CHAPTER 2

HISTORICAL BACKGROUND OF INDIAN RAILWAYS

2.1 Introduction

The previous chapter deals with the framework and design of the research, study consisting of the statement of problem, objective, hypothesis, literature review, scope and methodology of the study. The present chapter gives a brief outline of the historical background of Indian Railways.

Nowadays, Energy resource, Telecommunication and Transport are the vital infrastructural prerequisite which acts as an indicator to the growth of any Economy. Transport includes road transport, air transport, water transport and rail transport. Transport gives useful relationship between production centre, distribution areas and ultimate consumer. If we talk about inland transport mode, one major transport industry comes in mind: The Railways. We ignore the contribution of the Railways to the growth of the economy with its incredible services like mobility of various commodities and passengers.

It is impossible to imagine that Indian economy without Railways. We always feel proud and happy when we think that our Indian Railway is Asia’s first and world’s second largest under the single management. We are also astonished by knowing that the Indian Railway is world’s largest employment provider organization.
In India, Railways are the largest and cheapest mode of transport. The country’s vastness and diversity have been connected and coordinated by the largest and busiest rail networks in Asia\(^1\), transporting over 18 million passengers’ and more than 2 million tonnes of freight daily.\(^2\) It is the world's largest commercial or utility employer, with more than 1.4 million employees.\(^3\) Indian Railways have become the lifeline of the country. There is no walk of life or sector of economy, which does not depend heavily for its existence on the Indian Railways. Passengers and goods with equal importance are carried everyday by Railways from one corner of the country to the other. Indian Railway is one of India’s most effective networks that keep together the social, economical, political and cultural structure of the country. Indian Railways also known, as IR is a Department of the Government of India, It is a huge organization carrying 140 lakh passenger and 14 lakh tonne of freight daily and employs more than 15 lakh staff. It is spread over the length and breadth of the country and has 63,000-route km (82,000 running track km) and 7,000 stations.\(^4\) This gigantic task is achieved through the use of 77,00 locomotives, 38,000 passenger coaches and 2,20,000-freight wagon for which necessary maintenance and manufacturing facilities also exit.\(^5\)

During the last 150 years the network of Indian Railways has grown in size and complexity. At present it is the largest rail network in Asia and second largest system in the world under a single management.\(^6\) By connecting different part of this country, the Railways have not only helped in bringing about the political and social cohesion but have also built up the essential infrastructure for the country’s development and industrial expansion. Thus, the Railways continue to be major transport system regarding both goods and passenger traffic and play a very crucial role in the economy of the count
2.2 Historical Background of Indian Railways

More than a hundred years ago, on the 16 April 1853, a red-letter day appeared in the glorious history of the Indian Railways. On the day, the very first Railway train in India ran over a stretch of 21 miles from Bombay to Thane, three locomotives, Sahib, Sindh and Sultan, hauled it.\(^7\) This pioneer Railway train consisting of 14 Railway carriages carrying about 400 guests, steamed off at 3:30 pm amidst the loud applause of a vast multitude and to the salute of 21 guns. It reached Thane at about 4.45 pm.\(^8\) The development of Railways in India dates back to the second decade of the nineteenth century, the first British government reflected their initiative that the Railways should also be introduced in India. Finally, in the mid nineteenth century Railways came to India as planned by the government of that time and also as per requisite of the public. Firstly the purpose of the Railways was to fulfill the social and economical needs of the country; Secondly for use of military purpose, to defend of the sub continent; and finally for export of raw material from India to England for earning profits.\(^9\)

The initial proposal came in 1843-44 to introduce Railways lines in India. The East India Company made contracts with private English companies like East Indian Railway (EIR) Company and Great Peninsular Railway (GPR) Company formed in 1845.\(^10\)

2.2.1 Old Guarantee System (1845-1869)

The first Railway was released in 1853. Till 1869, the period of “Old Guarantee System” remained applied; where the companies, being in charge of the Government, were
guaranteed at an annual rate of interest of 5% on all capital raised by them and free land for 99 years by the Government. Half the surplus profit every year had to be paid to the latter. At this segment neither the government nor the private companies acquainted with that they were committed to construction work.

The government on one side was concerned to invite the private capital from Britain for this sector. On other side there were number of private companies which came forward to invest in Indian Railways. Therefore each one of them tried to bargain with the government to get best advantage.

Finally, government accepted the moderate attitude and guaranteed the 5 percent on capital invested. By the end of the year 1859 about 5000 km of track was sanctioned to eight companies. The Calcutta–Delhi line patronized in the famous ‘Railway Minutes’ of 1853 by Dalhousie, was successfully completed in 1866. In 1863 the line from Kalyan to Lonavla was open. Thal Ghat line connecting Bombay to Igatpuri, Manmad and Bhusawal completed in 1865. The Bombay-Bhusawal-Itarsi-Jabalpur route of the Great Indian Peninsula Railway (GIP) and East Indian Railway (EIR) at Naini was completed in 1867.

2.2.2 State Construction and the New Guarantee System (1869)

The meagerness of the guarantee system was well recognized and the financial burden became heavy by the second half of the guarantee period and in 1867 the system was critically observed and criticized. Under the state construction a distinction was made between the government and the political lines by the secretary of the state. Sir Stafford
North Cole has determined that the government should go for laying lines with political end and private companies should be entrusted with the work of laying commercial lines.

In 1869, Viceroy Lord Lawrence worried that the Railways of India were losing so much so that even their actual cost of operation is not being recovered. So he recommended that the state activity should be confined to the laying of lines for political considerations, leaving commercially a feasible line to guaranteed companies.\textsuperscript{14}

Lord Lawrence experienced that if the Railways were suitably handled, the profit making was possible under such an arrangement would of its own choice, take all the unprofitable lines whereas giving all the gainful lines to private companies, which intended that the government took it up, the profit thus derived could be used for further extension of the Railways network and cautiously guarding the private companies against any possible losses at cost of the state. Thus in 1869, the guarantee system was abandoned and the government took up the construction and ownership of the Railways. The first old guaranteed Railways to be purchased was the East Indian Railway in 1869.

\textbf{2.2.3 \textit{A New Guarantee System (1882-1925)}}

Nearly after a decade certain situation bound the government to stop undertook the direct construction of Railway lines and seek financial assistance from private companies.

In 1878, India witnessed the outbreak of dreadful famines. The necessity of large and rapid extension of Railways system was felt by the Famine Commission, which estimated that a mileage of at least 5000 were still needed for protection of the country from Famine.\textsuperscript{15}
At the moment, on one hand, the speed of the Railway construction by the government was slow and, on the other hand, the existing private companies were refusing to raise the requisite additional capital for constructing urgently needed new Railway lines without any guarantee on their investments.

The government therefore, recommended that the extension of Railways might be entrusted to new companies but on the new guarantee system. Thus, the government commenced the construction of Railways, but the government changed the term and condition as compared to old ones.

The main terms of the new guarantee system were as follows:

- The earlier rate of return of 5 percent was reduced to 3 percent.
- The government acquired the right to take over the Railway after 25 years instead of 50 years.
- The apportionment of the surplus profit above 5 percent was changed to 3:5 and 2:5 between the government and the company concerned respectively.\(^\text{16}\)

2.2.4 Evolution of Railway Board (1905)

The first Railway Board in India was appointed by Lord Curzon's government in 1905. It consisted by Government Railway official, who was the Chairman of the Board, a Railway Manager from England and an Agent of a Company Railway. The Board was placed under the Department of Commerce and Industry of the British Indian Government.\(^\text{17}\) The roll of the century saw the establishment of the Railway Board, the
commencement of the 20th century established that the Indian Railways in a incredibly positive position, as the traffic had grown-up extremely then. Exchange fluctuation had come to end and the Trade and Commerce were flourishing. The Railway started yielding profit from 1900 onwards and the public realized that the investment in the Railway industry was a sound proposal.

As a result of all this, Mr. Thomson the secretary of state for India was appointed in 1901, to evaluate the performance and enquire into the administration and working of the Indian Railways board.

Then he had presented a report and gave detailed discussion of Railway fund to be applied for the improvement of the old lines and for constructing new lines, where needed. Thomas Robertson after a long discussion and consideration submitted the report. Briefly it is follows:

- That a Railway fund be established for undertaking improvement of the old lines and for constructing new lines, where needed;
- That all the lines should be leased out to the Railways companies for management;
- That a Railway board be created with three members for overall administration of the Railways and;
- The guarantee system may be allowed to continue for the construction of new lines.
Following a thorough consideration of Robertson’s report the Secretary of state for India sanctioned the formation of the board of a chairman and two members all of whom were Railway experts.¹⁹

Then the Railway Board was established in 1905. The Railway branches of the Public Work Department were abolished and the control was transferred to the Railway Board.

In 1907 a committee presided over by Sir James Mackey to examine the problems of Railway finance and administrative performance of the Railways Board. The committee submitted its report within this year and declared that the working of the Railways Board was found to be unsatisfactory and then in 1908 the Railway Board was reconstituted with larger powers.²⁰

In 1920, the Government of India wanted to review the performance of Railway Board, on 1ˢᵗ November under the chairmanship of Sir William Acworth, to evaluate the constitution and working of the Railway Board and enquire into defect and drawbacks that had created problems in the development of India Railway System.²¹

Subsequently a comprehensive study of the different aspect of Railways management the committee made a number of recommendations. It was felt that a Railway commission should replace the Railways Board. The committee recommended the creation of a new department of communication responsible to the Railway and suggested that the road transport and post and telegraphs be put under the charge of a member of the viceroy’s council.²²
Chapter Two

The committee recommended that the Board should consist of a chief commissioner assisted by four commissioners, a finance commissioner and three state level commissioners. The financial commissioners were to be under the chief commissioner holding to second position in the hierarchy of the Board and to have the charge of financial set-up of the Railway.\textsuperscript{23}

The important development, which took place during the later years under this phase, was the separation of Railway Budget from general budget in 1924-25\textsuperscript{24}, as a result of the recommendation made by Acworth committee in its report in August 1921 and the subsequent approval of these recommendations by the Railway Finance committee and Central Legislative Assembly.

\subsection*{2.2.5 Regrouping and Nationalization of Indian Railways}

The suggestion of regrouping and nationalization was recommended for the first time by Acworth committee report of 1920-21.\textsuperscript{25}

The Government of India of that time took up the proposal of regrouping of Indian Railway given by Acworth committee in 1920. The committee proposed a scheme of regrouping, dividing the whole Indian Railway into three divisions namely Western Division, Eastern Division and Southern Division.\textsuperscript{26} The experts committee gave their recommendation in which it was deeply felt that amalgamation and regrouping of Indian Railway was essential for the adequate management of the Railway system in the country.
Prior to independence and partition it had been recommended that the Railways should be managed by group. The British government had been resistant to grouping because it would necessitate terminating contracts with British companies. Post-independence and partition, the Indian government formed the view that it was economically inefficient and administratively inconvenient, to operate a single rail network with a large number of small semi-independent entities. A truly national undertaking was required.\textsuperscript{27}

Thus, in 1948, Indian Railways was reborn as a single administrative body. Starting in 1951 the network was grouped into six zones. Each zone was managed as a group in itself, but a level of central management was retained, via Indian Railways, to ensure that the Railways functioned as a single coherent network.\textsuperscript{28} The six original zones have since been split and reordered on a number of occasions. Today, the network covers 64,015 route kilometers, divided amongst 16 administrative zones.\textsuperscript{29}

The first two large systems to be brought under direct state management were Eastern Indian Railway (EIR) on 1\textsuperscript{st} January 1925 and Great Indian Peninsula Railway (GIPR) On 30 June 1925. In 1947 when Indian achieved its much-cherished freedom, the Railway got divided with the partition of the country. By 1947, the year of India's independence, there were forty-two rail systems. In 1951 the systems were nationalized becoming one of the largest networks in the world, there were as many 42 independent Railway systems big and small operated by the government of India and princely states.\textsuperscript{30} After the integration of the princely states, In 19951-52, the Railways were regrouped into the following six zones, starting with the southern zone on 14 April 1951 and ending
with the Eastern zone on 14 April 1952 name them Southern Railway (SR), Central Railway (CR), Western Railway (WR), Northern Railway (NR), Northern Eastern Railway (NER), Eastern Railway (ER), soon after the regrouping of six zones, their operation was found inadequate and three more new zones came into existence between 1953 and 1966 i.e. South-Eastern Railway (SER), North East Frontier (NeFR) and South Central Railway (SCR). With seven new zones created during 2003 and 2004. Indian Railway is today divided into 16 zones. The seven new zones are North Western Railway (NWR), Eastern Central Railway (ECR), East Coast Railway (ECOR), North Coast Railway (NCR), South Eastern Central Railway (SECR), Western Coast Railway (WCR) and South Western Railway (SWR).  

Indian Railways is divided into zones, which are further sub-divided into divisions. The number of zones in Indian Railways increased from six to eight in 1951, nine in 1952 and finally 16 in 2003. Each zonal Railway is made up of a certain number of divisions, each having a divisional headquarters. There are a total of sixty-seven divisions. Each of the sixteen zones is headed by a General Manager (GM) who reports directly to the Railway Board. The zones are further divided into divisions under the control of Divisional Railway Managers (DRM). The divisional officers of engineering, mechanical, electrical, signal & telecommunication, accounts, personnel, operating, commercial and safety branches report to the respective Divisional Manager and are in charge of operation and maintenance of assets. Further down the hierarchy tree are the
Station Masters who control individual stations and the train movement through the track territory under their stations' administration. 33

The major Railway zones that have been covered here are as follows:

**Central Indian Railway**

The Central Railway (CR) is perhaps the oldest Railway zone of Indian Railways. This is one amongst the largest of the sixteen zones bifurcated by Indian Railways.

**Eastern Indian Railway**

The Eastern Railway is one of the major zones of Indian Railways. Fairley Place in Kolkata being its headquarters, the Eastern zone is segregated into four divisions including Howrah, Malda, Sealdah and Asansol for better administration.

**Northern Indian Railway**

The Northern Railway (NR) is one amongst the nine older zones of Indian Railways. Delhi, the capital city of India, serves as the headquarters of Northern Railway.

**Southern Indian Railway**

Southern Railway (SR) is credited to be the first Railway zone that sought establishment in liberated India. On April 14th 1951, Southern Railway was established by combining three state Railways including Madras and Southern Mahratta Railway, South Indian Railway and Mysore State Railway.
Western Indian Railway

The Western Railway (WR) is one amongst the most hustling rail networks in India.
Along with headquarters of Central Railway, Mumbai enjoys the authority over this Railway network too, being the headquarters sited at Church gate (Mumbai).

The following gives detailed description of the different Railways zones in India.

Table No.2.1

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Abbr.</th>
<th>Date Established</th>
<th>Headquarters</th>
<th>Divisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Central</td>
<td>CR</td>
<td>November 5, 1951</td>
<td>Mumbai</td>
<td>Mumbai, Bhusawal, Pune, Solapur, Nagpur</td>
</tr>
<tr>
<td>2.</td>
<td>East Central</td>
<td>ECR</td>
<td>October 1, 2002</td>
<td>Hajipur</td>
<td>Danapur, Dhanbad, Mughalsarai, Samastipur, Sonpur</td>
</tr>
<tr>
<td>3.</td>
<td>East Coast</td>
<td>ECoR</td>
<td>April 1, 2003</td>
<td>Bhubaneswar</td>
<td>Khurda Road, Sambalpur, Visakhapatnam</td>
</tr>
<tr>
<td>4.</td>
<td>Eastern</td>
<td>ER</td>
<td>April, 1952</td>
<td>Kolkata</td>
<td>Howrah, Sealdah, Asansol, Malda</td>
</tr>
<tr>
<td>5.</td>
<td>North Central</td>
<td>NCR</td>
<td>April 1, 2003</td>
<td>Allahabad</td>
<td>Allahabad, Agra, Jhansi</td>
</tr>
<tr>
<td>7.</td>
<td>North Western</td>
<td>NWR</td>
<td>October 1, 2002</td>
<td>Jaipur</td>
<td>Jaipur, Ajmer, Bikaner, Jodhpur</td>
</tr>
<tr>
<td>9.</td>
<td>Northern</td>
<td>NR</td>
<td>April 14, 1952</td>
<td>Delhi</td>
<td>Delhi, Ambala, Firozpur, Lucknow, Moradabad</td>
</tr>
<tr>
<td>10.</td>
<td>South Central</td>
<td>SCR</td>
<td>October 2, 1966</td>
<td>Secunderabad</td>
<td>Secunderabad, Hyderabad, Guntakal, Guntur, Nanded, Vijayawada</td>
</tr>
<tr>
<td>11.</td>
<td>South East Central</td>
<td>SECR</td>
<td>April 1, 2003</td>
<td>Bilaspur, CG</td>
<td>Bilaspur, Raipur, Nagpur</td>
</tr>
<tr>
<td></td>
<td>Railway Zone</td>
<td>Zone Abbreviation</td>
<td>Date</td>
<td>Headquarters</td>
<td>Stations and Cities</td>
</tr>
<tr>
<td>---</td>
<td>-------------</td>
<td>-------------------</td>
<td>------</td>
<td>--------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>12.</td>
<td>South Eastern</td>
<td>SER</td>
<td>1955</td>
<td>Kolkata</td>
<td>Adra, Chakradharpur, Kharagpur, Ranchi</td>
</tr>
<tr>
<td>13.</td>
<td>South Western</td>
<td>SWR</td>
<td>April 1, 2003</td>
<td>Hubli</td>
<td>Hubli, Bengaluru, Mysuru</td>
</tr>
<tr>
<td>14.</td>
<td>Southern</td>
<td>SR</td>
<td>April 14, 1951</td>
<td>Chennai</td>
<td>Chennai, Madurai, Palakkad, Salem, Tiruchchirapalli, Thiruvanathapuram</td>
</tr>
<tr>
<td>15.</td>
<td>West Central</td>
<td>WCR</td>
<td>April 1, 2003</td>
<td>Jabalpur</td>
<td>Jabalpur, Bhopal, Kota</td>
</tr>
<tr>
<td>16.</td>
<td>Western</td>
<td>WR</td>
<td>November 5, 1951</td>
<td>Mumbai</td>
<td>Mumbai Central, Vadodara, Ratlam, Ahmedabad, Rajkot, Bhavnagar</td>
</tr>
</tbody>
</table>


Note: Konkan Railway (KR) is constituted as a separately incorporated Railway, with its headquarters at Belapur CBD (Navi Mumbai), although it still comes under the control of the Railway Ministry and the Railway Board. The Calcutta Metro is owned and operated by Indian Railways, but is not a part of any of the zones. It is administratively considered to have the status of a zonal Railway.

### 2.3 The Development of Indian Railways after Independence

#### 2.3.1 1947 and After

India attained independence from Britain in August 1947 under the Indian Independence Act, which sliced the subcontinent into two countries – India and Pakistan.

In 1947, the single Indian Railway system was divided overnight into two entirely separate systems. The North Western Railway and the Bengal Assam Railway were the most profoundly affected in that they straddled the new international boundary between India and Pakistan. The Railway lines within the state of India, including 1855 miles of the North Western Railway and 1942 miles of the Bengal Assam Railway, formed the Indian Railway network. The Railway lines within the state of Pakistan, including the remaining 5026 miles of the North Western Railway and 1613 miles of the Bengal Assam Railway, formed the Pakistan Railway network. There was a division of
assets at the point of partition. Essentially, the assets that resided within the borders of the new state became the property of that state, according to the Inter-Dominion Financial Agreement. Both India and Pakistan were left to complete the partial administrative framework each had been left with.\(^{34}\)

During the war period Railways were facing the crucial time. There were no new development and renewals, repairs of rolling stock and other assets were neglected. During this period even the passenger traffic had increased enormously. At the end of the Second World War; Indian Railways were still faced with great problems connected with the existence of surplus staff, recoupment of rolling stock and improvement of workshop efficiency.

After second world war in 1939 and taking over the principal Railways previously being worked by the companies, there have been number of changes in the strength of the directorates in order to meet the exigencies of war and the new development that took place as a result of independence, integration of Indian states, regrouping of Railways, an expansion of development programme etc. After independence the management of Indian Railways was in the hands of a single Ministry of Railways along with the Ministry of Transport through of Railway Board.

With the attainment of independence in 1947 our national government has given much attention towards the development of Railways to promote our socio-economic advancement.
2.3.2 Growth and Development of Indian Railways

Indian Railways has more than 64,015 kilometres, 39,777 m of track and 6,909 stations.\textsuperscript{35} It has the world's fourth largest railway network after that of the United States, Russia and China.\textsuperscript{36} The Railways traverse the length and breadth of the country and carry over 20 million passengers and 2 million tons of freight daily.\textsuperscript{37} It is one of the world's largest commercial or utility employers, with more than 1.6 million employees. As to rolling stock, IR owns over 200,000 (freight) wagons, 50,000 coaches and 8,000 locomotives.\textsuperscript{38}

Indian Railway now carrying more the 13 million passengers daily, operating over 12000 trains, with over 40000 passenger coaches, along its network of more than 63000km of route, which connects over 7000 stations.\textsuperscript{39} The following Table 2.2 shows Growth and Development of Indian Railways since 1950-51 to 200-2009.

Table 2.2

<table>
<thead>
<tr>
<th>Years</th>
<th>Route kms</th>
<th>No. of stations</th>
<th>No. of passenger originating</th>
<th>Passenger kms</th>
<th>Average rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-51</td>
<td>53596</td>
<td>5976</td>
<td>1284</td>
<td>66517</td>
<td>1.48</td>
</tr>
<tr>
<td>1960-61</td>
<td>56247</td>
<td>6523</td>
<td>1594</td>
<td>77665</td>
<td>1.71</td>
</tr>
<tr>
<td>1970-71</td>
<td>59750</td>
<td>7066</td>
<td>2431</td>
<td>118120</td>
<td>2.50</td>
</tr>
<tr>
<td>1980-81</td>
<td>61240</td>
<td>7035</td>
<td>3613</td>
<td>208558</td>
<td>3.97</td>
</tr>
<tr>
<td>1990-91</td>
<td>62367</td>
<td>7100</td>
<td>3858</td>
<td>295644</td>
<td>10.64</td>
</tr>
<tr>
<td>1991-92</td>
<td>62458</td>
<td>7116</td>
<td>4049</td>
<td>314564</td>
<td>11.70</td>
</tr>
<tr>
<td>1992-93</td>
<td>62486</td>
<td>7043</td>
<td>3749</td>
<td>300103</td>
<td>14.37</td>
</tr>
</tbody>
</table>
### Organizational Structure

Indian Railways is a department owned and controlled by the Government of India, via the Ministry of Railways. As of May 2010, the Railway Ministry is headed by Mamata Banerjee, the Union Minister for Railways and assisted by two ministers of State for Railways. Indian Railways is administered by the Railway Board, which has a financial commissioner, five members and a chairman.\(^{40}\)

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue</th>
<th>Expenses</th>
<th>Profit</th>
<th>Total Liabilities</th>
<th>Return on Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-94</td>
<td>62462</td>
<td>7050</td>
<td>3708</td>
<td>296245</td>
<td>16.51</td>
</tr>
<tr>
<td>1994-95</td>
<td>62660</td>
<td>7056</td>
<td>3915</td>
<td>319365</td>
<td>17.09</td>
</tr>
<tr>
<td>1995-96</td>
<td>62915</td>
<td>7068</td>
<td>4018</td>
<td>341999</td>
<td>17.87</td>
</tr>
<tr>
<td>1996-97</td>
<td>62725</td>
<td>6984</td>
<td>4153</td>
<td>357013</td>
<td>18.53</td>
</tr>
<tr>
<td>1997-98</td>
<td>62495</td>
<td>6929</td>
<td>4348</td>
<td>379867</td>
<td>19.88</td>
</tr>
<tr>
<td>1998-99</td>
<td>62809</td>
<td>6896</td>
<td>4411</td>
<td>403884</td>
<td>21.11</td>
</tr>
<tr>
<td>1999-2000</td>
<td>62759</td>
<td>6867</td>
<td>4585</td>
<td>430666</td>
<td>22.19</td>
</tr>
<tr>
<td>2000-2001</td>
<td>63028</td>
<td>6843</td>
<td>4833</td>
<td>457022</td>
<td>22.94</td>
</tr>
<tr>
<td>2001-2002</td>
<td>63140</td>
<td>6856</td>
<td>5093</td>
<td>490912</td>
<td>22.62</td>
</tr>
<tr>
<td>2002-2003</td>
<td>63122</td>
<td>6906</td>
<td>4971</td>
<td>515044</td>
<td>24.35</td>
</tr>
<tr>
<td>2003-2004</td>
<td>63221</td>
<td>7031</td>
<td>5112</td>
<td>541208</td>
<td>24.50</td>
</tr>
<tr>
<td>2004-2005</td>
<td>63465</td>
<td>7146</td>
<td>5378</td>
<td>575702</td>
<td>24.4</td>
</tr>
<tr>
<td>2005-2006</td>
<td>63332</td>
<td>6974</td>
<td>5725</td>
<td>615614</td>
<td>24.5</td>
</tr>
<tr>
<td>2006-2007</td>
<td>63327</td>
<td>6909</td>
<td>6219</td>
<td>694764</td>
<td>24.7</td>
</tr>
<tr>
<td>2007-2008</td>
<td>63273</td>
<td>7025</td>
<td>6524</td>
<td>769956</td>
<td>25.7</td>
</tr>
<tr>
<td>2008-2009</td>
<td>64015</td>
<td>7030</td>
<td>6920</td>
<td>838032</td>
<td>26.09</td>
</tr>
</tbody>
</table>

**Source:** Annual Report and Accounts of Indian Railways, Ministry of Railways, India from 1950-51 to 2008-2009

2.3.3 *Organizational Structure*
The following figure 2.1 shows Organizational Structure of Indian Railways.

**Figure No 2.1**

Organizational Structure of Indian Railways

*Chief Administrative Officers (Railways) (As on 8 Feb. 2010)*

**Source:** Annual Reports and Accounts Annual Report and Accounts of Indian Railways, Ministry of Railways, India 2009-10.
2.4 Financial Performance of Indian Railways

The Indian Railway is a departmental activity of the Government of India. It is the largest organization in India, with a capital investment of about of ‘Rs 55,0001 core’, has also been pivotal to the developing economy of the country as a whole. The Indian Railways accounts for nearly one percent of the GDP and with a staff of 1.5 million is the largest employer in the organized sector. The Indian Railway is the principal public transport in the country. It has a total length of 63,322 km (second largest in the world), carries 14 million passengers per day and has a separate budget - distinct from the Government of India budget. According to the World Bank, the Indian Railway is one of the top five national Railway systems, others being the United States, former Soviet Union, Canada and China.

China and India have, more or less, comparable Railway system in terms of track length, large land mass and population exceeding one billion. Its size and its mode of operation as a government department, present special challenges for the management of Railways as a commercial enterprise. They also add to the difficulty of responding to both short and long-term changes in transport market conditions, given the importance of the Indian Railway in the context of the Indian economy, the Indian Government was concerned about its declining financial performance in the late 90s. Consequently, the GOI appointed the Rakesh Mohan Committee (RMC) to review the Indian Railway’s operations. The Committee stated that ‘Indian Railway is today on the verge of a financial crisis. Urgent action is needed to revitalize it so that it can continue to serve the
The following Table No 2.3 shows the Financial Performance of the Indian Railway.

### Table No 2.3

**Financial Performance of Indian Railways**

<table>
<thead>
<tr>
<th></th>
<th>Rs. (crore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gross traffic receipts</td>
<td>2524</td>
</tr>
<tr>
<td>(i) Passenger coaching</td>
<td>16/2</td>
</tr>
<tr>
<td>(ii) Other coaching</td>
<td>116</td>
</tr>
<tr>
<td>(iii) Goods</td>
<td>1618</td>
</tr>
<tr>
<td>(iv) Other earnings</td>
<td>79</td>
</tr>
<tr>
<td>(v) Suspense account</td>
<td>-18</td>
</tr>
<tr>
<td>2. Working expenses</td>
<td>2511</td>
</tr>
<tr>
<td>(i) Ordinary working expenses</td>
<td>2235</td>
</tr>
<tr>
<td>(ii) Appropriations to depreciation reserve fund</td>
<td>220</td>
</tr>
<tr>
<td>(iii) Appropriation to pension fund</td>
<td>84</td>
</tr>
<tr>
<td>3. Net traffic receipts (1-2)</td>
<td>857</td>
</tr>
<tr>
<td>4. Net miscellaneous receipts</td>
<td>40</td>
</tr>
<tr>
<td>5. Net receipts (3+4)</td>
<td>1277</td>
</tr>
<tr>
<td>6. Dividend</td>
<td></td>
</tr>
<tr>
<td>(i) Payable to general revenues</td>
<td>325</td>
</tr>
<tr>
<td>(ii) Payment of declared dividend</td>
<td>...</td>
</tr>
<tr>
<td>(iii) Net dividend payable[(i)+(ii)]</td>
<td>325</td>
</tr>
<tr>
<td>7. Surplus (i+j)</td>
<td>-158</td>
</tr>
<tr>
<td>8. (i) Capital at change</td>
<td>6646</td>
</tr>
<tr>
<td>(ii) Investment from capital fund</td>
<td>0</td>
</tr>
<tr>
<td>(iii) Total[(i)+(ii)]</td>
<td>6646</td>
</tr>
<tr>
<td>9. Item 5 as % of item 8(iii)</td>
<td>2.1</td>
</tr>
<tr>
<td>10. Item 7 as % of item 8(iii)</td>
<td>32.6</td>
</tr>
</tbody>
</table>

**Source:** Ministry of Railways, Economic Survey 2009-10
# Table No2.4 Revenue Earning Goods Traffic on Indian railways

## A: TRAFFIC ORIGINATING

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Coal</td>
<td>11.27</td>
<td>19.53</td>
<td>27.94</td>
<td>56.37</td>
<td>85.6</td>
<td>153.44</td>
<td>161.91</td>
<td>170.44</td>
<td>191.54</td>
<td>208.40</td>
<td>229.65</td>
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<tr>
<td>2. Raw materials for Steel Plants except iron one</td>
<td>na</td>
<td>1.38</td>
<td>2.71</td>
<td>4.25</td>
<td>7.51</td>
<td>13.53</td>
<td>16.94</td>
<td>17.41</td>
<td>19.67</td>
<td>7.68</td>
<td>7.40</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3. Pig iron &amp; finished steel</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
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<td>na</td>
<td>2.57</td>
<td>25.53</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4. Iron ore</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
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<td>na</td>
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<td>na</td>
</tr>
<tr>
<td>5. Cement</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
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<td>na</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>6. Foodgrains</td>
<td>4</td>
<td>9.82</td>
<td>14.51</td>
<td>24.31</td>
<td>35.59</td>
<td>33.1</td>
<td>62.0</td>
<td>55.1</td>
<td>47.65</td>
<td>46.66</td>
<td>44.51</td>
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<td>7. Fertilisers</td>
<td>na</td>
<td>3.81</td>
<td>8.92</td>
<td>17.27</td>
<td>23.1</td>
<td>21.71</td>
<td>25.71</td>
<td>25.47</td>
<td>25.81</td>
<td>31.82</td>
<td></td>
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</tr>
<tr>
<td>8. PCL</td>
<td>na</td>
<td>2.58</td>
<td>5.28</td>
<td>11.66</td>
<td>15.12</td>
<td>19.87</td>
<td>21.02</td>
<td>24.38</td>
<td>24.72</td>
<td>23.40</td>
<td>23.68</td>
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<td></td>
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<td></td>
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<tr>
<td>9. Container Services</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
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<td>4.6</td>
<td>9.2</td>
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<td></td>
<td></td>
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<tr>
<td>10. Balance (other goods)</td>
<td>22.3</td>
<td>31.95</td>
<td>37.09</td>
<td>39.51</td>
<td>36.56</td>
<td>44.54</td>
<td>62.30</td>
<td>73.19</td>
<td>91.26</td>
<td>60.51</td>
<td>55.64</td>
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<td></td>
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<tr>
<td>11. Total revenue earning freight traffic</td>
<td>37.57</td>
<td>72.33</td>
<td>110.7</td>
<td>147.85</td>
<td>235.79</td>
<td>312.37</td>
<td>407.4</td>
<td>436.6</td>
<td>480.99</td>
<td>521.57</td>
<td>551.36</td>
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### Source:
Ministry of Railways, na: Not Available, P: Provisional, a: Excluding Konkan Railways Corporation Limited loading, b: Revised
Table No 2.5

Operations of Indian Railways

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</thead>
<tbody>
<tr>
<td>1. Route kilometers (000s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Electrified</td>
<td>0.4</td>
<td>0.8</td>
<td>3.7</td>
<td>5.4</td>
<td>10.0</td>
<td>14.9</td>
<td>17.5</td>
<td>17.9</td>
<td>17.8</td>
<td>16.3</td>
<td>13.6</td>
</tr>
<tr>
<td>Total</td>
<td>53.6</td>
<td>56.2</td>
<td>59.8</td>
<td>61.2</td>
<td>62.4</td>
<td>63.0</td>
<td>63.5</td>
<td>63.3</td>
<td>63.3</td>
<td>63.3</td>
<td>64.0</td>
</tr>
<tr>
<td>2. Originating traffic (million tonnes)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue Earning</td>
<td>73.2</td>
<td>119.8</td>
<td>167.9</td>
<td>195.9</td>
<td>218.4</td>
<td>473.5</td>
<td>602.1b</td>
<td>666.5c</td>
<td>727.7c</td>
<td>703.8d</td>
<td>833.3f</td>
</tr>
<tr>
<td>Total Traffic</td>
<td>69</td>
<td>156.2</td>
<td>196.5</td>
<td>220</td>
<td>311.4</td>
<td>594.2</td>
<td>626.1e</td>
<td>632.2f</td>
<td>714.5g</td>
<td>604.1h</td>
<td>836.19j</td>
</tr>
<tr>
<td>3. Goods carried (billion tonne km)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue Earning</td>
<td>37.6</td>
<td>72.9</td>
<td>110.7</td>
<td>147.7</td>
<td>295.8</td>
<td>812.4</td>
<td>407.4</td>
<td>439.5</td>
<td>481.0</td>
<td>521.4</td>
<td>551.4</td>
</tr>
<tr>
<td>Total traffic</td>
<td>44.1</td>
<td>87.7</td>
<td>127.4</td>
<td>158.5</td>
<td>242.7</td>
<td>315.5</td>
<td>411.3</td>
<td>441.8</td>
<td>483.4</td>
<td>522.2</td>
<td>551.9</td>
</tr>
<tr>
<td>4. Earnings from goods carried (Rs. crore)</td>
<td>129.3</td>
<td>280.5</td>
<td>600.7</td>
<td>1550.9</td>
<td>8247.0</td>
<td>23045.4</td>
<td>30489.2</td>
<td>35534.7</td>
<td>41073.2</td>
<td>46425.5</td>
<td>51749.3</td>
</tr>
<tr>
<td>5. Average Lead all goods traffic (km)</td>
<td>470.0</td>
<td>561.0</td>
<td>648.0</td>
<td>720.0</td>
<td>711.0</td>
<td>628.0</td>
<td>657.0</td>
<td>647.0</td>
<td>649.0</td>
<td>651.0</td>
<td>663.0</td>
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<tr>
<td>6. Average rate/tonne km. (paise)</td>
<td>3.2</td>
<td>3.9</td>
<td>5.4</td>
<td>10.5</td>
<td>35.0</td>
<td>73.8</td>
<td>74.8</td>
<td>80.8</td>
<td>85.4</td>
<td>85.0</td>
<td>93.9</td>
</tr>
<tr>
<td>7. Passengers Originating (millions)</td>
<td>1284.0</td>
<td>1594.0</td>
<td>2431.0</td>
<td>3613.0</td>
<td>3658.0</td>
<td>4803.0</td>
<td>5770.0</td>
<td>5725.0</td>
<td>6218.0</td>
<td>3624.0</td>
<td>6920.4</td>
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<tr>
<td>8. Passengers Kilometers (billion)</td>
<td>66.5</td>
<td>77.7</td>
<td>118.1</td>
<td>208.6</td>
<td>296.6</td>
<td>457.0</td>
<td>576.0</td>
<td>616.0</td>
<td>695.0</td>
<td>770.0</td>
<td>838.0</td>
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<tr>
<td>9. Passengers Earnings (Rs. crore)</td>
<td>98.2</td>
<td>131.6</td>
<td>235.5</td>
<td>327.5</td>
<td>3144.7</td>
<td>10515.1e</td>
<td>14113.7f</td>
<td>15126.9f</td>
<td>17224.8f</td>
<td>18644.2f</td>
<td>21931.3f</td>
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<tr>
<td>10. Average lead: passenger traffic (km)</td>
<td>51.8</td>
<td>48.7</td>
<td>48.6</td>
<td>57.7</td>
<td>76.8</td>
<td>94.6</td>
<td>107.0</td>
<td>107.5</td>
<td>111.7</td>
<td>116.0</td>
<td>121.1</td>
</tr>
<tr>
<td>11. Average rate per passenger-kilometre (paise)</td>
<td>1.5</td>
<td>1.7</td>
<td>2.5</td>
<td>4.0</td>
<td>10.6</td>
<td>22.9</td>
<td>24.4</td>
<td>24.5</td>
<td>24.7</td>
<td>25.7</td>
<td>25.1</td>
</tr>
</tbody>
</table>

Source: Ministry of Railways, b: provisional; excluding Konkan Railways Corporation Limited loading, c: excluding Metro Railway, d: Includes Metro Railway/Kolkata’s earnings.
2.5 Recent Development of Indian Railways

Now, to further improve upon its services, the Indian Railways have embarked upon various schemes, which are immensely ambitious. The railway has changed from meter gauge to broad gauge and the people have given it a warm welcome. Now, there are the impressive-looking locomotives that haul the 21st-century harbingers—the Rajdhanis and Shatabdis—at speeds of 145 kmph with all amenities and comfort. With these, the inconvenience of changing to a different gauge en route to a destination will no longer be felt. The entire scenario of the Indian transport sector, however, changed after the independence and the accompanying partition of the country. The government of India took up the policy of mixed economy, thus nationalizing most of the basic sectors, including transport infrastructure. Social return became more important than private return. The vast network of Indian railways was nationalized. The smaller private companies were all merged together. Railway expansion has been one of the main aims and ambitions of the government. A separate ministry has been formed only for the Railways and each year, separate budget is placed for the Railways.\(^45\)

Both passenger and goods service have increased over time in terms of number and amount respectively and so has the revenue. Both local and long distance trains have showed the same trend. Route kilometer shows an impressive increase too.

The Indian Railways have commenced upon various schemes, which are massively motivated. The Railway has changed from metre gauge to broad gauge and the people have given it a warm welcome. Now, there are the impressive looking locomotives that haul the 21st-century harbingers the Rajdhanis and Shatabdis at speeds
of 145 kmph with all services and comfort. With these, the inconvenience of changing to a different gauge en route to a destination will no longer be felt.

The Research, Designing and Standardizing Organization at Lucknow, the largest Railway research organization in the world was constituted in 1957. It is constantly devising improvements in the signaling systems, track design and layout, coach interiors for better riding comfort and capacity etc. along with improvements in locomotives. The workshops of the Railways as well have been given new equipments to create sophisticated coaches at Perambur and Kapurthala and diesel engine parts at Patiala. Locomotives are being made at Chittaranjan and Varanasi. This is in sharp contrast to the earlier British belief that only minor repairs would be possible in India, so all spare parts including nuts and bolts for locomotives would have to be imported from England. More trains and routes are constantly being added to the Railway network and services. The British inheritance lives on in our Railway system, transformed but never forgotten. The network of lines has grown to about 62,000 kilometers. But, the variety of Indian Railways is unlimited. It still has the unrealistic toy trains on narrow gauge hill sections, metre gauge beauties on other and broad gauge bonanzas as one visits places of tourist interest. They are an acknowledgement of the Railways that tourism as an industry has to be promoted and that India is full of unique beauty. The Calcutta Metro is a fine example of highly multifaceted engineering techniques that has been adopted to lay an underground Railway in the densely built-up areas of Calcutta city. It is a treat to be seen. Calcutta is also the only city where the Metro Railway started operating from September 27, 1995 over a length of 16.45 km. There is also a Circular Railway from Dum Dum to Princep Ghats covering 13.50 km to provide commuter trains.
Till date the Indian Railways have retained their past heritage. Much improvement also has been brought about. In recent times Indian Railways were highly praised to be the 2nd largest Railway system in the entire world. Indian Railways offer the principal mode of transporting specially for freight and passengers. By connecting people of far off countries, Indian Railways have facilitated the growth of commerce, education and tourism industry of the country. Its pioneering role in enhancing economic and socio-political growth is undeniable. Electrification has been done which has furthered its growth by leaps and bounds.

2.6 SWOT Analysis on Indian Railways

Before doing the SWOT Analysis on Indian Railways, researcher must understand the clear meaning of SWOT. Looking at the word ‘SWOT’ seems too simple, but it is a wide term used, which contains all the necessary data or information of a business organization, firm and others institutions etc.

S.W.O.T contains four different aspects in it, in which ‘S’ stands for ‘STRENGTH’ of the concerned object, ‘W’ stands for ‘WEAKNESS’, ‘O’ stands for ‘OPPORTUNITY’ and ‘T’ stands for ‘THREATS’ for that concerned object.

On ‘SWOT Analysis of Indian Railways researcher find that the sector has innumerable strengths along with various weaknesses. It has great opportunities and lots of threats from other private sector. In other words researcher can say that Indian Railways is a widely used term in Indian Economy. It alone covers more than 25% of Indian Economy Structure.
All the four aspects of SWOT in the way of Indian Railways are explained and described further.

### 2.6.1 Strengths

The following are the existing strengths of Indian Railways:

- **Network Expansion**

  A large network of 7000 stations exists in the country. The route network of Indian Railways has expanded very slowly in the past. In 1947, Indian Railways inherited 53,996 of route kms of rail network and today we stand at 64,099 kms an increase of only 10,000 kms over 62 years.

- **Market Share**

  A substantial market share exists, in passenger segment. Railways will aim at capturing 50% of the freight moving over 300 kms distance and more than 70% of the bulk cargo moving in large volumes in the same distance range, for a country of 1000 million people with low purchasing power Railway system is more appropriate.

- **Mode of Transport**

  For long distance and bulk sector Railways is the most economical and comparatively safer mode of transport.
➢ **Industrial Relation**

Management of industrial relations in Railways is underpinned by some exemplary systems like Permanent Negotiating Machinery (PNM) and Participation of Railway Employees in Management (PREM). These systems would be strengthened and used to achieve consensus and generate necessary organizational synergy towards attainment of the ambitious goals.

➢ **Resource Mobilization**

Petroleum products procured through imports are very expensive and thus electricity based Railway system will always have an edge on parameters of pollution, energy cost and environmental factors.

2.7.2 **Weaknesses**

The following are the weaknesses of Indian Railways:

➢ **Problem of declining market share**

Indian Railways, like other railways in the world and particularly the major railways, has been facing the problem of declining market share in comparison with other transportation modes. With growing traffic volumes, the issues generally faced by many railways have been the need to provide new types of services in freight and passenger segments, augmentation of the network, provision
of higher capacity/high speed rolling stock, reduction of unit cost of transportation and provision of better quality services.

- **Outdated technology of locomotive**

  The rail engines used to run the trains that have very old and outdated technology. So they require huge maintenance cost and they do not give proper return, resulting in poor efficiency. There is immediate need to change the engines by new and modern ones.

- **Small and inadequate rail networks**

  No doubt India is world’s second largest rail network country, if we consider the requirements of economy and size of country, it is not enough. Further India’s population, which is ever increasing enumerates pressure on this sector. So there must be extension in the rail networks as per the demand and requirements.

- **Problem of financial crunch**

  The Railway is facing the problem of financial crunch. The conventional methods of increasing the net revenue, like rising of tariffs and expenditure control are inadequate for generating the levels of investment required.

2.7.3. **Opportunities**

The following are the opportunities of Indian Railways:
Freight business

- Induction of high capacity and high-speed wagons to reduce unit cost of operations. Present payload to tare ratio which is 2 - 2.5 needs to be increased to at least over 3.5.

- Incentivize the Setting up of private freight terminals and commodity specific terminals.

- Induction of special types of wagons for bulk movement of commodities such as cement, fly-ash and food-grains.

- Attracting new streams of traffic like fly-ash, exploiting the full potential for automobile traffic by design and development of special types of wagons.

- Operation of scheduled freight services and value added services for high-end customers. This is particularly applicable to container traffic and commodities like FMCG and white goods that are highly time sensitive and are not moving by railways today.

Passenger business

- Segregation of suburban business in Mumbai, Kolkata and Chennai by creating a separate administrative unit.

- Developing day-time inter-city trains as a separate business with low-cost, no-frills terminals and separate tariff.
• An overhaul of slow-moving, all-stopping passenger services that account for 70% of non-suburban traffic – replacement by fast DMUs/ MEMUs.

• Modernization and development of passenger terminals through private investment.

• Passenger tariff subsidy burden to be borne by local governments/employers.

• Rationalizations of passenger tariff for upper class passengers.

• Mechanism for tariff regulation - independent Rail Tariff Regulatory body.

➢ Safety

Safety performance of Indian Railways measured in terms of number of consequential train accidents (accidents with serious repercussions in terms of loss of human life or injury or damage to railway property or interruption to railway traffic beyond the defined threshold level). These include collision, derailment and fire in trains, accident of road vehicles with trains at level crossings and other specified types of miscellaneous train mishaps or accidents. A lot more work needs to be done by way of technological up gradation, HR interventions of right recruitment, promotion, training and motivation of employees before preventable accidents are eliminated from the Railways. Ongoing initiatives like manning of busier level-crossings and pre-warning and education of road users at unmanned level crossings need to be scaled up to minimize mishaps at level-crossings. Safety is a challenge but a close -to -zero accident goals is attainable. This issue has to be addressed with proper planning and determination.
2.7.4 Threats

The following are the threats of Indian Railways:

➢ Freight business

- Rail share in freight transport has declined and roadways are a serious threat to railways, particularly with the expansion of the national highway network through the NHDP (National Highway Development Project).

- There is a decline in high return, non-bulk traffic because of the Railways' suitability and focus on train-load traffic.

- Railways are not able to provide time-tabled freight services as available in some countries, thereby not being able to attract traffic that requires guaranteed transit times or fixed schedule transit such as overnight delivery for special consignments.

➢ Passenger business

- Competition from road for shorter journeys and low-cost airlines for upper class travel.

- Lack of a policy for introducing high speed passenger services or separate high speed corridors as in other countries.

- Improvement in speeds of a large number of slow moving passenger trains on main routes which seriously hamper line capacity and affect the running of express trains and freight trains. Such trains account for 70% of non-suburban passengers.
2.8 Indian Railways – Plan, Priorities and Challenges

Over the last few years Indian Railways has been retrieval market share in transport sector through improved services, better utilization of assets, capacity augmentation and customer friendly approach and the revenues have steadily increased to the level of Rs. 84,233 crore in 2008-09.

The thrust of improved performance in 2008-09 has hinged upon significant improvement in asset utilization apart from capacity augmentation. There has also been a positive response of the market to Dynamic Pricing Policy and other innovative measures introduced by Railways to gain market share. Indian Railways has been following a systematic Five Year Planning process to priorities & achieve strategic objectives and allocate resources optimally. The Five Year Plan is further implemented, monitored and reviewed on yearly basis through Annual Plans to ensure that priorities are met.

To give a broad picture of IR’s organizational structure and size, the vast network is predominantly Broad Gauge- 1676 mm (81%) with 18274 kms of electrified route kms (29%). Administratively IR under Ministry of Railways is divided into 16 Zones, which are further sub divided into 68 divisions. There are 13 Public Sector Units/Corporations, 7 major production units (manufacturing electric and diesel locomotives, coaches, EMU/MEMU/DEMU) other major organizations under IR are Research, Design and Standards Organization (RDSO), Central Organization for Railway Electrification (CORE), Metro Railway Kolkata and 6 major training institutes. The freight and business strategies, capacity augmentation and asset replacement plan, technological up gradation programme and other initiatives are planned systematically
across this vast organization and along the complete value chain of Rail transportation business through the Five Year Planning process.

In spite of the global economic downturn in 2008-09, which radically affected demand, Indian Economy has shown flexibility and witnessed a GDP growth of over 6% in 2008-09. The GDP predict for next few years even though moderated from the 8-9% growth levels in last few years are still comparatively significant and range between 5% to 7%. To support and push this high projected GDP growth, India needs rapid augmentation of capacity in infrastructure be it; Power Generation, Road Network, Rail Network, Port capacity or Telecom connectivity. Indian Railways being the main transporter of bulk freight, containers and passenger traffic is a key driver for supporting the GDP growth of the country. Besides, Railways is also an engine of inclusive growth. The XI\textsuperscript{th} Plan (2007-12) lays ambitious targets for freight and passenger business transportation and associated capacity augmentation and technological up-gradation. The main objectives in the XI\textsuperscript{th} Five Year Plan are creation of adequate transport capacity to handle the projected growth of both passenger and freight traffic during the Plan period and provide improved services to both the segments. Increase in market share in freight traffic, both bulk and non-bulk, is also an important focus area. The XI\textsuperscript{th} Plan priorities for IR can be summarized as building capacity for handling traffic growth (New Lines including Dedicated Freight Corridor, Unigauge Network, Doubling, Capacity Enhancement on High Density Network and Enhancing Capacity for Rolling Stock Production) up-gradation for heavy axle load movement, modernization of freight and passenger terminals, developing world class stations, Information Technology initiatives and technological up-gradations. The Plan envisages growth in freight transportation
business from 481 billion NTKM in 2006-07 to 702 billion NTKM in the terminal year 2011-12. On passenger business front target of 924 billion PKM has been set against accruals of 695 billion PKM in 2006-07.

To achieve the quantum increase in traffic, the XI\textsuperscript{th} plan marks a significant change in Indian Railways earlier approach of incremental capacity augmentation. The capacity creation targets in XI\textsuperscript{th} Plan have been kept at twice/thrice levels of that of X\textsuperscript{th} Plan accruals. In fixed infrastructure it is planned to add 2000 kms of new lines, convert 10000 kms of Meter/Narrow gauge lines to Broad gauge (1676 mm), Double 6000 kms of single track and electrify 3500 kms of network length.

The overall Plan Size is Rs 233,289 Crore at current prices and the resource mobilization envisages Rs 90,000 Crore from Internal Resource Mobilization, 63,635 Crore from Gross Budgetary Support and Rs 79,654 Crore from market borrowings and private participation. The thrust areas for the Indian Railways XI\textsuperscript{th} Plan are brought out below:

**Improvement in operation and productivity**

- Introducing heavier trains of 25 tonne axle load.

- Augmentation of Axle load on over 22000 kms.

- Streamlining of maintenance practices.

- Introducing higher capacity wagons with better payload to tare ratio.

- Running of double stack container trains.
Increasing running of longer passenger trains of 24 coaches.

Introducing higher capacity coaches.

Rightsizing of manpower.

Increased computerization in operation and maintenance of services.

**Improving Safety**

- Technological upgradation by reducing human intervention and operation. Better – skills in operation and maintenance of assets by enhanced training.

- Improving the energy efficiency and adopting environmental friendly measures such as:
  - Use of fuel-efficient locomotives
  - Adopting energy-efficient technologies for manufacturing and maintenance activities
  - Reducing the electricity charges and traction energy costs
  - Improving the fuel management in diesel locomotives

In the budget 2009-10 several key programmes/initiatives have been planned in areas of improving passenger amenities & capacity augmentation (fixed infrastructure and rolling stock). On the passenger service front these include: development of 50 stations as World Class stations with international level of facilities; development of 375
Adarsh stations in 2009-10 with improved passenger facilities; construction of Multi-Functional complexes at 50 Railway Stations; expansion of On Board Housekeeping scheme to cover 200 additional trains; On Board Infotainment Services on Rajdhanis, Shatabdis and important long distance intercity trains; Selling of computerized tickets from Post Offices & Introduction of mobile ticketing vans. Further introduction of high capacity AC double Decker coaches, environment friendly green toilets & ambulance services at metropolitan cities have also been planned.\(^\text{48}\)

### 2.9 Conclusion

Indian Railways is the biggest government undertaking, the chief abandoned employer and the largest public utility. It is the largest rail system of the world after the Russian Railways. During 156 years of planning, it has become from a miniature to colossal organization. Railways have recorded noteworthy growth in route kilometer, rolling, signaling and telecommunication, electrification, modernization of diesel and electric traction, large scale application of Information Technological and generation of employment.

Indian Railways has more than 64,015 kilometres, 39,777 m of track and 6,909 stations. The Railways traverse the length and breadth of the country and carry over 20 million passengers and 2 million tons of freight daily. It is one of the world's largest commercial or utility employers, with more than 1.3 million employees. As to rolling stock, IR owns over 200,000 (freight) wagons, 50,000 coaches and 8,000 locomotives.
Further, Railways have succeeded in establishing inter-regional, inter-sectoral and rural-urban linkage and providing effective transportation support during wars and natural calamities even at short notice. An analysis of Indian Railway during pre and post independence period would reveal some interesting facts which are of relevance even today.

2.10 References


10. Dr. Sudakshina Gupta, Indian Railways: A Few Aspects of Performance, Reader, Dept of Economics, Ramakrishna Sarada Mission Vivekananda Vidyabhavan.

11. Dr. Sudakshina Gupta, Indian Railways: A Few Aspects of Performance Reader, Dept of Economics, Ramakrishna Sarada Mission Vivekananda Vidyabhavan.


16. Dr. S.M. Imamul Haque, Managing of Indian Railways 1989, p.5.


33. "Zones and their Divisions in Indian Railways". Indian Railways, Retrieved 15 September 2009 format=PDF.

34. IRPS-Indian Railway Personnel Service http://www.irps.in/aboutirps.html, accessed on 1 June 2010.


41. Standing Committee on Railways. 2005. Standing Committee on Railways 2004–05, 14th Loksabha.


43. Asian Development Bank. 2002 Report and Recommendations of the President to the Board of Directors on a proposed loan and technical assistance grant to India for the Railway sector improvement project, Asian Development Bank, Manila.


