendable keeping in mind the complexities and scale of operations. To consolidate the efforts and bring in focus, it is recommended that an IT strategy alongwith some incremental measures should be taken -up by Indian Railways.

(v) Incentivisation of academic and research institutions

Indian Railways has recently set-up a multi-departmental Innovation Promotion Group (IPG) in the Railway Board. It is proposed that the Innovation Promotion Group will interact with national and international Railway organizations, industries, universities, institutes of repute, Railway-men, Railway customers and citizens to promote innovations. To increase the effectiveness of such initiatives, it is recommended that Indian Railways can partner with national and international research organisations and enter into commercial arrangements for development of new technology and innovation in operations.

(vi) Implementation of a Monitoring, Evaluation and Learning (MEAL) system in project appraisals

Indian Railways appraises and implements projects to the tune of billions on a yearly basis. There are also set methodologies and benchmark figures that are used during project development and appraisal. However it is not known how much of the experience of previous projects is built-in while developing or appraising new projects. In fact even during implementation, learning's from previous projects should be utilised. Indian Railways should institutionalize the process of regular evaluation and learning's programme for all implemented projects. This can also be done through an IT enabled project tracking software and used frequently by Indian Railways. The methodologies and benchmarks should also be revised on a regular basis. Although there are provisions to undertake the same, but it is not followed in practice.

(vii) Procurement and contract management

The XI Plan identifies investments to the tune of almost 3 times as compared with the last 5 year plan. Out of this almost 20-30% of projects would be implemented on a PPP route. This means that IR has to strengthen its capability for contract management, especially in cases of PPP. Entering into long term agreements with manufacturers, assigning more projects to RVNL are some of the procurement related actions that are recommended.

b) New Measures for Greater Commercialisation in Indian Railways

(i) Creation of an FBO for parcel business

The parcel business in Indian Railways currently falls under the coaching services. There is a need to provide specialised marketing efforts, customer-friendly policies, tie-ups with large courier/ parcel companies and providing state-of-the-art booking and tracking services. Indian Railways can also analyse the feasibility of having separate parcel trains if there is adequate business. Parcel business currently being a part of coaching services loses the focus of Indian Railways.

(ii) Review of the working of FBOs created by Indian Railways

Indian Railways has been creating FBOs with an objective of divesting its non-core businesses and ones that require special attention from a business point of view. Organisations which provide specialised technical and consultancy services and which require private sector participation (special purpose vehicles) have also been created by Indian Railways in the past. Organisations like RITES, RVNL, CONCOR, IRCTC, etc. have been formed as an FBO. However these organisations are facing the following challenges in general:

- Increasing level of competition from the private sector
- New ways of structuring investments and operations because of requirement of funds for bringing in latest technologies and capacity expansion e.g. PPPs
- Attracting and retaining talent, especially in the wake of growing competition from private sector

In this context, these FBOs need to revisit their corporate strategy and while building upon their strengths, develop fresh strategies for keeping their competitive edge. They also need to explore emerging opportunities in the growing market especially developing countries where the scope is tremendous.

(iii) Improvement of efficiency in Production Units, Sheds and Workshops

Production Units - Indian Railways has six Production Units spread across the country. Based on the limited discussion, we understand that there is scope for increasing the efficiency in these units by removing the bottlenecks and induction of latest technologies in execution. IR can take up a detailed study in this respect to increase efficiency of these units.

Sheds and Workshops - Indian Railways has many Sheds and Workshops that are spread across the country. These are based in various zones and cater to the needs to both within zones and outside zones. Based on the limited discussion, we understand that there is scope for increasing the efficiency in these sheds and workshops by removing the bottlenecks and induction of latest technologies in execution. IR can take up a detailed study in this respect to increase efficiency of these sheds and workshops.

(iv) Increased implementation effort on various initiatives for greater commercialisation

Indian Railways has been taking various initiatives to increase commercial activities and bring in efficiency in non-core operations. Some of the examples are PPP in operations of retiring rooms, branding of trains, outsourcing of cleaning services, etc. However implementation of these initiatives is yet to be taken on a full-fledged fashion. IR needs to take suitable measures to ensure its implementation.

(v) Commodity/ sector wise focus

IR needs to focus more and more for specific commodities and sectors rather than a generic model for all. E.g. tariffs based on sectors, design of specific wagons for specific goods, inviting private parties for better design of wagons for specific commodities, etc. This will provide IR with a niche area where it can be the *transporter of choice* by the people.

1. Introduction to the Assignment

Background

Government of India has approached the ADB to support its investment programmes in the Railway Sector and assist in the upscaling of investments in the 11th Plan period (2007-2012). The overall outcome of the proposed investments is to undertake double-tracking of existing lines in critical sections, electrification of other line, improved efficiency and increased commercialisation in operations. ADB had undertaken the fact finding mission in the year 2007 to support the same. ADB has initiated the study for Project Preparatory Technical Assistance (PPTA) to prepare the investment programme using the multi-tranche financing facility (MTFF). Projects for the first two loan tranches are to be prepared under the program. Apart from the physical components, this will include railway sector analysis and recommend and formulate an implementation plan for efficiency improvements in railway organization, work processes and procedures.

Scope of Work

ADB has appointed Mr. Vishwas R. Udgirkar, Executive Director, PricewaterhouseCoopers (P) Limited, as the Efficiency Specialist to work with the project team and provide his inputs w.r.t. integrated efficiency improvement measures for Indian Railways (IR). His scope of work includes:

- (i) Prepare the sector road map preparing the sector roadmap showing the current status of the sector, the sector objectives and the envisioned status in the medium and long-term, identifying the strong and weak points of the sector. The sector road map will also discuss the bottlenecks to improvement, the risks and the areas where improvement is required as well as the strategy for improving the sector and identifying the sector objectives;
- (ii) Outline the desired railway sector development plan detailing the policy or governing framework, strengths and weaknesses particularly in relation to the delivery of the proposed Investment Program, prerequisite policy reforms, railway sector capacity development, investment program, and approach to financing;
- (iii) Detail the sequencing of the investment plan for the envisaged MFF period and show alignment to the railway sector's development over the medium-term to long-term;
- (iv) Assess the effectiveness of reforms implemented by IRs to date;
- (v) Identify efficiency improvement measures that will be needed for the achievement of the 11th 5-year development plan targets;
- (vi) Identify measures that can lead to greater commercialization of railway operations including greater use of focused business organizations;
- (vii) Identify how the output of the accounting reforms can lead to better decision-making, greater commercial orientation.

Purpose of the Report

The consultants have undertaken a review of the documents available in public domain to assess the sector status as of date, envisioned plans in the medium and long term, the on-going investment plans and current initiatives in the railway sector. Further based on study of documents and discussions with officials of Indian Railways and other organisations, possible efficiency improvement and commercialisation measures have emerged. A comparison of Indian Railways with some other railway networks and positioning of various efficiency and performance indicators has been discussed. An update on the progress of reforms was also undertaken and the updated position alongwith their effectiveness is also listed in this Report.

2. Sector Road Map

2.1. Transport sector in India

Transport sector and IR's position over the past years

India's transport sector is large and diverse as it caters to the needs of more than 1.1 billion people. Roads are the dominant mode of transportation in India today. They carry almost 80 percent of the country's passenger traffic and 65 percent of its freight. The density of India's highway network at 0.66 km of highway per square kilometer of land is similar to that of the United States (0.65) and much greater than China's (0.16) or Brazil's (0.20). Railways are the other large player in the sector as it carries about 14 million passengers a day and is the world's largest employer. Till recently, the railways played a leading role in carrying passengers and cargo across India's vast territory. However, with tariff policies that overcharge freight to subsidize passenger travel, the movement of freight is increasingly shifting from railways to roads.

The table below compares some key statistics on the transport sector in India.

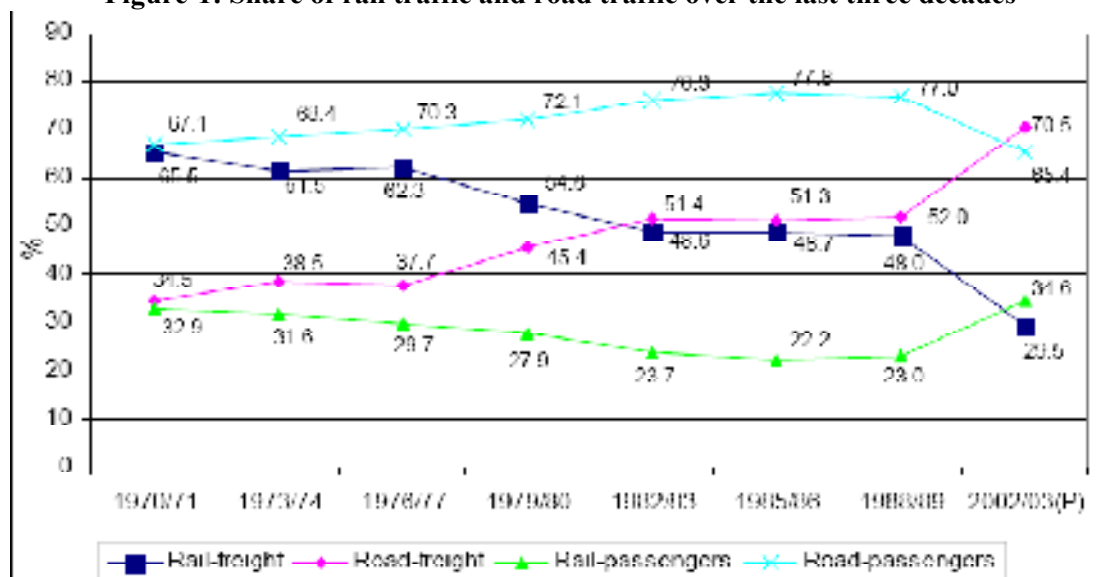
Table-1 INDIA: Transport Sector Key Statistics

	Units	As of 2007
Length of Roads	Km.	3,516,452
Main Roads	Km.	666,452
Paved Roads	%	47.3
Access to All-Season-Roads	%	61
Road Density	km/1,000 sq. km.	1115
Rail Track Length	Km.	63,327
No. of Ports		197
Airports		60
International		11

(Source: www.worldbank.org)

Over the past few years, the gap in the respective shares of rail traffic and road traffic has been widening in favour of road. The graph below shows the position for the last three decades:

Figure-1: Share of rail traffic and road traffic over the last three decades



Sources: The Japan International Cooperation Agency (JICA) study team's estimate based on the Teri Energy Data Directory Yearbook 2002/03 (for 1970/71 to 1988/89); JICA study team (for 1996/97); Centre for Monitoring Indian Economy. Basic Statistics for various years relating to the Indian Economy; Ministry of Railways, 1998. Status Paper on Indian Railways; Ministry of Finance, 1999. Economic Survey.

The figure above clearly shows that the market share of Railways has been decreasing both on account of freight and passenger traffic (except in the last decade). The share of Railways in freight dropped from about 65% in 1970-71 to about 30% in 2002-03 which is a very sharp decline. Reasons for the drop in the share of railways can be primarily attributed to low capacity addition by IR and rapid increase in the length of road network.

Major players in the transport sector and future outlook

The road sub-sector, which already had an estimated 80% share of land transport demand in 1990, witnessed annual growth of about 12% in freight demand and 8% in passenger demand. Both air and ocean transport also showed healthy growth, whereas the demand for rail transport grew more slowly, at just 1.4% a year for freight and 3.6% a year for passenger traffic. This growth could be attributed to both demand-side and supply-side factors. On the supply side, intense competition from the mostly privately run road transport services, coupled with operating inflexibilities and capacity constraints on key Indian Railways routes, increased the modal share of roads. The above demand is fueled by sustained economic growth and rising incomes over the last 2 decades, resulting in rapidly growing vehicle ownership.

Over the last few years, Indian Railways has managed to achieve a dramatic reinvention of its business and is presently witnessing one of the most impressive and unprecedented expansions in its history. The freight and passenger traffic on Indian Railways has been growing at average rate of 9.4% and 7.4% respectively during the last few years; the revenue has grown even faster. Freight loading to end of December 2007 registered a growth of 8.2% and earning from freight was Rs. 334.47 Billion (\$7.43 Billion). Similarly, Passenger Earnings have registered an increase of 14% to end of December 2007. This is in sharp contrast to the historical trend rates of growth at 3-4% per annum.

11th Five Year Plan's focus in the transport sector

The Planning Commission's draft approach paper for the 11th FYP (2007–2012) recognizes the enormous cost of developing the national highways estimated at \$48.4 billion. The focus in the earlier plan on the development of national highways and rural roads will continue, but emphasis is likely to be given to the development of state highways and district roads to ensure integrated development. The need for reforms to modernize the railways and improve its services has been highlighted. While the public sector has been identified as a source of funding, the approach paper views PPPs as a way to reduce the burden on the govt. budget.

2.2. Current status of the Railway sector

Indian Railways (IR) with 63,327 route Kms. of network, 1.42 Million employees, 440 BTKms and 615 BPKms of traffic is one of the largest rail networks of the world. IR constitutes the lifeline and the mainstay of the country's transport infrastructure. The remarkable performance of the Indian economy created a buoyant market and through innovative policies Indian Railways expanded its transportation capabilities, thus spurring further economic growth. The unprecedented increase in freight and passenger traffic has led to greater focus on strategic investments to augment capacity. The challenge today is to make quick and good investments, reap the benefits and strategically reinvest to sustain this virtuous cycle of growth and prosperity.

IR has been on a turnaround since the last 4-5 years. The cash surplus of the Railways rose steadily from Rs 90 billion (\$2 Billion) in 2005 to Rs 140 billion (\$3.11 Billion) in 2006 to Rs 200 billion (\$4.44 Billion) in 2007¹. The operating ratio of Indian Railway has also improved to 76%¹. In the last four years, Indian Railways have turned in a cumulative cash surplus before dividend of Rs. 687.78 billion¹ (\$15.28 Billion). Out of this Rs. 158.98 billion (\$3.53 Billion) has been paid as dividend, Rs. 392.15 billion (\$15.28 Billion) has been invested in rail infrastructure and Rs. 136.65 billion (\$3.04 Billion) has been added to fund balances to reach Rs 204.83 billion¹ (\$4.55 Billion) The growth in railway traffic – both freight and passenger - has been exceeding the GDP growth rate. The outlook for the future is bright and opportunities for growth are abundant. The sharp upturn in the performance has come about as a result of a conscious strategy to recapture the predominant position of railways in the transport sector. The Railways also have an advantage of being less energy intensive and more environment friendly. The Railways have been performing the dual role of functioning as a commercial undertaking and a provider of public utility service. Social Service Obligation involves a measure of cross-subsidization of passenger services by freight revenues, as also subsidization within passenger and freight segment. The carefully crafted strategy of reform has been built around generation of capacity through optimization of the existing infrastructure and assets and differentiated approach to the social and commercial segments of the traffic.

“Indian Railways has staged a dramatic turnaround with the same employees and assets. The turnaround strategy has been based on simple principles; have higher freight volumes, improve occupancy in passenger trains, control costs and most importantly reduce tariffs. Through this, Railways have improved their market share and operating margins. Our Government has been praised for improving customer services and reducing passenger fares, particularly for poorer sections of society. Railway reforms have been introduced without losing sight of our social obligation. This is what we call “inclusive growth.”

- Dr. Manmohan Singh, Honorable Prime Minister

¹ Source: Railway Budget 2008-09. These figures are based on operations cost and all investments. Including cost for financing past investments

Highlights of the Railways' performance in the recent 3 years are as follows:

Table-2: Highlights of the Railways' performance in the last 3 years

Sl. No	Particulars	2006 – 2007 (RE)	2007 – 2008 (RE)	2008 – 2009 (BE)
1	Plan outlay	Rs. 234.75 Billion (\$5.22 Billion)	Rs. 310 Billion (\$6.89 Billion)	Rs. 375 Billion (\$8.33 Billion)
2	Percentage of total outlay on four major plan head viz. Doubling, New Lines, Gauge Conversion & Electrification	17.41%	20.36%	19.58%
3	Freight Load Target	726 MT	790 MT	850 MT
4	Freight Revenue Target	422.99 Billion (\$9.40 Billion)	477.43 Billion (\$10.61 Billion)	527.00 Billion (\$11.71 Billion)
5	Passenger Revenue Target	174.00 Billion (\$3.87 Billion)	200.75 Billion (\$4.46 Billion)	216.81 Billion (\$4.82 Billion)
6	Cash surplus before dividend	200.00 Billion (\$4.44 Billion)	250.00 Billion (\$5.55 Billion)	247.83 Billion (\$5.51 Billion)
7	Operating Ratio	73.7%	76%	81.4%
8	Focused Areas	<ul style="list-style-type: none"> ▪ Early completion of throughput enhancement works, ▪ safety, ▪ development and expansion of the network to sustain higher growth rate in Railways 	<ul style="list-style-type: none"> ▪ maintaining the high growth rate through early completion of throughput enhancement works, ▪ traffic facilities and works related to network expansion and development of high traffic density routes 	<ul style="list-style-type: none"> ▪ enhancement of rail capacity, ▪ modernization of the railway, ▪ throughput enhancement on HDN routes, ▪ traffic facility works and ▪ expansion and development of the network

Railway sector in the XIth Plan

The 10th Plan laid emphasis on capacity expansion through modernization and technological upgradation of the railway system, improvement in quality of service, rationalization of tariff, and improvement in safety and reliability of rail services. Significant progress has been achieved in the last two years of the 10th Plan - thanks to a remarkable improvement in productivity. This has enabled a quantum expansion in efforts at capacity augmentation. Yet bottlenecks persist and containers pile up and congest ports for want of adequate capacity to move them. The railways need to augment capacity on critical routes on the Golden Quadrilateral by constructing dedicated freight corridors. The process for construction of Eastern and Western Corridors on Howrah-Delhi and Mumbai-Delhi routes has already been initiated. While priority may be accorded to these projects, the process for taking up the construction of dedicated freight corridors on other legs of the Quadrilateral also needs to be initiated during the 11th Plan.

2.3. Comparison of Indian Railways with other Railway networks

To understand the position of Indian Railways on account of productivity and efficiency with other railways in the world, a comparison on some of important parameters has been carried out. The results of this analysis compare the position of Indian Railways with some other railways of the world which are somewhat comparable in size, technology or geographical region.² Important learning's from this comparison is to understand some of the areas where Indian Railways can perform better in terms of efficiency and investments. Conclusions and recommendations, if any, have been mentioned alongwith the respective parameter.

- (i) **Comparison with other Railways on size and scale** - The table below shows the comparison of IR with other Railways in the world. Comparison has been done with Railways that are somewhat comparable in size, technology or geographical region. One important point for attention is the comparison of India with China at 2005 figures where China surpasses India on almost all parameters except on the number of passengers traveled. However in terms of passenger kms; China surpasses India by a small margin. The more significant area where China outpaces India is on account of freight where the total freight ton carried is almost 3.8 times and total freight ton kms is 4.7 times.

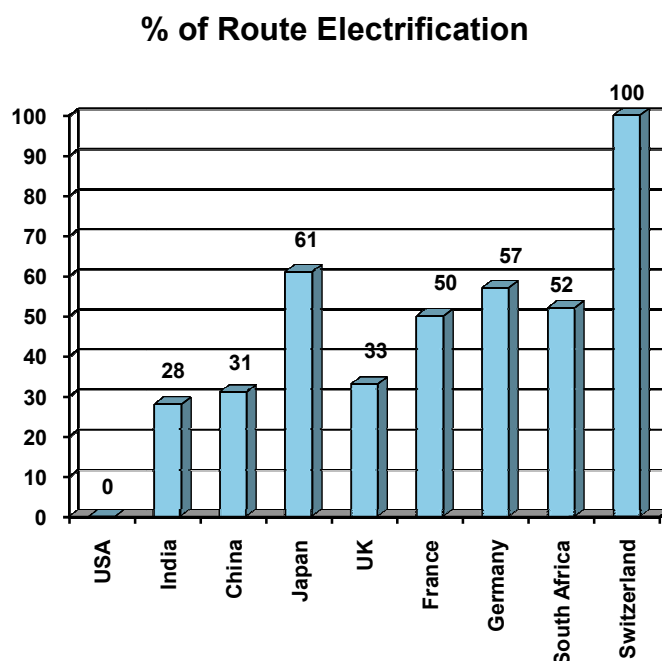
²Data has been procured from the World Bank's website titled "Railways Databases Update 2007" and is updated till 2005 only.

Table-3: Table comparing IR with other Railways on size and scale

Country	Year	Total Route km	Route km Electrified	Total Locomotives	Passenger Coaches	Freight Wagons	Passengers (000)	Passenger-Kilometers (000,000)	Average Km per Passenger	Freight Tons (000,000)	Freight Ton-km (000,000)	Average Km per Ton	Passenger Revenue (2000 Constant US\$ 000,000)	Freight Revenue (2000 Constant US\$ 000,000)	Staff (across all functions)
Asia															
India	2005	63465	17495	7910	37119	222379	5378000	575702	107	602	407398	677	2706	5311	1422200
China	2005	62200	19400	16453	40328	541824	1106510	583320	527	2309	1934612	838	6578	16493	1665588
Japan	2005	20052	12217	1200	24997	9000	8683900	245957	28	37	22632	612			135600
Russia	2005	85245		12213			1338723	172217	129	1281	1858100	1451	1456	9425	1161900
Europe															
UK	2005	15810	5205	410	10746		1082000	43200	40	104	22110	213			
France	2005	29286	14765	4588	15879	35456	962700	76159	79	130	41898	322			167200
Germany	2005	34218	19350	4787	20305	156751	1785400	72554	41	275	88022	320			224600
Africa															
South Africa	2005	20247	10450	2646	3251	94210	3100	991	320	182	109721	603	31	1702	32516
Americas															
USA: All Class I Railways	2005	153787	0	23198		1290000				1723	2478914	1439		41129	162438
Canada: Canadian National	2005	31894		2073		96153				213	262589	1233		3682	22246

- (ii) **% of route electrification** - The % of route electrification of the total route kms shows that the developed countries have electrification of over 50%, except USA where all traffic moves on diesel locomotives. Switzerland is another extreme where 100% of routes are electrified. In India about 50% of passenger traffic and 62% of freight traffic moves on the electrified network (as on 2008) compared to 41% and 52% respectively in 1998-99. This means that in India about 28% of lines carry over 50-60% of combined traffic showing that electrification is done mainly for lines where there is heavy traffic. IR should continue this process and electrify lines which are high in traffic, including the upcoming DFCs.

Figure-2 Percentage of route electrification in various countries

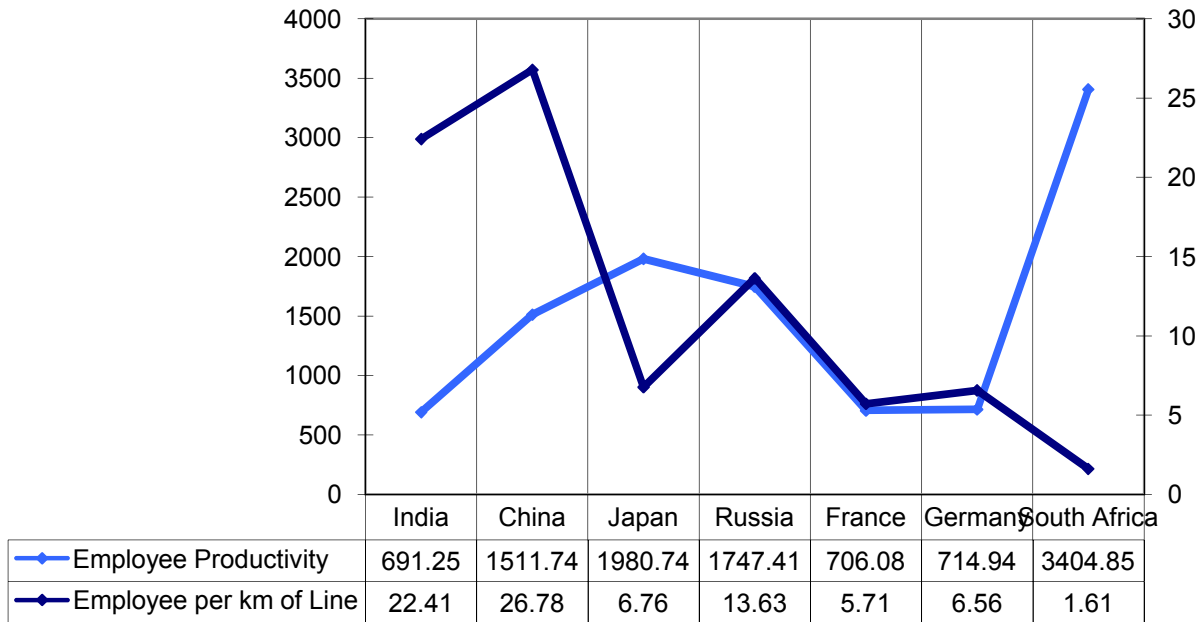


- (iii) **Employee related indicators** – The employee related indicators of employee productivity and employee per km. of line shows that the developed countries have better indicators to showcase. Employee productivity is measured as the ratio of Traffic Units (TU)/employee, where TU is the sum of passenger- km and tonne-km. Labor costs are the largest single cost item for all railways, so the output per employee is one of the fundamental measures of whether the railway can cover its costs from operations or will, instead, require support. Employee/km of line covers the use of labor for infrastructure maintenance and rehabilitation. Low numbers indicate more intensive use of mechanical maintenance. Of course, higher traffic density will mandate more maintenance, so a high number for this measure does not necessarily indicate inefficiency.

India compared to the other countries reflects that the employee productivity is low and employee per km of line is high. One of the reasons can be the large number of workforce and levels of mechanization.

Figure-3: Employee related Indicators

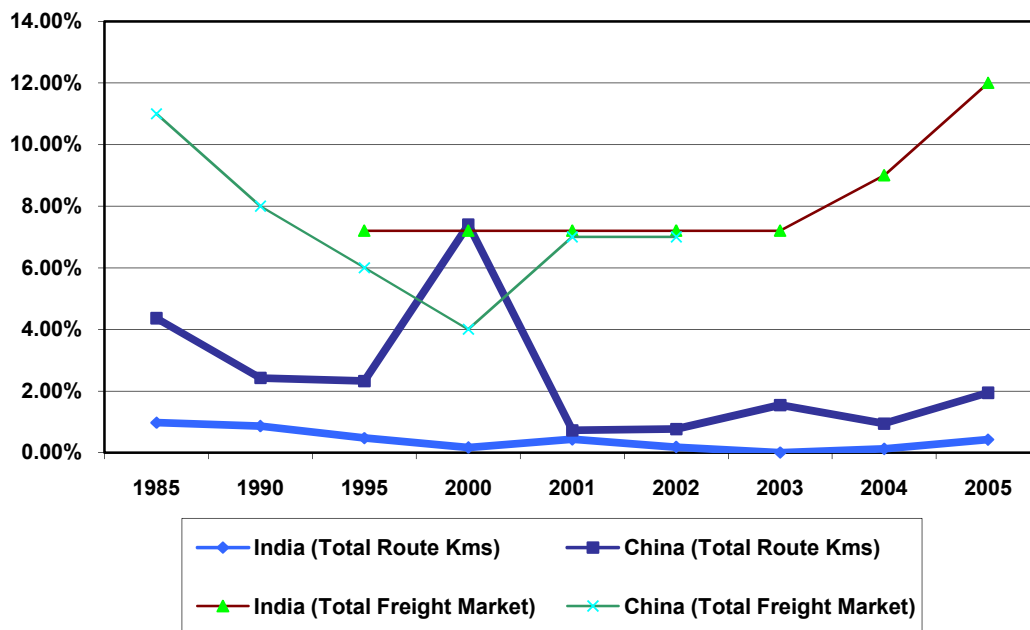
Employee related Indicators



- (iv) **Growth in Total Route Kms** – A comparison of India and China shows that China has been adding to its route much faster and has added over 25% since 1980 compared to 4% by India. This when compared to the growth in overall transport sector shows that in China the transport sector has been growing at about 13% p.a. against that of 10-12% in India.

Figure-4: Growth in Total Route Kms and Total Freight Market

Growth in Total Route Kms and Total Freight Market



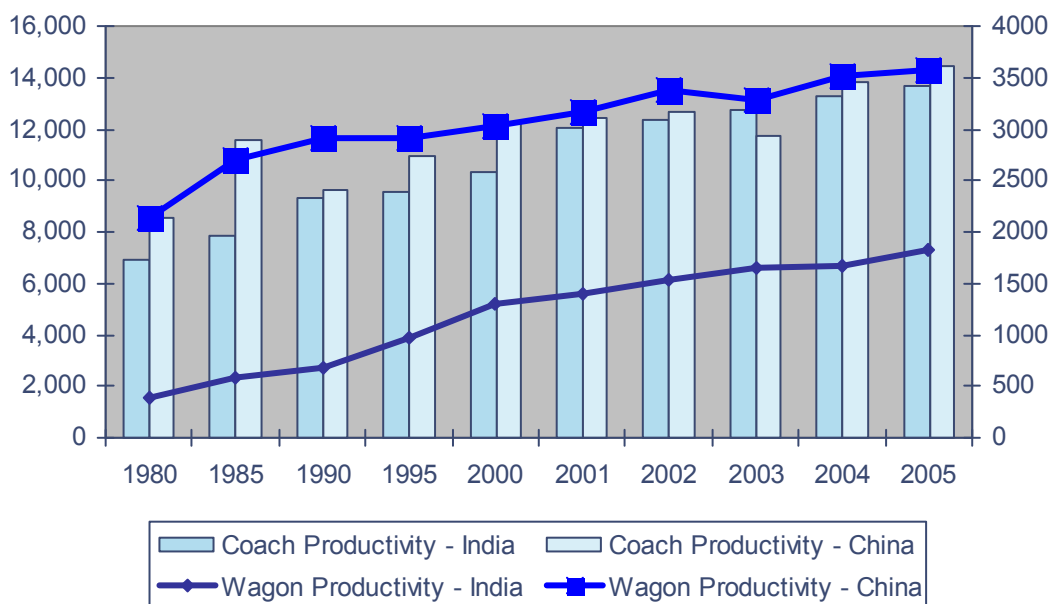
Thus with almost the same growth in freight traffic in both India and China, China has been adding far more route Kms than India.

- (v) **Coach and Wagon Productivity Indicators** – India’s indicators of Coach Productivity and Wagon Productivity when compared to China are almost 94% and 50% in real value terms in 2005. The growth in coach productivity by India has been growing at a rate of 4% over the last 25 years on a simple average basis compared to 3% of China. Similarly the growth in wagon productivity by India has been growing at a rate of 15% over the last 25 years on a simple average basis compared to 3% of China. Coach productivity is measured as passenger-km per coach (where the numbers of MU coaches are added into the coach total). High numbers are usually associated with high speed rail or with commuter services, whereas low numbers are often associated with longer haul services where seats are further apart and a significant amount of coach space has to be allocated to dining or sleeping. Wagon productivity or Freight tonne-km/ wagon is an asset productivity measure. It is influenced by the average wagon capacity, average speed of freight service, and the intensity of use of each wagon. Since freight wagons typically represent an investment comparable to that in freight locomotives, the freight output per wagon is an important measure of the successful use of assets.

In the Indian context, the average distance traveled by a passenger is 107 Kms against 527 Kms in China, which is say 5 times of India. The difference in coach productivity is not that much, thus India fares better in this indicator when compared to China. However in case of wagon productivity, the average distance per tonne of cargo is 677 Kms in India against 838 Kms in China, this being just 1.2 times of India. The difference in wagon productivity is almost more than double. Thus India does not fare that well when compared to China in this indicator.

Figure-5: Coach and Wagon Productivity Indicators

Coach and Wagon Productivity Indicators



If the Indian Railways takes cue from the data and indicators above, it indicates that there is room for efficiency and performance improvement by IR.

2.4. Sector Objectives

As per the Plan document, the main objective in the 11th Five-Year Plan is creation of adequate transport capacity to handle the projected growth in the medium term and the long term, of both passenger and freight traffic and provide improved services to both segments. It is important to note that some of the major network capacity addition would be beneficial for the Twelfth Plan rather than the 11th Plan period. Thus the key element of the 11th Plan strategy is to fully exploit the additional capacity created in Rolling Stock assets combined with capacity enhancement of the network through quick yielding investments.

The important points to note in the sector objective are that:

- IR is not just looking at a five-year period, but at a longer term which will spill over in the 12th Plan as well. Thus a long term perspective is being taken, which would run over successive Governments
- Focus is being given to both quick and high yielding results as well as creation of infrastructure
- Focus is also being given to full utilisation of existing capacity in turn leading to efficiency and performance improvement.

2.5. Envisioned status in the medium and long-term

The turnaround achieved by Indian Railways in the last 3-4 years has put them on a solid footing for the medium and long term. Focus on volumes, new investments and commercialisation has been the buzz words and if a similar momentum keeps going on for the next 5 years, Indian Railways will be in a much better dominant position fulfilling its commitments towards the economy. The envisioned railway sector in the medium and long term is as follows:

Medium Term:

By 2012, the railways are likely to handle double the traffic volumes currently handled. Indian Railways has chalked out a well - planned strategy to remove bottlenecks and augment capacity to match the requirement. The key elements of the strategy entail:

- Investment in infrastructure as well as modernization of wagons technology
 - Advanced signaling & telecommunication
 - Induction of high horsepower locomotives
 - Grade separation
 - Use of information technology specifically tailored to improve transit times and lower unit cost operation
 - Building world - class passenger and freight terminals bench - marked to the best global standards.
-

Long Term:

As per the Budget Speech of the Railway Minister for the current year, a Railway Vision 2025 Document shall be prepared by September 2008. This document will present new ideas and initiatives in a novel manner. This shall outline IR's preparedness and strategies for the future. This document will set forth the target for the coming 17 years in the field of operational performance and quality of service. It will also detail an action plan for achieving the stipulated targets and necessary investment plans thereof. The document will contain the following details

- Policies for customer-centric modern passenger services and various freight schemes to sharpen the competitive edge of Railways
- Blue print of an organization that encourages trans-departmental decision making to take the Railways to unprecedented heights
- Route wise planning would be done to reduce traffic bottlenecks, expand the network and modernize the Railways.

The passenger services will be governed by two words- 'comfort and convenience'. The buzz word in freight business will be 'commitment and connectivity'. All these efforts will lay a solid foundation for a resurgent Railway. According to the Budget Speech, this document will inspire the Railway management and its employees to do new experiments, and will be like a guiding light for the future generation.

The task for preparation of this document has been assigned to the LRDSS Directorate. Inputs from coaching, freight and workshops has been received while pending from other departments. It is estimated that the document would be ready by the end of current financial year.

2.6. Strengths and weaknesses of the sector

Strengths and weaknesses of the sector include:

Strengths

- (a) Railways are the only mode of transport that can use any form of primary energy like electricity, coal or diesel. Further, railways are energy efficient due to lowest known frictional loss due to rolling of steel on steel which makes it more efficient
- (b) IR has one of the largest pool of skilled and qualified professionals in the country and it has a number of training institutes at all levels to upgrade the technical and managerial skills of its staff
- (c) Quick response time to meet any eventuality e.g. accidents
- (d) Ability to manage and run a complex organisation which has major inter-dependencies between departments
- (e) It is a preferred mode for transportation for large distances because of its affordability, safety and ease for passengers.

Weaknesses

- (a) Rail services lack customer and market orientation and internal business structuring is not in line with market requirements
 - (b) IR is a vertically integrated organisation on a departmental basis, this leads to departmental boundaries in decision making
-

- (c) Since IR is a Government organisation, it is bound by rules, regulations and coded procedures. Any deviation from its requires a series of approvals resulting in loss of time
- (d) The existing system of upkeep of accounts and costing does not lend itself easily to assess cost/ profit of any service provided
- (e) Size of Indian Railways is too big to bring in any change immediately. The problem is aggravated with the high geographical spread and number of employees.

2.7. Bottlenecks to improvement and associated risks

- (a) High dependence of budgetary support and external funding can deter plans for investment in critical areas
- (b) Improvement in passenger and freight services and amenities is critical to hold back the traffic from moving into other modes of transport
- (c) Responsiveness to customer's needs and commercial orientation are critical factors for long term success
- (d) Implementation of policies e.g. PPP in manufacturing facilities, within a set time frame is critical to reap the benefits
- (e) Large scale use of IT in processes with customer focus as well as internal business processes is critical to improve the internal functioning.

2.8. Areas of improvement and strategy for implementation

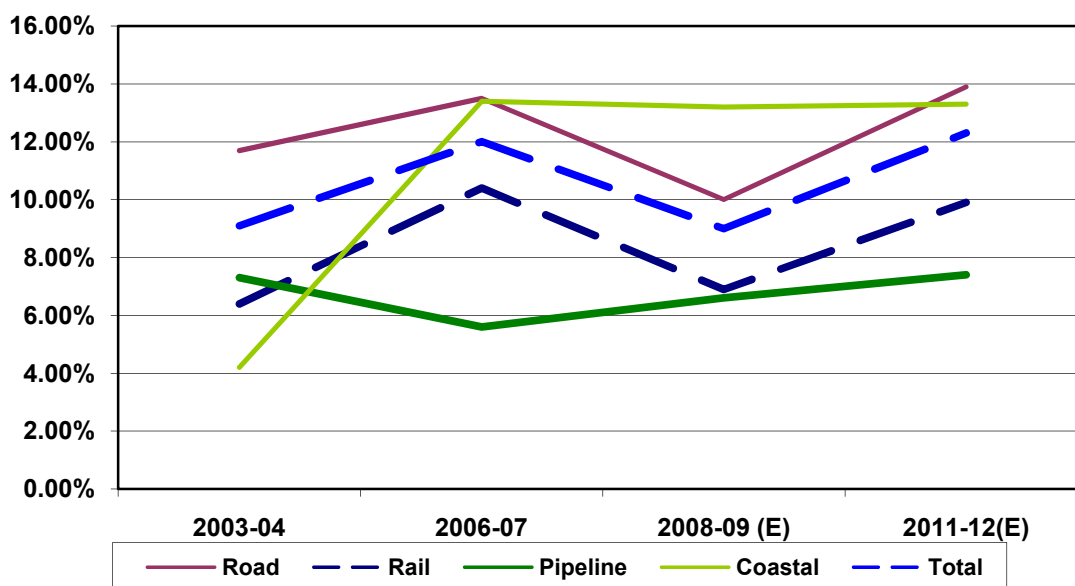
- (a) ***Investment in infrastructure to match with that of economic growth and growing transport sector*** – Indian economy has been growing at a rate of more than 8% in the recent years whereas the spending on infrastructure has not been on that growing trend. To sustain the economic growth, as per the 11th Plan, investments in infrastructure need to rise from a current 4-5% to about 8% so that it acts as a catalyser and not a hindrance. Railways being an important player in transport infrastructure thus have a big role to play.

A comparison of the growth in transport sector vis-à-vis the growth of railways, shows that the railway sector is not keeping up pace with the overall transport sector even though capacity is added. The average growth in freight movement is between 9-12% whereas the growth in freight movement of railways is between 6-9%, clearly lagging behind. This is resulting in the decrease of railways' market share from 36% in 1999-00 to an estimated 29% in 2011-12 although movement of freight would increase from 305 BTKM to 740 BTKM, an increase of 243% averaging 20% y-o-y growth. This is against a total freight increase of 300% averaging 25% y-o-y growth.

The figure below shows the growth in freight movement of various modes of transport.

Figure-6: Freight Movement in various modes of transport in percentage

Growth in freight movement of various modes of transport



A back-of-the-envelope calculation for additional investment by railway to arrest the decline in market share means that investments need to match with the growth in transport sector. Currently the investments lag behind by at least 25%, thus an additional investment of Rs. 600 – Rs. 650 Billions (\$13.33 – \$14.44 Billions) needs to be done in the XI Plan.

- (b) **Meeting capacity constraints** – Meeting capacity constraints by new infrastructure e.g. laying new tracks, doubling and quadrupling existing lines, electrification of lines, dedicated corridors for freight movements e.g. linking all ports, between important cities, etc.
- (c) **Optimisation of resources** – Indian Railways should ensure optimisation of resources both during investments and operations at all times so that one ensures value for money. Optimisation during new investments e.g. doubling of line vs. improving signaling on existing lines, diesel vs. electric lines, etc.
- (d) **Review of policy reform programme**– The time is ripe for ADB and Indian Railways to re-look at the strategies and develop a revised policy reform programme against one that was prepared in 2002-03. This should take into account the learning's of the past and be forward looking. Policy initiatives for greater commercialization and efficiency improvement have been covered in this report in a separate chapter.
- (e) **Efficiency improvement in staffing at all levels** – Optimum utilisation of staff at all levels by training, redeployment, etc. should be ensured.
- (f) **Broadbasing of PPP initiatives** – **PPP has been introduced in Indian Railways** in a big way. Once the learning's of PPP start trickling down, PPP should be broadbanded including in greenfield projects.
- (g) **Increased commercialisation of activities** – Increased importance needs to be given in commercialisation of activities. In this regard the structure of subsidies, cross-subsidies needs to be looked into.

- (h) **Implementation of reform initiatives** – Recommendations of reforms initiatives undertaken in the past e.g. accounting reforms should be implemented after careful study of the reports. Any bottlenecks for implementation should be rectified so that reforms are effective.
-

3. Railway Sector Development Plan

3.1. Policy and governing framework

Indian Railways is committed to keep pace with and stay ahead of India's GDP rate by:

- Enhancing its transportation capacity,
- Reducing unit cost of service and thereby increasing volumes, and
- Providing best in class service to its customers.

To achieve the above objectives within a limited timeframe is a herculean task and the Railways have identified two key challenges, one in the area of investments and the other in the area of its core business of logistic solutions to freight customers and passengers. The 11th Five Year Plan was drawn keeping the above mentioned objectives. The major thrust areas of 11th Five Year plan may be summarized as under:

(e) Freight Business

The Railways plan to increase their market share in both bulk and non-bulk freight traffic by improving the quality of service with reduction in transit time and better reliability and availability. The net increase in originating loading and freight output during the Tenth Five Year Plan is likely to be of the order of 234 Million Tones and 143.5 BTKMs (\$3.19 BTKMs) respectively. With a constant rate of accretion (equal to the average annual incremental growth in absolute terms during the Tenth Plan) to the base- year figures of 726 Million Tones and 476.8 BTKMs (\$10.60 BTKMs) for 2006-07, the originating loading and freight output would reach 960 Million Tones and 620 BTKMs by the terminal year of the 11th Five Year Plan. The 11th Plan freight traffic projections are shown as under:

Table-4: 11th Plan freight traffic projections

Particulars	2006 -07 (RE)	2011 - 12
Originating Loading (Million Tonne)	726.00	1110.00
Revenue NTKMs (Billion)	479.16 (\$10.65)	706.78 (\$15.71)
Lead (Kms)	660.00	637.00

(f) Passenger Business

The opening up of the economy, renewed emphasis on passenger business and the increased propensity to travel has resulted in the increase in the number of passengers. Keeping in view these factors it is expected that there will be 3 per cent growth in suburban traffic while overall passenger traffic (suburban and non-suburban) is expected to grow at the rate of 5 per cent per annum. The 11th Plan passenger traffic projections are shown as under:

Table-5: 11th Plan passenger traffic projections

Particulars	2006 -07 (RE)	2011 - 12
Originating Passengers (Million)	6242	8400
Passenger Kilometers (Billion)	700	880

(g) Capacity Enhancements

Till now the major focus of the Indian Railways was on incremental capacity enhancements but the 11th Plan will mark a significant change in the Railways' investment strategy for capacity augmentation with the announcement of a dedicated freight corridor initially covering about 2700 route Kms. equivalent to over 5000 of Track Kms. at an approximate

Cost of Rs. 220 Billion (\$4.89 Billion), linking the ports of western India and the ports and mines of eastern India to Delhi and Punjab. Other measures for enhancing capacity are as under:

- A series of new line projects are in progress; out of the 91 new line works, 14 works have already been completed and 77 works are yet to be completed
- Gauge conversion
- Doubling works
- Traffic facility works
- Logistic parks
- Electrification
- Port connectivity works

(h) Infrastructure and technology upgradation

The 11th Plan will pursue the Indian Railways Modernization Plan (IRMP), 2005-2010, for modernization of passenger and freight business segments. Technological improvements are envisaged in fixed infrastructure and rolling assets. Reduction in unit cost of operation by introducing heavier trains of 22.9t/ 25t/ 30t axle load will be pursued with greater focus. High capacity wagons with better and introducing longer freight trains on specified sections will be explored during the 11th Five Year Plan. Freight Operation Information System (FOIS) has reached the next stage where the customers will be benefited with the implementation of the Terminal Management System.

(i) Other major thrust areas of the 11th Five Year Plan are:

- Energy – Improved energy efficiency in operations by introducing energy-efficient technologies for manufacturing and maintenance activities, reducing the transmission loss in electric OHE lines and improving the fuel management in diesel locomotives
- Safety – Investments for improved safety in railways under the Special Railway Safety Fund to be completed within the initial years of Plan period
- Human Resource – Better utilisation of human resource by appropriate re-skilling and new recruitment policies
- Resource mobilization – Increased investible surplus by focusing on higher internal generation, increased public and public-private partnerships and generation of resources through leveraging and commercial exploitation of its assets.

3.2. Strengths and weaknesses w.r.t. delivery of the plan

Strengths

- (a) IR has put the reforms process and investments under fast track and keeping up the pace should not be a problem³
- (b) IR has been responsive to market needs and has been regularly introducing new schemes both in passenger and freight sectors
- (c) Creation of FBOs has been a decision in the right direction. IR should now ensure that adequate flexibility is given to these FBOs so that they can perform to their fullest.

³ Details of reforms are mentioned in chapter 4 titled “Current status of reforms and their effectiveness”

Weaknesses

- (a) The planned investments put a heavy reliance on gross budgetary resources and extra budgetary resources which if not arranged might put the investments off-track
- (b) Timely implementation of projects is a very important area to be looked into so that it does not lead to cost overruns
- (c) Internal process changes w.r.t. customer orientation, commercial exploitation of opportunities, greater flexibility to officers including decentralisation and some of the initiatives that needs to be done to supplement the ambitious plans
- (d) Safety and security in trains remains an area for greater focus.

3.3. Prerequisite policy reforms

- (a) Policy on PPP and its implementation will be required since PPP is now a major thrust area for IR
- (b) New schemes for inviting private players to invest in the Railways apart from stake in SPVs e.g. leasing and servicing in hotels, food plazas and other services
- (c) Formation of FBOs for other businesses and any other non-core activity
- (d) Incentives for timely completion and implementation of projects and relevant process improvements to ensure the same
- (e) Partnerships with State Governments for cost sharing in case of new projects.

3.4. Railway sector capacity development

- (a) Capacity development in the use of IT in internal business processes needs to be done
- (b) Capacity enhancement in workshops specially for coaches and wagons
- (c) Capacity development of IR personnel in customer orientation, use of IT and training in advanced technologies.

3.5. Investment program

Indian Railways is well placed to make heavy investments for the expansion of the network, modernization and upgradation of the technology and for providing world class facilities to the customers in the coming years. For this purpose, IR has made a plan to invest Rs. 2,510 Billion (\$55.78 Billion), within the next 5 years. For funding a large portion of this plan, use of internal resources and borrowings will be resorted to by IR. However it would be difficult to finance such a large investment programme solely from Railways own resources. Therefore, railways have started many PPP schemes for attracting an investment of Rs. 1,000 Billion (\$22.22 Billion) over the next 5 years. These will include projects for provision of world class facilities at stations in metro cities, setting up state of the art rolling stock production units and construction of multi-modal logistics parks amongst others. Apart from the regular projects of doubling, new lines, gauge conversion, some of the important on-going/ planned capital investment projects are as follows:

(a) Dedicated Freight Corridor

Railways have planned to construct a new Dedicated Freight Corridor (DFC), initially covering about 2700 route Kms. equivalent to over 5000 of Track Kms. at an approximate cost of Rs. 220 Billion (\$4.89 Billion), linking the ports of western Indian and the ports and mines of Eastern India to Delhi and Punjab. The construction of this corridor will be implemented through an SPV namely Dedicated Freight Corridor Company of India limited (DFCCIL) for the purpose.

(b) Setting up of manufacturing units for locomotives/ coaches/ wagons on PPP basis

With a sustained economic growth and the resultant demand for rail transport, the requirement of rolling stock has increased manifold.

Coaches/ EMU - The requirement of coaches/ Electrical Multiple Units is projected at 22,689 vehicle units for the 11th Five Year Plan. The gap of about 5750 units between the requirement and the combined capacity of the two Production Units at Integral Coach Factory, Perambur and Rail Coach Factory, Kapurthala (around 2500 - 3000 per annum) is planned to be bridged by augmenting the existing capacity of these Production Units and setting up a new manufacturing unit through a Joint Venture under PPP.

Locomotives

Diesel Locomotives - The requirement of Diesel Locomotives has been projected at 1800 during the 11th Five Year Plan. The existing in-house capacity for the manufacture of this locomotive is presently 150 per annum and is being augmented to 200 per annum. The gap between the requirement and capacity is planned to be bridged by setting up locomotive manufacturing units, through PPP.

Electric Locomotives - The requirement of Electric Locomotives has been projected at 1800 during the 11th Five Year Plan. The existing in-house capacity for the manufacture of this locomotive is presently 150 per annum and is being augmented to 200 per annum. The gap between the requirement and capacity is planned to be bridged by setting up locomotive manufacturing units, through PPP.

(c) Port connectivity works and other infrastructure projects through Rail Vikas Nigam Limited (RVNL)

RVNL has been mandated to undertake capacity augmentation works and port connectivity projects by establishing Special Purpose Vehicles (SPVs). Some of the projects undertaken or under consideration of RVNL include Palampur – Gandhidham gauge conversion project (linking Kandla and Mundhra ports to North India), Haridaspur – Paradeep New Line (linking iron ore mines of Orissa and Jharkhand to Paradeep port) and Obulavaripalli - Krishnapatnam – New Line Project linking the Krishnapatnam Port of Andhra Pradesh.

(d) Catering services, Budget Hotels and Food Plazas

Indian Railway Catering and Tourism Corporation (IRCTC) has already been mandated to develop catering services, budget hotels and food plazas at major stations through the involvement of private entrepreneurs. Letters of acceptance have been issued for two Budget Hotels at Madurai and Vijayawada. IRCTC intends to take up around 100 such Budget Hotel projects in the next five years with Public Private Partnerships (PPP).

(e) Establishment of Captive Thermal Power Plant at Nabi Nagar

Indian Rail Bijli Company Limited has been incorporated as a joint venture with NTPC to set up a 1000 MW Railway Captive Thermal Power Plant in Nabinagar.

(f) Mumbai Urban Transport Services Phase I and II

The MUTP Phase I work for upgradation and expansion of Mumbai's suburban services, being undertaken with the assistance of World Bank is under progress. The third and fourth line between Borivali and Virar on Western Railway has been opened to passenger traffic. Latest technology EMU rakes with better ventilation, lighting and aesthetic designs equipped with dual voltage have been introduced in Mumbai. IR also proposed to start the Phase II

work with an investment of Rs. 50 Billion (\$1.11 Billion) MUTP Phase II project will be financed jointly by Railways, State Government and through assistance of multi-lateral funding. MUTP Phase I will be completed by December 2009 and plans have been drawn to complete Phase II during the 11th Five Year Plan.

3.6. Approach to financing

The Indian Railways investment plans are financed through five means of financing namely (i) Capital from General Exchequer; (ii) Internal Generation; (iii) Railway Safety Fund (Railway's share out of diesel cess); (iv) Special Railway Safety Fund; and (v) Market Borrowings. Apart from the regular five sources, Indian Railways has also opened-up and has invited partnership from private parties in a big way. Participation is being sought both for operations and new investments, which includes concessions of a particular route, minimum off take guarantees, etc.

The total plan outlay for the 11th Plan which is at Rs. 2,510 Billion (\$55.78 Billion) is to be financed from the following sources (base case scenario):

Gross Budgetary Support	860 Billion (\$19.11 Billion)
Internal Resources	900 Billion (\$20.00 Billion)
Extra Budgetary Resources*	750 Billion (\$16.67 Billion)
Total	2,510 Billion (\$55.78 Billion)

* *The Extra Budgetary Resources is sought to be funded through a variety of sources including Market borrowing through IRFC, Japanese Funding for DFC, Debt and Equity participation raised by RVNL/ other SPVs to finance projects, Cost sharing by State Governments/ Government agencies, Viability Gap funding, Wagon Investment Scheme (WIS), Rolling Stock leased from manufacturers and Public Private Partnership (PPP) – BOT, BOLT etc.*

New policy initiatives in the recent past include schemes like Container Policy Liberalization, Wagon Investment Scheme, Rail-side Warehousing Scheme, Liberalisation of Siding Rules, Terminal Incentive Scheme and Freight Incentive Schemes (*Details of these schemes is mentioned in Annexure I*). The container business has also been opened up for private participation. Two important steps taken by IR are worth mentioning:

(a) Public – Private Partnership

'Public-Private Partnership' or 'PPP' as it is popularly known is by far the biggest leap taken by the Governments at various levels in involving technical expertise available outside their system and more importantly leveraging its position as an employer and providing an opportunity to the private sector to be involved in nation building. PPP has ensured the Government of 'buying' services with a minimum performance levels, thus making them deliver their responsibilities and in the process save costs through competitive procurement. PPP has also provided an opportunity to the private players to be involved with projects executed by the Government and bring in latest technologies, innovative structuring of projects and more importantly quality in service delivery. Thus, this has been a win-win situation for both sides, with each other congratulating on success of the project and in the process the winner has always been the consumer i.e. the common citizen.

Indian Railways has been stressing much on the PPP mode of delivery both in new investments and operations. A dedicated PPP Cell has been formed in IR for this purpose. It has had varying degrees of success in the past with PPP initiatives e.g. 'own-your-own-

wagon”, BOLT in other investments, etc. In the Budget Speech of 2007, the Railway Budget has invited PPP in the following areas:

- 1. Development of Freight Terminals** - Development and upgradation of freight terminals (*Railway Budget reference – Para no. 11*)
- 2. Operation of container trains by private parties** - Private operators have been allowed to manage rail-borne container services on Indian Railways. Concession agreement setting out the terms of such operation has been signed with 15 private operators. The private operators have inducted 45 rakes and built 3 ICDs at Garihassru, Patli and Loni (*Railway Budget reference – Para no. 16*) – 16 parties had applied till now and Rs 640 crores received as registration fee. Agreements have been signed with all the 16 Container Train operators, out of which operations have been started by 11 parties
- 3. Construction of High Speed Passenger Corridor** - Conduct pre-feasibility studies for construction of high speed passenger corridors (*Railway Budget reference – Para no. 40*) - *The consultant is expected to start field work from end of November, 2008*
- 4. Use of IT in the Railway services** – Developing an integrated approach in IT (*Railway Budget reference – Para no. 43*) – *CRIS is the agency assigned for this purpose.*
- 5. World Class Railway Stations** - Railway Stations at metropolitan cities and important tourist centres would be modernized to provide world – class passenger amenities and services (*Railway Budget reference – Para no. 45*) - *Ministry of Railways has identified 26 stations located at metropolitan cities and major tourist centres for development through PPP route by leveraging a part of the real-estate development potential. Fresh bids from developers have been invited whose date for submission is 10 December 2008.*
- 6. Various projects of Railways** - Development of agro retail outlets and supply chains, construction of multi-modal logistic parks, warehouses and budget hotels and expansion of network and increase in production capacity (*Railway Budget reference – Para no. 45*) - *A comprehensive policy for setting up of logistic parks on private land, to begin with, is under formulation. W.r.t. budget hotels, RLDA is already in the process of appointing consultants for undertaking a feasibility study for various parcels of land.*
- 7. Staff Welfare** - Development and maintenance of staff colonies (*Railway Budget reference – Para no. 53*)
- 8. Development of capacity on high density network by RVNL** - Expansion of network which are linked to a particular port or factory (*Railway Budget reference – Para no. 63*) – *RVNL is in the process of taking on such works on a regular basis. Wherever projects are feasible, private parties are called for participation by the formation of a SPV.*
- 9. Setting up of Wagon, Bogie Complex at Dalmianagar** – Setting up of an industrial complex for the manufacture of higher axle load wagons, production of new technology bogies, couplers and draft gears (*Railway Budget reference – Para no. 83*).

In the last Budget of 2008, PPP finds a mention in the following paras:

- 1. Rail ticket on “Go Mumbai Card” in Mumbai Suburban Service** – Issue of rail and Bus tickets (*Railway Budget reference – Para no. 17*).
 - 2. PPP in Port Traffic** – Involving PPP in establishing connectivity between ports (*Railway Budget reference – Para no. 43*) – *5 new port connectivity projects for a total of 171 Kms.*
-

having a project value of about Rs. 34 Billion (\$761 Million) is under consideration and in different stages.

3. **Door to Door Logistics Services** – Providing modern facilities for logistics, handling facilities, warehousing and multi-modal logistic parks (*Railway Budget reference – Para no. 61*). - *A comprehensive policy for setting up of logistic parks on private land, to begin with, is under formulation.*
4. **New investments** – PPP in new investments in metro services, rolling stock production units and multi modal parks to the tune of Rs. 1,000 Billion (\$22.22 Billion) in the next 5 years is envisaged (*Railway Budget reference – Para no. 66*). – *Projects For setting up of new locomotives is underway with bid opening dates by manufacturers in Nov/ Dec 2008.*
5. **Security** – Setting up of an integrated and state of the art security systems at important stations (*Railway Budget reference – Para no. 67*). – *General Managers of respective zones have been taking appropriate action for adequate security e.g., installation of closed circuit cameras, etc.*
6. **Energy conservation** – Replacement of all bulbs in staff quarters by CFLs (*Railway Budget reference – Para no. 94*). – *Procurement process for the same has been started and tender inviting parties for supply of CFLs issued.*

Progress under the various announcements is in various stages of progress, as mentioned against each point, and regularly monitored by the respective departments. A status report of the various announcements made in the Budget is also prepared while preparing the next year's budget. Thus Indian Railways has been going forward with initiatives in PPP in almost all areas of operation.

(b) Focused business organisations

Railway has been undertaking internal reforms for operational efficiency by taking a bold step and carving out some operations into separate Special Purpose Vehicles (SPV). This has led to the immense benefits, some of which are as follows:

- Achievement of operational efficiency
- Commercial and business-like focus in operations
- Independence in taking decisions
- Focus on the specific business both within and outside the organisation
- Ease in forming alliance with private partners
- Easily measurable performance indicators

To name a few, Indian Railways has formed the CONCOR, Rail Vikas Nigam Limited (RVNL), Railtel (for telecommunications), Indian Railways Catering and Tourism Corporation Limited (IRCTC), Rail Land Development Authority for some of their specific business needs.

3.7. Sequencing of the investment plan

Overall investment plan

The 11th Plan document has indicated the break-up of the investment in various Plan Heads. The table below shows the heads in detail:

Table-6: Break-up of 11th Plan document in various Plan Heads

Figures in Billions					
Head	Plan Head	X PLAN Expenditure	%	XI PLAN outlay	%
11	New Lines	92.02 (\$2.04)	10.86%	160.00 (\$3.56)	6.37%
14	Gauge Conversion	62.40 (\$1.39)	7.37%	187.00 (\$4.16)	7.45%
15	Doubling	34.61 (\$0.77)	4.09%	190.00 (\$4.22)	7.57%
16	Traffic Facilities - Yard Remodeling	16.23 (\$0.36)	1.92%	75.00 (\$1.67)	2.99%
17	Computerisation	6.08 (\$0.13)	0.72%	52.00 (\$1.15)	2.07%
18	Railway Research	0.71 (\$0.02)	0.08%	4.25 (\$0.09)	0.17%
21	Rolling Stock*	268.07 (\$5.96)	31.65%	594.75(\$13.22)	23.70%
29	Road Safety - Level Crossing	6.41 (\$0.14)	0.76%	10.00(\$0.22)	0.40%
30	Road Safety - Rob Rub	8.63 (\$0.19)	1.02%	110.00(\$2.45)	4.38%
31	Track Renewals	153.63(\$3.41)	18.14%	231.65(\$5.15)	9.23%
32	Bridge Works	17.40 (\$0.39)	2.05%	28.95(\$0.65)	1.15%
33	Signaling & Telecom Works	44.47 (\$0.99)	5.25%	120.00(\$2.67)	4.78%
35	Electrification Projects	8.10 (\$0.18)	0.96%	35.00(\$0.78)	1.39%
36	Other Electrical Works	7.87 (\$0.17)	0.93%	34.60(\$0.77)	1.38%
41	Machinery & Plant	8.27 (\$0.18)	0.98%	22.00(\$0.49)	0.88%
42	Workshops including Production Unit	12.62 (\$0.28)	1.49%	101.00(\$2.24)	4.02%
51	Staff Quarters	3.24 (\$0.07)	0.38%	10.85(\$0.24)	0.43%
52	Amenities for Staff	4.16 (\$0.09)	0.49%	14.55(\$0.32)	0.58%
53	Passenger & Other Users Amenities	12.35 (\$0.27)	1.46%	35.00(\$0.77)	1.39%
62	Investment in PSUs**	37.23 (\$0.83)	4.40%	410.00(\$9.10)	16.33%
64	Other Specified Works	7.66 (\$0.17)	0.90%	10.00(\$0.22)	0.40%
81	MTP	14.50 (\$0.32)	1.71%	47.50(\$1.05)	1.89%
71	Inventories	20.41 (\$0.45)	2.41%	25.90(\$0.57)	1.03%
	Total	847.08 (\$18.80)	100.00 %	2,510.00(\$55.77)	100.00 %

*This comprises Rs. 33.36 billion (\$0.74 billion) for payments of capital component on leased assets

** This comprises of Rs. 90 billion (\$2 billion) as equity for DFCCIL, Rs. 180 billion (\$4 billion) assistance from JBIC and other sources for DFC project, Rs. 40 billion (\$0.89 billion) for other PSUs including RVNL and the balance of Rs. 100 billion (\$2.22 billion) for High Speed Passenger Corridor

Important points to note above are as follows:

- The planned expenditure has increased from Rs. 847.08 Billion (\$18.82 Billion) to Rs. 2,510 Billion(\$55.77 Billion), an increase of almost 3 times.
- Focus in rolling stock is being continued with maximum budget being allocated towards the same
- Focus on FBOs and investments in them have been given focus with an increase of almost 11 times. This includes investments in the DFCs and other high speed passenger corridors
- IR has increased budget for its workshops and production units by almost 8 times
- Road safety has been given much importance with an increase of almost 13 times, the maximum amongst any plan heads.

Year-wise sequencing plan

The year-wise spending of X Plan Expenditure has been in the range of 13% to 30% of the total planned expenditure with an annual compounded growth rate of about 22%. The year-wise growth in expenditure has been in the range of 15-36%. The table below shows the year-wise details:

Table-7: Year-wise expenditure trend for X Plan

Year	Total (Rs. Billion)	% of Total	Growth % over previous year
2002-03	114.08(\$2.54)	13%	
2003-04	133.93(\$2.98)	16%	17%
2004-05	154.22(\$3.43)	18%	15%
2005-06	188.38(\$4.19)	22%	22%
2006-07 (RE)	256.47(\$5.70)	30%	36%
Total	847.08(\$18.84)	100%	22% (CAGR)

Since no figures are available for XI Plan's year-wise sequencing, projections have been done assuming a growth of 22% year-on-year in the XI Plan expenditure across the five years. Figures for 2007-08 and 2008-09 have been taken from the Railway Budgets and balance figure after 22% year-on-year growth has been distributed across the last three years in their respective proportions. The year-wise projections are as follows:

Table-8: Projected year-wise sequencing of XI Plan expenditure

Year	Projected expenditure	% of Total	Growth % over previous year
2007-08 (RE)	310.00(\$6.89)	12%	
2008-09 (BE)	375.00(\$8.33)	15%	21%
2009-10	490.00(\$10.89)	20%	31%
2010-11	600.00(\$13.33)	24%	22%
2011-12	735.00(\$16.33)	29%	22%
Total	2,510.00(\$55.77)	100%	24% (CAGR)

4. Current Status of Reforms and their effectiveness

An update on the on-going reform process in IR is as follows:

Table-9: Current Status Of Reforms and their effectiveness

Sl. No.	Reform	Current status and effectiveness
1	Creation of FBOs	<p>Current Status - Indian Railways has created FBOs based on specific requirement for such organisations from time to time. Some of these organisations are CONCOR, RVNL, IRCTC, RLDA, etc. These organisations have been given adequate financial powers and autonomy to function on a commercial basis. The formation of FBOs is a continuous process and proposals for formation of new FBOs are taken up on a regular basis and on merit.</p> <p>Effectiveness – Creation of FBOs has been a pioneering concept by IR. This has helped it to have best of both the worlds i.e. focus on specific operations and Government control. IR has also been able to do limited corporatisation under the aegis of these FBOs. Creation of FBOs has also assisted in the outsourcing of the non-core activities.</p> <p><i>Case of IRCTC which has led to better service, more efficiency and higher revenue has been discussed in Annexure 2.</i></p>
2	Strengthening of commercial orientation of Zonal Railways	<p>Current Status - IR has done delegation of power in favour of General Managers at zonal level. They are encouraged to take initiative and take up new activities for revenue generation. In case the activity falls under the delegation of power, the General Managers can take requisite action. However if it is outside their power, they can move a proposal to the Railway Board for approval. Revenue generation activities e.g. branding of trains is one such revenue generating activity.</p> <p>Effectiveness – Commercial orientation of General Managers at Zonal level is a step in the right direction for decentralisation. Powers to explore avenues for commercial gains have been given and are used by some GMs. Some trains originating from New Delhi have been branded by private parties.</p> <p><i>Case of Parcel Van leasing which has led to better service, more efficiency and higher revenue has been discussed in Annexure 2.</i></p>
3	Outsourcing of non-core activities: i.e. catering, bed-rolls, etc.	<p>Current Status - Out-sourcing of non-core activity is being done. However it is not said in so many words because of political and union compulsions. Activities like catering have been given to IRCTC with a transfer of the entire business alongwith staff. Activities like bed-rolls are being out-sourced to contractors. IR is in the process of out-sourcing non-core activities.</p> <p>Effectiveness – Outsourcing of non-core activities has been done effectively by IR so that focus remains on the main function of</p>

Sl. No.	Reform	Current status and effectiveness
		<p>operating trains. The outsourcing of non-core activities like catering, ticketing and bed-rolls has also brought in competition and efficiency in operations.</p> <p><i>Case of outsourcing of linen management which has led to better service and more efficiency has been discussed in Annexure 2.</i></p>
4	<p>Manufacturing facilities with private sector participation</p>	<p>Current Status - Ministry of Railways has initiated setting-up of manufacturing facilities with private sector participation. These are as follows:</p> <ol style="list-style-type: none"> a) Diesel Locomotive – This is being set-up on a Joint Venture basis. Currently the project has gone for a re-bid b) Electric Locomotive – This project is being taken up by the Railways itself c) Coach factory - This is being set-up on a Joint Venture basis d) Wheels factory - This project is being taken up by the Railways itself by appointment of an EPC contractor <p>Thus, Railways has started looking at private sector participation in setting-up factories. The private sector has also responded positively to the propositions.</p> <p>Effectiveness – The step taken by IR is no doubt bold and pioneering. The manufacturing facilities on a PPP basis will bring in cutting edge technology and assist in increasing efficiency in manufacturing facilities. However since the facilities are yet to be set-up, measurement of the effectiveness would be done then.</p> <p><i>Case of Pipava Port which has led to better service, more efficiency and higher revenue has been discussed in Annexure 2.</i></p>
5	<p>Other initiatives on a PPP basis e.g.:</p> <ul style="list-style-type: none"> • Budget hotels, Food plazas • Captive thermal power plant • Development of railway stations • Captive cement plant • Commercial development of land 	<p>Current Status - IR has initiated many activities on a PPP basis. The Railway Minister has mentioned of a number of initiatives being taken up on a PPP basis in his Budget speeches. Some of them are as follows:</p> <ul style="list-style-type: none"> • IR is contemplating setting up of budget hotels on land owned by it. It has already initiated the process through IRCTC. RLDA has been given the mandate to further pursue this activity • Advertisements for inviting consultants to develop the major railway stations are already issued. 4 such stations are being taken up in the first phase • IR has also taken up the commercial development of vacant land owned by it on a large scale. RLDA has been given the mandate for issuing RFPs and inviting consultants. Currently 10 such land parcels have been identified and the bidding process for appointment of consultants is on. <p>Effectiveness – Initiatives on a PPP basis are a welcome step. PPP in non-core operations will definitely bring-in efficiency in operations. However since these PPP transactions are in various stages of completion, their effectiveness would be measured once the projects start.</p>

Sl. No.	Reform	Current status and effectiveness
6	PPP Cell – Role, functions	<p>Current Status - A PPP cell has been formed in the Railway Board to advice on specific issues of PPP. This is a cell that has taken up the transactions for manufacturing facilities with private sector participation.</p> <p>Effectiveness – Formation of a PPP cell is an important step in the right direction. The Cell is currently doing specific transactions. Graduation of the cell to a higher policy making body level will increase its effectiveness.</p>
7	Concessioning of loss making branch lines to private operators	<p>Current Status - There has been almost no progress on the proposal to give concession of loss making branch making lines to private parties. The hill lines might be taken up because of tourist potential. However no action seems to have been initiated. This can be taken up by IR atleast to reduce losses if not to generate profits.</p> <p>Effectiveness – Since no action has been taken, this is not relevant.</p>
8	Reengineering of Internal Business Processes and Customer Interface – Consulting services to redesign and simplify processes	<p>Current Status - IR has given a consultancy to the Railway Staff College in association with IIM, Ahmedabad and IIT, Mumbai very recently.</p> <p>Effectiveness – Since the study has just been awarded, this is not relevant.</p>
9	Institutionalise Improved Investment Planning and Selection – Consulting services to strengthen investment planning tools	<p>Current Status - The LRDS needs to be implemented for all decision making process by renewing its software license.</p> <p>Effectiveness – The software was assisting immensely in taking investment decisions. Its effectiveness will continue once the software license will be renewed. IR should also plan its new lines especially for freight, in conjunctions with plans by other Ministries/ corporates e.g. coal, port links, etc.</p>
10	Dedicated Freight Corridor - Progress	<p>Current Status - IR has formed a FBO for dedicated freight corridor by forming the DFCCIL. The East (Kolkata – Delhi) and West (Mumbai – Delhi) corridors have been sanctioned but contracts are yet to be awarded. A third corridor of Chennai to Goa is also being planned.</p> <p>Effectiveness – Since the freight corridors are yet to come up, this is not relevant.</p>
11	Initiatives in IT being currently undertaken	<p>Current Status - It has been taken up on a big way in IR. However an integrated approach needs to be taken for an enterprise wide implementation of IT especially in internal</p>

Sl. No.	Reform	Current status and effectiveness
		<p>business processes. Implementation of IT in areas like freight, parcels, claims, tracking of consignments are some of the probable areas.</p> <p>Effectiveness – The initiatives taken up by IR in the introduction of IT in operations has been highly effective e.g. computerised passenger reservation system, internet booking and e-payments. The initiatives need to be backward integrated with internal processes to make it more effective.</p>
12	Initiatives in safety and security being implemented	<p>Current Status - IR has been very concerned about the safety and security of its passengers and goods. The safety fund of 170 Billion (\$3.78 Billion) created has been utilised. This is a continuous process and IR is taking care of this on a regular basis.</p> <p>Effectiveness – The safety measures taken up by IR have been highly effective. Train accidents came down from 473 in 2000-01 to 234 in 2005-06 and train accidents per million train kilometers has also come down from 0.65 in 2000-01 to the order of 0.26 in 2005-06. Since the inception of the Safety Fund in 2001-02 Rs. 129.65 Billion (\$2.88 Billion) have been spent until March 2006. For the year 2006-07, an allocation of Rs. 22.40 Billion (\$497 Million) had been made under the Fund. As per the declared objectives of the special railway safety funds, the accumulative arrears of removal of assets are to be liquidated by the end of 2006-07. In the Eleventh plan not only the arrears of renewals would be completely wiped out but also renewals due in a year would also be sanctioned, funded and executed.</p>
13	Revision of Policy reform programme	<p>Current Status - The reform programme initiated by IR has reached a certain level with very good initiatives. Now what is required is to take it to the next level by building on the initiatives being currently undertaken.</p> <p>Effectiveness – The earlier reform programme has been effective to the extent it could be implemented by IR. Both ADB and IR should now take this to the next level that will focus more on internal business process engineering, IT and increasing commercialisation.</p>
14	Accounting Reforms	<p>Current Status – A two day workshop was held in September 2008 to discuss the pending points between the consultants and IR on the Draft Final Report. Subsequently the way forward was discussed between the consultants, IR and ADB during the ADB Mission visit in November 2008. However all timelines for reports has passed and once the project restarts, the timelines will have to be reworked. However IR has taken some initiatives on its own w.r.t. better accounting and disclosure. Some of these are as follows:</p> <ul style="list-style-type: none"> • In conformity with Accounting Standards, the finance lease payments to IRFC are now being recognised separately as interest and capital as against revenue expenditure in earlier

Sl. No.	Reform	Current status and effectiveness
		<p>years. This has resulted in identification of assets at their full value, charging of yearly depreciation and loan repayment not being charged to revenue. This change in the accounting policy has effected a reduction of approx. Rs. 16 Billion in the operating expenses</p> <ul style="list-style-type: none"> • The income from strategic and uneconomical lines is now being recognised as ‘Other Income’ rather than reducing it from the related expenditure. This has resulted in showing the actual income and expenditure against the specific lines • A computerisation programme for accounting processes has been launched by IR. The programme named Accounting Information & Management System (AIMS) is conceptualized as a centralised web enabled system that will be implemented at all the accounting units e.g. divisions and workshops. The AIMS software will have accounting and payroll modules. • Indian Railways has initiated development of its own accounting standards based on the International Public Standards Accounting Standards (IPSAS). Two Exposure Drafts have been issued which are as follows: <ul style="list-style-type: none"> ○ Indian Railway Accounting standard (IRAS) I – Presentation of Financial Statements - The purpose of the standard is to prescribe the manner in which general purpose financial statement should be presented under the accrual basis of accounting, while distinctly maintaining the feature of cash basis Government Accounting (based on IPSAS 1 – Presentation of Financial Statements) ○ Indian Railway Accounting Standard (IRAS) 2 — Cash Flow Statement - The cash flow statement identifies the sources of cash inflows, the items on which cash was expended during the reporting period, and the cash balance as at the reporting date. Information about the cash flows of Railway is useful in providing users of financial statements with information for both accountability and decision making purposes (based on IPSAS 2 -Cash Flow Statements). <p>Effectiveness – Some of the measures taken up by IR have been fruitful. The financial turnaround of IR has been achieved with a combination of revenue increasing measures and change in accounting policies. However fundamental changes to the accounting processes alongwith computerisation are the call of the day to increase effectiveness.</p> <p>The on-going reform project is directed towards better financial management including accounting on a commercial basis and activity based costing leading to better pricing, identification of unfeasible lines and assessment of the subsidy in specific areas/ lines amongst others.</p>

Sl. No.	Reform	Current status and effectiveness
		<p>Way Forward – On the way forward in the area of accounting reforms, IR can target the following actions other than bringing the on-going project back on rails:</p> <ul style="list-style-type: none">• Targeting better accounting and disclosure in the FBOs created by IR• Computerisation of existing processes• Identification of areas where accounts is not in compliance with the Accounting Standards of India and filling those gaps.

IR has further initiated studies in the following three areas:

1. Study of the feasibility of creation of the parcel business as a FBO – The study is under progress by the consultants and Inception Report would be submitted shortly
2. A complete study on the stores procurement and its management – Inception Report has been submitted by the consultants and comments received from IR
3. Detailed study on the following three reform areas out of eight proposed by the reform consultants⁴ has been selected and would be carried out by them. These are as follows:
 - a. Changes of policies in the freight structure and its impact
 - b. Effect of extra loading of wagons on tracks and rolling stock
 - c. Assessment of the PPP initiatives.

Work has not initiated on these selected areas due to certain contractual issues.

⁴ The reform consultants are CRISIL Infrastructure Advisory appointed by ADB under the ADB TA No. 4053-IND: Management Consulting Services to Indian Railways under the Railway Sector Improvement Project

5. New Efficiency Improvement Measures

5.1. PPP cell

Indian Railways has formed a PPP cell at the Board level to guide in the initiatives of Indian Railways on PPP. This is a very good and welcome initiative of Indian Railways so as to bring in all the knowledge within a group of people who would become specialists in this area. However, the existing responsibilities of the PPP cell are concentrated at a transaction level rather than at a more policy and strategic level. There is a need to broaden the role of the PPP cell to bring in focus in its functioning. Some of the points that can be taken care-of are as follows:

- a) Clarifying the role and objectives of PPP cell
- b) Strengthening of the PPP cell by drawing of officers from all departments
- c) Providing strategy level guidance and assistance in big PPP projects and not only at transaction level
- d) Role of PPP cell can include development of model agreements, Draft Concession Agreements, empanelment of consultants
- e) W.r.t. individual transactions, Transaction Group can be formed which can then work with the PPP cell
- f) Sharing of experiences of related PPP transactions in other sectors and countries
- g) Regular training of officers and sharing of experiences on PPP within Indian Railways e.g. a PPP module at Staff Training Colleges

Indian Railways can also look at the formation of PPP Cells at Zonal levels who would work on PPPs till a certain value and take regular guidance from their counterparts at the Board level.

5.2. PPP policy document

Indian Railways has been banking on a variety of PPP projects. PPP is no more just a buzz word but a reality in Indian Railways. Projects in functions of operations in non-core activities, manufacturing facilities and others are now under some or the other PPP arrangement. The Railway Budget has been on a high on account of PPP and has initiated PPP in a number of areas. However, there is no comprehensive policy document on PPP. In the absence of a policy document, things are always very subjective and left to the interpretation of implementing officers. This also delays the process since no one wants to take any responsibility and everything has to be approved by the top-most authority. Even in case of a failure the entire onus shall be put on the approving authority. Thus a policy always helps which can be based on principles rather than rules. The documents can be a living document and updated on a regular basis, based on experiences. Suggested contents of the policy document are as follows:

- a) Background for PPP in IR
- b) Principles for PPP in IR e.g. participation of private parties, areas for participation, process for selection, etc.
- c) Suggested process for PPP
- d) Approval process
- e) Model documents and empanelment of consultants
- f) Frequently Asked Questions

5.3. Increased use of technology

Indian Railways has been working on the aspects of increased use of technology in performing its functions both in passenger as well as freight services. However, there are areas where increased use of technology can be done to increase efficiency. Some of them are as follows:

- Use of technology in parcel loading and unloading, at freight terminals,
- Maintenance of rolling stock, tracks, etc.

IR should undertake feasibility study for the above-mentioned areas and a separate study to identify similar areas.

5.4. Increased use of IT

Indian Railways has been using IT increasingly in its operations. The responsibility has been given to CRIS and the Directorate of Computerisation & Information Systems within the Ministry of Railways. Indian Railways uses the models of both demand push and supply pull w.r.t. the needs of Departments. The Departments come up with specific requirements for computerisation of their services to CRIS (supply pull) and CRIS on its own also develops modules for Departments for computerisation (demand push). Indian Railways had first started computerisation of services which have a customer interface e.g. Passenger Reservation System (PRS) and now the FOIS (two modules namely Rake Management System and Terminal Management System). It has now graduated to areas for backward integration of the computerised systems e.g. Workshop Information System integrated with the FOIS, Accounting Systems integrated with PRS and FOIS, etc. Indian Railways has been a pioneer in computerised ticketing service and now the same has been extended to internet ticketing, e-payments and services on mobile. Indian Railways is also taking various other initiatives on a pilot basis e.g. use of RFID tags for wagon tracking in East Coast Railways.

The initiatives taken-up by Indian Railways are no doubt laudable and commendable keeping in mind the complexities and scale of operations. To consolidate the efforts and bring in focus, it is recommended that the following can be taken-up by Indian Railways:

- **Development of an IT strategy** – An IT strategy document will chart out the vision of computerisation in the next 10-15 years and identify important operations that will be IT enabled. This will help all the Departments to focus their energies in one direction rather than doing things on their own. The IT Strategy document will also assist in monitoring the progress of computerisation over the years.
- **Small grant programme to support initiatives by individual employees within Indian Railways** – To encourage initiatives and support the same, Indian Railways can create a small grant programme wherein a small grant would be provided to employees to initiate and test their innovations in any IT effort. In case the same is successful, Indian Railways can then take-up the same for large scale operations. An award for the best initiative can also be instituted.
- **Focus on internal processes** – The time is ripe for Indian Railways to focus on computerisation of internal processes e.g. accounting, costing, fixed asset management etc.

5.5. Incentivisation of academic and research institutions

Indian Railways through the RDSO has been working with various academic and research institutions in the past. The notable ones amongst them are as follows:

- IIT, Kanpur, in undertaking various research and developing designs and standards for in-house use
-

- 12 projects under Technology Mission for Railway Safety, jointly funded by Ministry of Human Resources and Ministry of Railways
- Appointment of a Chair on vehicle dynamics at IIT, Roorkee
- Appointment of two more Chairs at IIM, Ahmedabad and IIM, Bangalore.

Indian Railways has also recently set-up a multi-departmental **Innovation Promotion Group (IPG)** in the Railway Board. It is proposed that the Innovation Promotion Group will interact with national and international Railway organizations, industries, universities, institutes of repute, Railway-men, Railway customers and citizens to promote innovations. The IPG has been set-up with the following objectives:

- Improvement in system efficiency and productivity of resources
- Enhancement of the throughput capacity of the existing system
- Achieving better customer satisfaction with value addition to customer services
- Introduction of modern systems and technologies
- Improvement in reliability and reduction in maintenance costs.

The IPG has invited innovations and suggestions from one and all to achieve the above objectives. To increase the effectiveness of such initiatives, it is recommended that Indian Railways can adopt the following strategies:

- Provide incentives and enter into commercial arrangements with such institutions
- Partner with both national as well as international institutions for innovation
- Partner with national and international research organisations and enter into commercial arrangements
- Develop a Statement of Intent for the IPG stating the objectives, activities and workplan
- Identifying such institutions on a proactive basis and enter into innovation promotion agreements.

5.6. Implementation of a Monitoring, Evaluation and Learning (MEAL) system in project appraisals

Indian Railways appraises and implements projects to the tune of billions on a yearly basis. There are also set methodologies and benchmark figures that are used during project development and appraisal. However it is not known how much of the experience of previous projects is built-in while developing or appraising new projects. In fact even during implementation, learning's from previous projects should be utilised. Indian Railways should take the following measures:

- Institutionalize the process of regular evaluation and learning's programme for all implemented projects
- Implementation of an IT enabled project tracking software to be used frequently by Indian Railways for this purpose
- Regular revision of methodologies and benchmarks based on the learning's.

5.7. Procurement and contract management

The XI Plan identifies investments to the tune of almost 3 times as compared with the last 5 year plan. Out of this almost 20-30% of projects would be implemented on a PPP route. This means that IR has to strengthen its capability for contract management, especially in cases of PPP. Some of the recommended measures are as follows:

- Entering into long term agreements with manufacturers,
 - Assigning more projects to RVNL
 - Detailed study of the procurement system and identification and removal of bottlenecks
 - Use of more IT enabled procurement process e.g. e-tendering, e-bidding, etc.
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6. New Measures for Greater Commercialisation in Indian Railways

6.1. Creation of an FBO for parcel business

The parcel business in Indian Railways currently falls under the coaching services. Indian Railways has taken initiatives in divesting functional responsibilities of marketing, booking and dealing with retail customers w.r.t. parcel business with the leasing out of parcel vans to 'contractors'. These contractors pay a bulk amount to Indian Railways and in turn book parcels from retail customers. Indian Railways has restricted itself to carrying the goods only. However it has been seen that the entire focus of Indian Railways on the parcel business has somewhat not been adequate. There is a need to provide specialised marketing efforts, customer-friendly policies, tie-ups with large courier/ parcel companies and providing state-of-the-art booking and tracking services. Indian Railways can also analyse the feasibility of having separate parcel trains if there is adequate business. Parcel business currently being a part of coaching services loses the focus of Indian Railways.

The Approach Paper on 11th Plan has also identified parcel business as a good business opportunity and has proposed an investment of about Rs. 1 Billion (\$22.22 Million) per annum in infrastructure for development of parcel terminals and parcel vans. The projections indicate doubling of the volumes and a five-fold increase in revenues (from 6.50 Billion to 30 Billion) during the 11th five year plan.

A study to recommend creation of the parcel business as a separate FBO is already on-going in IR. The consultants should study the entire sector and IR's opportunities in detail and come out with clear recommendations.

6.2. Review of the working of FBOs created by Indian Railways

Indian Railways has been creating FBOs with an objective of divesting its non-core businesses and ones that require special attention from a business point of view. Organisations which provide specialised technical and consultancy services and which require private sector participation (special purpose vehicles) have also been created by Indian Railways in the past. Organisations like RITES, RVNL, CONCOR, IRCTC, etc. have been formed as an FBO. However these organisations are facing the following challenges in general:

- Increasing level of competition from the private sector
- New ways of structuring investments and operations because of requirement of funds for bringing in latest technologies and capacity expansion e.g. PPPs
- Attracting and retaining talent, especially in the wake of growing competition from private sector

In this context, these FBOs, especially those are at least 10 years old, need to revisit their corporate strategy and while building upon their strengths, develop fresh strategies for keeping their competitive edge. They also need to explore emerging opportunities in the growing market especially developing countries where the scope is tremendous. The assessment should include:

- Understanding the organisation and genesis of its formation
 - Analysis on existing functioning of the organisation alongwith a SWOT analysis
 - Opportunities in the domestic and international markets
 - Business plan and corporate strategy for the next decade
 - Targeted financial projections.
-

rites

rites is a leading player in the transport and infrastructure consulting, engineering and project management business in India. rites today provides its services to a wide range of infrastructure sectors- including railways, highways and roads, airports, ports, metals, power, water and sanitation, urban infrastructure, Government housing and building etc. In addition to its presence in India, rites has significantly increased its presence in the international markets in recent years. rites has already executed contracts in several countries such as Bangladesh, Botswana, Columbia, Ghana, Iran, Malaysia, Mozambique, Myanmar, Nepal, Sri Lanka, Tanzania, UK etc. rites has also expanded the scope of its international business in railways by exporting rolling stock to several countries as well as entering into concessions in countries such as Columbia, Mozambique and Tanzania.

rites has prepared its Corporate Plan with a ten years perspective in 2008. The objectives for the same were to bring in the following focuses:

- **Business focus:** To ensure financial success by achieving the targeted rate of growth in revenues from operations and surplus from operations
- **Market focus:** Strive to deliver outstanding client service consistently and create a distinctive brand image in the eyes of both public sector as well as private sector clients
- **Human Resource focus:** To be innovative while striving for ensuring professional satisfaction to its employees and being a preferred employer, and
- **Societal focus:** Be a good corporate citizen as well as fulfill the expectations of the society and community

Rail Land Development Authority (RLDA)

RLDA was formed in 2007 by an amendment to the Railway Act, with an objective to commercially exploit the vacant land with the Indian Railways (Indian Railways). Basic Rules for functioning of RLDA have also been approved and are in function. RLDA is in the process of developing its Schedule of Powers (SOP) which would be completed in a short time. RLDA has identified 10 vacant lands and the bidding process for selection of a consultant who will undertake a market assessment and feasibility analysis including assistance in selection of a developer is currently on. The process is expected to finish soon and consultants on-board for the assignment. The officers in RLDA are on deputation from Indian Railways. Indian Railways has provided adequate financial powers and autonomy to RLDA in its functioning which provides all the flexibility for it to function in a fast and proper manner. However, it has been only about one and a half years since RLDA was formed and no major projects have actually started. Thus this is a very nascent stage for RLDA to come out with any efficiency improvement measures, which might arise after some years of full-fledged functioning.

6.3. Improvement of efficiency in Production Units, Sheds and Workshops

Production Units - Indian Railways has six Production Units spread across the country. Based on the limited discussion, we understand that there is scope for increasing the efficiency in these units by removing the bottlenecks and induction of latest technologies in execution. IR can take up a detailed study in this respect to increase efficiency of these units.

Sheds and Workshops - Indian Railways has many Sheds and Workshops that are spread across the country. These are based in various zones and cater to the needs to both within zones and outside zones. Based on the limited discussion, we understand that there is scope

for increasing the efficiency in these sheds and workshops by removing the bottlenecks and induction of latest technologies in execution. IR can take up a detailed study in this respect to increase efficiency of these sheds and workshops.

6.4. Increased implementation effort on various initiatives for greater commercialisation

Indian Railways has been taking various initiatives to increase commercial activities and bringing in efficiency in non-core operations. Some of the examples are PPP in operations of retiring rooms, branding of trains, outsourcing of cleaning services, etc. However implementation of these initiatives is yet to be taken on a full-fledged fashion. There have been instances of sporadic implementation, but a focused and mission-mode implementation is not yet done. Indian Railways can take these initiatives to a logical conclusion by providing:

- Adequate incentives to officers to implement such initiatives,
- Formation of a task force that monitors the implementation; and
- Using a mission mode with timelines for implementation.

6.5. Commodity/ sector wise focus

IR needs to focus more and more for specific commodities and sectors rather than a generic model for all. Measures like the following can be taken by IR for the same:

- Tariffs based on sectors,
- Design of specific wagons for specific goods,
- Inviting private parties for better design of wagons for specific commodities, etc.

This will provide IR with a niche area where it can be the *transporter of choice* by the people.

7. Way forward

The report is being submitted to ADB and IR for their observations and comments. It is expected that this Report will be discussed by Indian Railways and ADB and once the recommendations are accepted, work on each of the areas shall be triggered by IR and ADB.

List of persons met

Indian Railways and other organisations

1. Mr. N.Madhusudana Rao, IRTS, Executive Director (Planning), Ministry of Railways
2. Mr. Sushant Mishra, Executive Director (PPP - Traffic) , Ministry of Railways
3. Ms. Sharmila Chavaly, Executive Director (Finance) AR
4. Mr. Dimpy Garg, Director Planning (ME), Ministry of Railways
5. Mr. Mukund Sinha, Director Planning (ME), Ministry of Railways
6. Mr. Shakeel Ahmed, Adviser (Mech.), PPP, Ministry of Railways
7. Mr. Ajit Kr. Panda, IRSME, Director (Efficiency & Research), Ministry of Railways
8. Mr. Chhatrasal Singh, IRTS, Director (Directorate of Computerisation & Information Systems, Ministry of Railways
9. Mr. M.C.Rastogi, Deputy Director (Accounting Reforms), Ministry of Railways
10. Mr. Ramesh Kumar, IRSE, DGM (Projects), Rail Land Development Authority
11. Mr. A.K.Srivastava, Manager (Projects), Rail Land Development Authority
12. Mr. Amit Gupta, Team Leader PPP, CRISIL
13. Mr. M. Ravindra, CRISIL, Team Leader and Railway Management Expert (*over telephone*)

Asian Development Bank

1. Mr. Prodyut Dutt, Sr. Transport Specialist, India Resident Mission
2. Mr. Hiroaki Yamaguchi, Sr. Transport Specialist, Transport and Communications Division, South Asia Department
3. Mr. Markus Roesner, Transport Specialist, Transport and Communications Division, South Asia Department
4. Mr. Anil Motwani, Transport Specialist

PricewaterhouseCoopers

1. Mr. Vinod Sharma, Ex-Indian Railways
2. Mr. G Suman, IRAS, Ex-Indian Railways
3. Mr. Amrit Pandurangi, Executive Director
4. Mr. Peeyush Naidu, Senior Manager
5. Mr. Ashutosh Bhandari, Senior Consultant

PricewaterhouseCoopers-Team Members

1. Mr. Vishwas Udgirkar, Executive Director
2. Mr. Tarun Kr. Gupta, Manager

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Annexure 1 - Details of new policy initiatives

Container Policy Liberalization

Policy:

Until very recently, rail container services were being offered by a sole player Container Corporation of India (Concor). However on January, 2006 Indian Railway announced its New Container Train Policy wherein it allowed private operators to obtain license for operating Container Trains on Indian Railway network.

Progress in implementation:

The Railways have raked in over Rs 5.40 Billion (\$120 Million) in terms of license fees and expects an initial investment of around Rs 100 Billion (\$2.22 Billion) under the policy through public-private partnership in the coming years. In the last three years, 15 operators have been given licenses for running container trains. Presently, 146 trains of Container Corporation and 44 container trains of other container operators are running. The number of trains run by other operators is expected to increase to 50-55 by the end of this year. The total container traffic is expected to be 26 million tones in 2007-08 including 2 million tones contributed by new operators. Presently 60 container depots are operational including three constructed by private parties. It is expected that eight container depots by Container Corporation and 40 by other operators would be developed in the coming years.

Wagon Investment Scheme

Policy:

In order to encourage public-private partnership in procurement of wagons “Wagon Investment Scheme” was introduced by in the Railway Budget 2005-06. Under this scheme customer investing in Railway wagons will be assured of supply of a guaranteed number of rakes every month based on the number of rakes procured and the turn round of the type of wagons with 10% concession in freight. In addition, two bonus rakes per month will be supplied without freight concession or penalty. Wagons under this scheme could be procured by

- (i) Individuals as producers;
- (ii) Corporate entity as producers;
- (iii) Association or group of companies, such as, integrated steel plants of SAIL or a group of cement companies in a ‘cluster’ etc.
- (iv) Public Sector Undertakings/Government Undertakings

The scheme has been further rationalized in 2008-09 Railway Budget in view of making the same more popular with other than iron-ore customers. Therefore, a new liberalized Wagon Investment Scheme has been introduced under which investments can be made for procurement or leasing of special purpose and high capacity wagons. Freight discounts at prescribed rates will be granted for investment in special purpose wagons and high capacity wagons.

Progress in implementation:

The Wagon Investment Scheme announced in the year 2005-06 has been extremely popular amongst iron-ore customers. During the last three years, approval has been accorded for an investment of over Rs. 15 Billion (\$333.33 Million) for procurement of 138 rakes. Against this, 42 rakes have been received so far at a cost of around Rs. 5 Billion (\$111.11 Million).

Rail-side Warehousing Scheme

Policy:

With a view to provide seamless door-to-door transportation, IR and Central Warehousing Corporation (CWC) initiated a pilot project at Whitefield satellite goods terminal at Bangalore in February, 2003. Under this project, CWC built a state-of-the art godown with 15,000 tonnes capacity along the railway track in a goods yard. It also provides ancillary facilities in the integrated goods sheds complex. A road has also been provided on the other side of the track for unloading of the consignments from wagons directly into trucks. The value addition in freight services has resulted in additional traffic to rail.

Progress in implementation:

Encouraged by the customer's response to the facilities at Whitefield terminal, IR has entered into a memorandum of understanding with CWC as its strategic partner, for development of similar rail-side warehouse complexes at 22 locations in the country. The facility has already become functional at 9 locations.

The above concept is also being launched through Public-Private Partnership (PPP) model. Under the scheme, private entrepreneurs will be encouraged to develop rail side warehousing complexes/ logistic parks/ ICDs/ agri-chains with modern loading/ unloading and customer facilities on railway land on revenue sharing basis. This will facilitate a single window service in providing value added service to the customer in the form of distribution, handling, warehousing and road bridging. It will also aggregate piecemeal (wagon load) traffic to train load traffic and help IR in improving its market share.

Liberalisation of Siding Rules

Policy:

To clear bottlenecks in functioning of sidings and remove some of the major irritants to siding owners, IR has further liberalized the siding rules, salient features of which are as follows:

- (i) The concept of assisted siding has been revived. Under this concept, IR will share the cost of a new siding in case the industry comes up with a long-term commitment of traffic for 10 years or more, commensurate with the investment of IR.
- (ii) Within the premises of the private customers, all expenditure is to be borne by him. For the portion between the railway stations to the gate of the customers' premises the cost of sub-structure is to be borne by the customer and cost of super-structure like ballast, sleepers, rail, OHE etc. (which can be dismantled) will be borne by the Railways.
- (iii) Capital cost of additional traffic facility works will also be borne by IR so that the party is required to pay nearly half the cost only.
- (iv) Over-head equipment maintenance will be at Railway's cost.
- (v) The overhead charges of the Railways have been rationalized and reduced.

Progress in implementation:

57 sidings have been approved over the last one year for use by steel & sponge iron plants alone as well as for iron ore loading under the railways' liberalized siding scheme to be taken up under the public private partnership model. South Eastern Railway alone had targeted to clear 70 new proposals for siding by August 2007.

Terminal Incentive Scheme

Policy:

In order to encourage terminal or siding owners to invest in modernization of terminals so as to reduce terminal detention of wagons by using modern methods of loading/ unloading, a scheme called Terminal Incentive cum Engine on Load Scheme (TIELS) has been launched to offer suitable financial incentive to siding or terminal owners. This scheme is applicable to existing sidings only which have been notified for charging freight on through distance basis. The customers get freight rebate for a period of 10 years.

Progress in implementation:

At present, at 14 sidings Terminal Incentive-cum-Engine on Load Scheme has been implemented.

Freight Incentive Schemes

Policy and progress in implementation (2007-08):

Incentive Scheme for Traditional Empty Flow Direction:

Freight discount upto 30 per cent has been permitted on traffic loaded in the notified Traditional Empty Flow Directions during both busy and lean seasons to generate additional business volumes in the movement streams traditionally carrying predominantly empty wagons. Discount has been permitted even in less than block rake traffic also. Out of a total of 48 proposals, 31 proposals have already been approved. This is expected to give additional earnings of Rs. 0.39 Billion (\$8.67 Million) during 2007-08.

Incentive Schemes for loading Bagged Consignment in BOXN:

Normally bagged consignments take a longer time to load in BOXN wagons and also need to be covered with tarpaulins. To facilitate this, Freight Discount upto 40 per cent has been granted along with an additional free time of 2 hours for loading and unloading.

Long term Special Incentive Scheme:

With the objective of sustaining as well as increasing the rail borne traffic of a customer, the Zonal Railway has been delegated the power to grant concession upto 20 per cent to the customers offering sizeable traffic. So far 78 proposals have been received. Out of which, 31 proposals have been approved which will give an earnings of Rs. 0.51 Billion (\$11.33 Million) during 2007-08.

Incentive Scheme for Incremental Traffic:

Under the scheme customer is eligible for discount upto 15 per cent for the Incremental earning in lean season at the time of issue of RR itself. Out of a total of 87 proposals, 72 proposals have already been approved. This will give additional earnings of Rs. 1.77 Billion (\$39.33 Million) during 2007-08.

Incentive Scheme for Lump sum Special Rates and Service Level Agreements:

This has been issued to promote medium to long- term business arrangements between Railways and Corporate entities. Few proposals have been received from Cement Industry and other customers and are under process of finalization.

Incentive Scheme for Freight Forwarders:

To promote rail, road and warehousing integration and expansion of commodity basket for Railways, composite freight rates have been offered to Freight Forwarder for loading in covered and BOXN wagons. Progressively higher rates are being charged if a single commodity is being loaded in higher number of wagons. 40 proposals have been received and approved. This will give additional earnings of Rs. 0.11 Billion (\$2.44 Million) during 2007-08.

Incentive Scheme for Two Leg:

Freight concession of 15 per cent in busy season and 20 per cent in lean season is granted to customer offering return traffic in covered wagons in Block Rakes. For aggregated cargo, Composite rates are being offered. Out of a total of 73 proposals, 70 proposals have already been approved. This will give additional earnings of Rs. 0.28 Billion (\$6.22 Million) during 2007-08.

Annexure 2 – Case studies of commercialisation, outsourcing, PPP and establishing FBOs leading to better service, more efficiency and higher revenue

Case study for commercialisation - Leasing of Parcel Van (SLR Vans)

With a view to maximize utilization of un-utilized/ under-utilized parcel space in Brake Vans (SLRs) of various Mail/ Express trains, scheme for leasing SLRs for parcel traffic was introduced by Ministry of Railways in November 1991. This policy has been subject to revisions/ amendments and a Comprehensive Leasing policy was introduced from April'06.

There are 5 types of lease, depending on the duration of the leasing contract which ranges from 3 years for a long term lease to day to day lease which is for a maximum period of 10 days at a time. Eligible applicants are required to register themselves by paying a registration fee in addition to earnest money and security deposit which varies depending on the category of registration.

The commercial department of IR fixes a minimum reserves price and bids accepted is generally above the reserve price unless authorized by appropriate authorities in IR. After acceptance of the bid the lease holder is solely responsible for canvassing, acceptance, booking, handling, documentation and delivery of the parcel/ packages both at originating and destination stations. The underlying principle is that private sector is good at aggregating piecemeal bookings and arranging “first mile” and “last mile” services. Railways thus concentrates on carrying the parcels, which pose no problem as these are to be carried by Mail/ express trains. By leasing out catering and parcel services IR has reduced catering and parcel losses of more than a Rs. 10 Billions (\$ 222 Million).

Keeping in view the success of the scheme, a logical extension of the policy would be to lease full parcel services between a pair of cities that might run periodically at a frequency determined by market demand. The private operators could also be encouraged to own rolling stock and offer full trains for scheduled running by Indian Railways on the same lines as container operations.

The projected traffic for parcel business for the XIth Plan is:

Table-10: Parcel Business Projections for XIth Plan

Year	Tonnage (Million Tonnes)
2007-08	7.15
2008-09	7.86
2009-10	8.65
2010-11	9.50
2011-12	10.45

In the short term the strategy would be to stress on optimum utilization of the available resources i.e. utilizing the parcel space in mail/express trains and leasing PVs on round trip basis. The long- term strategy would involve restructuring of the business with new products and partnerships along with increasing reliance on emerging IT solutions and a possible hiving off of parcel business from passenger services, by creation of an FBO. Investment of Rs. 1 Billion (\$22.22 Million) per annum in infrastructure for development of parcel terminals and parcel vans has been proposed during the XI Plan.

Case study for outsourcing - Linen management

In order to save passengers from the trouble of carrying their own bed linen in overnight trains, Indian Railways started supplying the same to all passengers traveling in IAC, IIAC and IIIAC classes of all trains. The charges for these are incorporated in the train fares. To bring in professionalism in lines management by supplying clean and crisp lines to the passengers, the management of linen was entrusted to the wholly owned subsidiary of IR, IRCTC. IRCTC in turn outsourced the job to licensed contractors who are currently entrusted with the supply and management of linen aboard all trains.

This move by the railways has been highly successful as IR has been able to offload a non-core activity to its own company without compromising on quality of linens supplied on trains. IRCTC has in turn outsourced the same to contractors to ensure availability of clean linen at various stations and at the required time.

Recently IR is in the midst of finalizing a national bedroll policy. Under this the railway plans to empanel integrated bedroll suppliers who would be entrusted with the task of procuring, washing and supplying linen to each of the five railway zones.

Case study for PPP - Pipava Port

A Special Purpose Vehicle named PRCL (Pipavav Railway Corporation Limited) has been formed with equity participation from Ministry of Railways and GPPL (Gujarat Pipavav Port Limited) to undertake the construction, operation & maintenance of the 271 km long Broad Gauge Rail line between Surendranagar and Pipavav port. The cost of the Project is approx. Rs.3.73 Billion. The private partner currently holds 38.8% stake in the PRCL.

The construction of this line has been completed and thrown open for Goods Traffic since March 2003. Earlier, connectivity of Mundra Port on the West Coast to the Broad Gauge network of Indian Railways was completed. Gandhidham – Palanpur gauge conversion is being implemented through involvement of Kandla and Mundra ports. The current maximum capacity of the rail link is 22 trains per day in each direction. Presently, PRCL is handling two trains per day in each direction.

For the year ended December 31, 2007 and the three month period ended March 31, 2008, approximately 584,143 MTs of bulk cargo and 75,594 TEUs of container cargo and 86,391 MTs of bulk cargo and 20,442 TEUs of container cargo, respectively, were moved in and out of Port Pipavav through the railways network.

Indian railways' interest in the PPP is protected to the extent of the minimum guaranteed rail freight traffic pursuant to the agreement entered into between the private party and Indian Railways. The agreement provides for rail freight traffic of one million tonnes in the first year of operations, two million tonnes in the second year of operations and three million tonnes from the third year of operations onwards ("Minimum Guaranteed Quantity") to PRCL until June 2034.

Case study for FBO - Establishment of IRCTC

The Indian Railways Catering and Tourism Corporation is a subsidiary of the Indian Railways that provides fresh meal service for its express trains and food outlets. IRCTC is more known for changing the way of Railway ticketing in India. It pioneered the online rail ticket booking in India through its website 'www.irctc.co.in', and, booking Railway tickets through various unconventional modes like, internet, mobile phones, SMS etc., Users of this service get their

tickets at their door step without any hassle. By leasing out catering and parcel services IR has reduced catering and parcel losses of more than a Rs. 10 Billions (\$ 222 Million).

IRCTC has recently launched a Loyalty programme for the frequent users of its services, called 'Shubhyatra' and has also started online services for booking Mumbai Suburban Season Tickets. Within a short span of its going online, this site, www.irctc.co.in has become the largest and the fastest growing eCommerce website in Asia Pacific and the most transacted site in this part of the world. IRCTC now handles bookings for more than 8,500 passenger trains (out of about 14,500 trains) operating daily on the Indian railway network, which is the second largest after Russia's.

IRCTC's success is enviable, not only because of the fact that it is a government-owned organisation, but also due to the size and complexity of the Indian railway system. IRCTC initially deployed its online booking systems in 2002 and recently reached an all-time booking record. On March 11th, 2008, the total tickets booked reached 103,936, which grossed out more than Rs. 96 million (\$2.13 million). The average booking per day in March 2008 was over 78,000 tickets. Total tickets booked in the month were over 2.4 Million and valued over Rs. 2.3 Billion (\$51.11 million).

IRCTC is also commissioning new Food Plazas in Railway premises with private participation. The license period for food plazas is of nine years with a provision of extension of three years. Already 40 such Food Plazas have been commissioned.

