Chapter - I

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INTRODUCTION
(Transport, Importance, Modes, Public Sector Transport and Research Methodology)

SECTION - A
1.1 Introduction
1.2 Role and Importance of Transport
1.3 Need of Passenger Transport
1.4 Origin of Public Sector Passenger Transport in India
1.5 Maharashtra State Road Transport Corporation (MSRTC)
1.6 Operations Management – Relevance with Transport Services

SECTION - B
1.7 Scope of the Study
1.8 Objectives
1.9 Period of the Study
1.10 Hypotheses
1.11 Methodology
1.12 Scheme of Presentation
1.13 Limitations of the Study
This chapter is divided into two sections A and B. Section-A is devoted to general introduction of Transport and Public Sector Road Transport. Section-B describes the Research Methodology adopted in the study.

SECTION - A

1.1 Introduction

Mobility is one of the characteristics of human beings; movement is the feature of human nature which simply means mere movement of persons from one place to another for getting comfort journey, availing day to day necessities and to earn bread and butter. Alfred Marshal was also pointed out in “Industry and Trade” (1927) which was restated by H.P. White M.L. senior in “Transport Geography” (Longman, 1983) as follows:

“The transport industry which undertake nothing more than the mere movement of persons and things from one place to another, have constructed one of the most important activities of man in every state of advanced civilisation. It is not only a basic human activity but is also a movement in space.” ¹

Mobility intends and extends to transport of men and materials. It is found that mobility and movement of human beings resulted in course of transport action. Moreover, it has been shaping and creating the means of transport for the fulfilment and expanding needs of human beings, ultimately it serves in creation and attainment of place and time utilities.
Origin and Evolution of Transport

The word 'transport' is derived from the Latin word 'transporter', 'trans' means across and 'porter' means to carry. The 'transport', therefore, refers to carrying goods or persons from one place to another. However, it may be noted that the term 'Transport' and 'Transportation' have been used to denote the same meaning except the fact that the latter being used more frequently by the American authors. 

It is admitted that the provision for continuous and without interruption of mobility of persons and materials is a basic necessity of the society. The continuous endeavour of the Western countries had been resulted into distinct stages of Transport evolution. The first stage begins with the early period when immobility had there and economic life of people based on local transactions. Canals and turnpikes expanded in second stage. The third stage of transport evolution was started when the steam engine was invented. And transport mechanism came into force with commencement of railway transport, which helped to curtail the cost and saved in-transit time and removed the burden on men and animals. The fourth era of transport evolution started with motor age and achieved transport growth through introducing the mobility of road transport world over.

Later, transport sector attained comprehensive growth after the introduction of Air Aviation transport through Aircraft infrastructure. After all the journey of whole transport sector in the world has been evolutionary to U.S.A. and other developed countries while it has been revolutionary to the developing countries.

1.2 Role and Importance of Transport

In the complex process of modern economic development, transportation plays a vital role in achieving various goals of any
country such as to acquire land for production to provide resources for industrial infrastructure, to assist agriculture sector, to make proper utilisation of natural resources for the development of all sectors. As well as executing plans and programmes for the interest of the public. In this regards transport sector bears a close and complex relationship with all other sectors in the development of the economy. Rapid growth of cities, increase in large scale manufacturing activities, the fast urbanisation around the industrial centres and all these factors contributed to the development of various modes of transport world over. It is explicit truth that the economic development of a country like India is largely conditioned upon the connectivity of villages and links up to rural, urban and hilly areas of the country. Besides, it integrates the economy with connecting to all sector activities from every nook and corners of the countryside. From the discussion in foregoing paragraphs, it is apparent that the progress in the field of transport brings different part of world in close contact with one another and it reduces the time in converting the distance. In nutshell, it is the justified fact that the growth of any country is being accomplished through the transport sector.

Transport Sector of India

Indian transport system comprises three major modes of transport:

i) Land transport: consists rail and road transport,
ii) Water transport and
iii) Air transport

i) Land Transport

India’s Land Transport System has been organised and managed by mixed ownership pattern of public and private sector. The constitutional responsibility for providing transport facilities have been kept on the shoulders of both Central and State by which the Central
Government is accountable for development of the railways, national highways, civil aviation, international shipping and major ports.

And the development of all minor ports, coastal shipping, inland water transport and urban transport rests to the domain of the States. The domestic air transport service has been deregulated in early 1990; by allowing private operators. A few private air transport operators are entered and recently they are competing with Government undertaking.6

A) Railway Transport

The Railway has more advantages as compared to other modes of transport. Indian Railway is second largest railway system in the world. It provides necessary freight traffic to most of the Indian industries and reliable transportation to the common man. Considering the role of railway, Government of India has been providing considerable amount for transport sector during various plan period. Of which railway share was about 50 percent to 66.87 percent of the transport sector allocation during the first and third Five Year Plan period and then gradually share declined to 48.45 percent at the Eighth Plan.7 The Indian railway is being performed attractive transport activity during the last 50 years. It may be noted that freight traffic of Indian Railway has increased from 38 to 277.5 billion net ton kms. which is 7.30 times of the base year. As well as passenger traffic has also increased from 66 billion passenger kms. to 357 billion passenger kms. which is 5.40 fold of the year 1950-51. While its route length increased from 54,000 to 62,725 km during the year 1950-51 and 1996-97 respectively.

At present, the Indian Railway is having a route length of 62,725 kms. out of which 13,500 kms. route length is electrified which accounts for 21 percent of its total route kms. And carries over 60% of the freight and 48 percent of the passenger traffic. Presently, Indian Railway is

running 11,000 trains and carrying over 11 million passengers and 1.2 million tones of freight daily all over through 62,725 route kms. and 7,000 Railway Stations spread over across in the country.\(^8\) In fact there was a steady decline in allocation of funds from Central Budget. The provision of budgetary support has declined from 75 percent in the 5\(^{th}\) plan to 20 percent in the 8\(^{th}\) plan. It is clear that the industry is facing the major problems of resource constraints which is badly affected the augmentation and expansion programme of Indian Railway.\(^9\)

B) Road Transport

The Road Transport is prominent infrastructure which occupies a predominant place in India with an area of 3.29 million sq. kms. stretched over a distance of 3,000 kms. and across 5,92,000 villages spread all over the country.

It is ever increasing and popular mode of transport on mass level because of its easy availability, flexibility in operation, adaptability to individuals, door to door service and reliability for all kinds. Moreover, it serves as a feeder service to rail and air traffic. It also carries long distance, in the district, inter-district, inter-state and remote areas traffic. Hence, roads are imperative infrastructure for road transport. Rail India Technical and Economic Services Ltd. (RITES) has observed that 80 percent of the passenger and 60 percent of the freight movement depends on the roads. Considering the importance of road transport, out of total plan allocation to transport sector, Government allocated about 33.9 percent, 22 percent, 23.6 percent, 39.3 percent, 39.8 percent, 36.6 percent, 28.8 percent and 30.4 percent during the last 8 consecutive plans respectively. The progress of road length covered in India over the period 1950-51 to 1996-97, it has increased from 0.4 million kms. in 1950-51 to over 3.3 million kms. in 1996-97, which is eight times progress. The national highways and state highways together constitute

\footnotesize{Gawali P.M., Ph.D. Thesis, Swami Ramanand Teerth Marathwada University, Nanded (M.S.), India, June 2006.}
about 7 percent of the total road length but it carries more than 75-80 percent of the road traffic which denotes the acute need of its development and maintenance of highways.\(^\text{10}\)

Table 1.1

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Year</th>
<th>All Vehicles</th>
<th>Two Wheelers</th>
<th>Car &amp; Jeep &amp; Taxies</th>
<th>Buses</th>
<th>Goods Vehicles</th>
<th>Others</th>
<th>Index for Total Vehicle</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1951</td>
<td>306</td>
<td>27</td>
<td>159</td>
<td>34</td>
<td>82</td>
<td>04</td>
<td>100</td>
</tr>
<tr>
<td>2.</td>
<td>1956</td>
<td>426</td>
<td>41</td>
<td>203</td>
<td>47</td>
<td>119</td>
<td>16</td>
<td>139</td>
</tr>
<tr>
<td>3.</td>
<td>1961</td>
<td>665</td>
<td>88</td>
<td>310</td>
<td>57</td>
<td>168</td>
<td>42</td>
<td>217</td>
</tr>
<tr>
<td>4.</td>
<td>1966</td>
<td>1,099</td>
<td>226</td>
<td>456</td>
<td>73</td>
<td>259</td>
<td>85</td>
<td>359</td>
</tr>
<tr>
<td>5.</td>
<td>1971</td>
<td>1,865</td>
<td>576</td>
<td>682</td>
<td>94</td>
<td>343</td>
<td>170</td>
<td>609</td>
</tr>
<tr>
<td>6.</td>
<td>1976</td>
<td>2,700</td>
<td>1,057</td>
<td>789</td>
<td>115</td>
<td>351</td>
<td>398</td>
<td>882</td>
</tr>
<tr>
<td>7.</td>
<td>1981</td>
<td>5,391</td>
<td>2,618</td>
<td>1,160</td>
<td>162</td>
<td>554</td>
<td>897</td>
<td>1,762</td>
</tr>
<tr>
<td>8.</td>
<td>1986</td>
<td>10,577</td>
<td>6,245</td>
<td>1,780</td>
<td>227</td>
<td>863</td>
<td>1,462</td>
<td>3,457</td>
</tr>
<tr>
<td>9.</td>
<td>1991</td>
<td>21,374</td>
<td>14,200</td>
<td>3,954</td>
<td>331</td>
<td>1,356</td>
<td>2,533</td>
<td>6,985</td>
</tr>
<tr>
<td>10.</td>
<td>1996</td>
<td>33,783</td>
<td>23,252</td>
<td>4,204</td>
<td>449</td>
<td>2,031</td>
<td>3,847</td>
<td>11,040</td>
</tr>
<tr>
<td>11.</td>
<td>1997</td>
<td>37,231</td>
<td>25,693</td>
<td>4,662</td>
<td>488</td>
<td>2,260</td>
<td>4,128</td>
<td>12,167</td>
</tr>
</tbody>
</table>


Table 1.1 depicts that the growth of vehicles on roads in India has increased from 3.06 lakh in 1950-51 to 409 lakh in 1997-98 which come to 135 times increase while the goods vehicles are increased from 82,000 to 24,13,000 which is 29 times increase and the passenger buses have gone up from 34,000 to 5,35,000 which increased by 16 times. And during 1990’s, the overall growth rate of vehicles was around 10 percent while the roads and highways in India have not growing in proportion to the growth in automobile vehicle while road length has increased by 6 times, the auto vehicle population has gone up by 121 times. It is explicitly observed that the growth of roads has not been matched with the growth of road vehicles. The main reason of this mismatch is as

such, the expenditure on transport since the beginning of the plan period as percentages of total plan expenditure came down from 22.1 during the First Plan to only 12.2 percent during the Eighth Plan. Likewise the expenditure on road sector also came down to 0.6 percent of the total plan expenditure during the Eighth Plan from 6.8 percent in First Plan.

i) Road Connectivity in India

Out of over 5,89,000 villages in India just around 2,74,000 (only 47 percent) of the villages have been connected in the last 50 years by permanent all time weather roads. According to the Surface Transport Ministry sources, new road length of 12,60,000 kms. would have to be constructed to meet the objective of rural connectivity.¹¹

ii) Inland Water Transport

The inland water transport is the cheapest mode of transport for certain kind of traffic. It covers both long and short distance services. It is an efficient mode of transport in respect of fuel consumption. Although this mode requires very little investment but it is having very little scope in India because there are only few rivers in the country.¹² In spite of this Government has allocated 10.83 percent, 7.8 percent, 7.16 percent, 16.7 percent, 17.7 percent, 9 percent, 8.2 percent and 13.5 percent of total plan allocations to this transport sector during 1st, 2nd, 3rd, 4th, 5th, 6th, 7th and 8th plan period respectively (See Annexure-1.1).

Table 1.2
Growth of Indian Bus Industry (1950-51 to 1995-96)

<table>
<thead>
<tr>
<th>Year</th>
<th>Bus Population in '000'</th>
<th>Average Annual kms. Operated</th>
<th>Occupancy Ratio in %</th>
<th>Pass-kms. (in Billion pkm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-51</td>
<td>34.411</td>
<td>36,400</td>
<td>45</td>
<td>29.310</td>
</tr>
<tr>
<td>1955-56</td>
<td>45.461</td>
<td>41,200</td>
<td>51</td>
<td>50.764</td>
</tr>
<tr>
<td>1960-61</td>
<td>56.7592</td>
<td>46,700</td>
<td>59</td>
<td>81.369</td>
</tr>
<tr>
<td>1965-66</td>
<td>73.175</td>
<td>54,300</td>
<td>60</td>
<td>123.970</td>
</tr>
<tr>
<td>1970-71</td>
<td>91.406</td>
<td>58,800</td>
<td>73</td>
<td>204.023</td>
</tr>
<tr>
<td>1975-76</td>
<td>114.193</td>
<td>67,800</td>
<td>76</td>
<td>305.975</td>
</tr>
<tr>
<td>1980-81</td>
<td>153.909</td>
<td>79,000</td>
<td>80</td>
<td>505.807</td>
</tr>
<tr>
<td>1985-86</td>
<td>227.608</td>
<td>80,100</td>
<td>85</td>
<td>805.828</td>
</tr>
<tr>
<td>1990-91</td>
<td>331.100</td>
<td>87,000</td>
<td>85</td>
<td>1273.212</td>
</tr>
<tr>
<td>1995-96</td>
<td>448.970</td>
<td>98,800</td>
<td>85</td>
<td>1960.634</td>
</tr>
</tbody>
</table>


Table 1.2 shows that growth of Indian bus industry over the years indicated its productivity performance. Bus population went up from a meagre 34411 in 1950-51 to 448970 in 1996-97. It represents an average annual growth rate of 5.87 percent. The two wheelers and three wheelers population grew at an average annual rate of 16.37 and 15.32 percent respectively. The growth in population of cars, jeeps and taxies was relatively modest, during the same period, car ownership increased at the rate of 7.54 percent per annum.

iii) Air Transport

At present there are over 300 civil airports in India spread over all the States. During the year 1996-97, 300 civil airports in the country all together operated 36.4 million passengers.13

Summary

With the support of all these facts, it is therefore concluded that, in all three major modes of transport in India are almost important for passenger as well as for freight transport. Of these, water and air transport have not developed up to the mark. It is not feasible to open new routes in countryside because of limited invisible rivers, coastal area and sea site. Similarly, air transport is also not developed as in anticipation to cheap in cost easy to accessible means of transport throughout the country.

1.3 Need of Passenger Transport

The need of passenger transport services in India has being fulfilled by the route of Railway, Roadways, Air Transport and Water Transport. Moreover, passenger mobility in India is largely depends on rail and road networks. It is observed that, the growth of road based passenger movement during the period 1950-51 to 1995-96 had been around 9.79 percent per annum against the corresponding annual growth rate of 3.69 percent by railways. The National Transport Policy Committee (NTPC) had targeted road share at only 48 percent by the end of 20th century; but it is quite far from the target at 85 percent by the end of 20th century.14 Thus, the role of surface transport industry was becoming vital in present scenario. The Table 1.1 presents that the vehicle population in India which is growing faster in the category of two wheelers and three wheelers during 1950-51 to 1995-96, the road based passenger movement, bus travel currently represents around 80 percent of the road based passenger travel.
Table 1.3
The Level of Passenger Mobility Provided by different Modes of Road Transport (Passenger Kilometre in Billion)

<table>
<thead>
<tr>
<th>Year</th>
<th>Two Wheelers</th>
<th>Auto Rickshaws</th>
<th>Cars, Jeeps &amp; Taxies</th>
<th>Buses</th>
<th>Road Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-51</td>
<td>0.238</td>
<td>0.097</td>
<td>6.381</td>
<td>29.310</td>
<td>36.027</td>
</tr>
<tr>
<td>1955-56</td>
<td>0.363</td>
<td>0.149</td>
<td>8.141</td>
<td>50.764</td>
<td>59.417</td>
</tr>
<tr>
<td>1960-61</td>
<td>0.835</td>
<td>0.367</td>
<td>12.404</td>
<td>81.369</td>
<td>94.976</td>
</tr>
<tr>
<td>1965-66</td>
<td>2.132</td>
<td>0.947</td>
<td>18.267</td>
<td>123.970</td>
<td>145.317</td>
</tr>
<tr>
<td>1970-71</td>
<td>5.406</td>
<td>2.161</td>
<td>27.018</td>
<td>204.032</td>
<td>238.608</td>
</tr>
<tr>
<td>1975-76</td>
<td>9.878</td>
<td>3.504</td>
<td>31.108</td>
<td>305.975</td>
<td>350.466</td>
</tr>
<tr>
<td>1980-81</td>
<td>23.913</td>
<td>8.374</td>
<td>44.938</td>
<td>505.807</td>
<td>583.031</td>
</tr>
<tr>
<td>1985-86</td>
<td>59.198</td>
<td>19.858</td>
<td>68.511</td>
<td>805.828</td>
<td>953.394</td>
</tr>
<tr>
<td>1990-91</td>
<td>134.189</td>
<td>36.388</td>
<td>118.360</td>
<td>1273.12</td>
<td>1562.149</td>
</tr>
</tbody>
</table>


Table 1.3 presents the level of road based passenger mobility according to the vehicle category.

Surface based long distance passenger mobility mainly depends on rail. The Indian Railway played a dominant role in providing passenger mobility in the nineteenth century to the early 1950's; but Rails System is started loosing its ground form the late 1950's. During the period 1950-51 to 1995-96 rail based passenger mobility has increased at the rate of just 3.69 percent per annum against the corresponding annual growth rate of 9.79 percent by roads.
Table 1.4
Rail and Road based Passenger Movement in India
(1950-51 to 1995-96)

<table>
<thead>
<tr>
<th>Year</th>
<th>Rail Pass. kms. (in billions)</th>
<th>Road Pass. kms. (in billions)</th>
<th>Rails Share %</th>
<th>Road Share %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950-51</td>
<td>67.065</td>
<td>36.027</td>
<td>65.05</td>
<td>34.95</td>
</tr>
<tr>
<td>1955-56</td>
<td>62.898</td>
<td>59.417</td>
<td>51.42</td>
<td>48.58</td>
</tr>
<tr>
<td>1960-61</td>
<td>78.061</td>
<td>94.976</td>
<td>45.11</td>
<td>54.89</td>
</tr>
<tr>
<td>1965-66</td>
<td>96.756</td>
<td>145.317</td>
<td>39.97</td>
<td>60.03</td>
</tr>
<tr>
<td>1970-71</td>
<td>118.120</td>
<td>238.608</td>
<td>33.11</td>
<td>66.89</td>
</tr>
<tr>
<td>1975-76</td>
<td>148.761</td>
<td>350.466</td>
<td>29.80</td>
<td>70.20</td>
</tr>
<tr>
<td>1980-81</td>
<td>208.558</td>
<td>583.031</td>
<td>26.35</td>
<td>73.65</td>
</tr>
<tr>
<td>1985-86</td>
<td>240.623</td>
<td>953.394</td>
<td>20.15</td>
<td>79.85</td>
</tr>
<tr>
<td>1990-91</td>
<td>295.790</td>
<td>1562.149</td>
<td>15.92</td>
<td>84.08</td>
</tr>
<tr>
<td>1995-96</td>
<td>342.359</td>
<td>2406.365</td>
<td>12.46</td>
<td>87.54</td>
</tr>
</tbody>
</table>


Table 1.4 describes the level of rail based passenger mobility along with its share in total surface based passenger movement from 1950-51 to 1995-96. It is also clear from Table 1.5 that the road passenger transport industry overtook the railways even it being large in capacity. Though road transport sector signifies almost in growth and capable in variety of demand from commuters and with having greater scope for development as compared to railway transport, no serious efforts are being made to strengthen road transport as an infrastructure.

From the Table 1.5 it is seen that, the road development programme achieved 6 times growth in construction of road under national highways, state highways, PWD Roads and urban and rural roads, whereas auto vehicle, population has grown 134 times. Out of 5.76 lakhs villages in the country only 1.76 lakh villages are linked by all weather roads is a challenge for future as resource requirement. And it is estimated that, it will required to be raised there about Rs.31,790 crores at the 2001 cost level. These facts are ample to justify the need of road passenger transport in India.15

1.4 Origin of Public Sector Passenger Transport in India

Public land passenger transport in India, which is mentioned earlier, can be classified into two groups viz., the rail passenger transport and the road passenger transport are the ones of which the second one is operated partly by public and largely by private sector comprising about 28.7 percent and 71.3 percent of the total buses respectively. Bus transport in India was solely in the hands of private sector before 1950.

It is the Road Transport Corporation Act 1950 with which process of bus transport nationalisation started in the country. Moreover, the following Act and rule are being administered in road transport

sector which embody the policy relating to motor vehicles and State Road Transport Corporation in the country.

1. Road Transport Corporation Act 1950

The various amendments made there in the Road Transport Corporation Act 1950, resulted into the formation of various State Transport Undertakings (STUs) in the country under four forms.

1. Departmental undertakings have been set up and operated directly by the various State Governments.
2. Municipal undertakings are owned and controlled by the Municipal Corporations.
3. Companies or Corporations are formed under the Indian Companies Act 1956.
4. Road Transport Corporations are formed under the Road Transport Corporation Act 1950 (RTC Act)

State Transport Undertakings in India (STUs)

At present there are 67 state Road Transport undertakings in the country, engaged in producing and rendering the essential transport services which is mentioned in Road Transport Corporation Act (RTC Act) 1950, to the travelling public in hilly, rural and urban areas which also popularly known as the poor and middle peoples mode of transport in the country. Out of 67 STUs, 22 are Corporations, 26 companies, 8 Government undertakings and 11 municipal undertakings, of these 5 STUs are topped with 100 percent nationalisation of buses i.e. Maharashtra State Road Transport Corporation (MSRTC), Banglore Metropolitan Transport Corporation Ltd. (BMTCL), Ahmedabad Municipal Transport Service (AMTS), Pimpri-Chinchwad Municipal Transport (PCMT) and Kolhapur Municipal Transport Undertaking (KMTU), but Madhya Pradesh State Road Transport Corporation (MPSRTC) is lowest one as 10 percent nationalisation of the buses.

STUs own 1,18,348 buses having with a workforce of about 7,62,679 people. Presently all the STUs in the country together operate about 1,129 crores kms. a year. Nearly 66 million passenger are served every day. The lower income groups and economically weaker section's people of the society depends very largely on the STU's for their mobility needs. Thus, STUs reach is more universal than any other mode of transport likewise, Railways, Waterways and Airways. STU's have been making every effort to fulfill the objectives for which they are set-up, many STU's have performed exceptionally well even in a monopolistic environment by achieving high levels of operational efficiency, adoption of good managerial techniques and technical control to better performance in the areas of fleet utilisation, employees productivity, High Speed Diesel (HSD) in kilometre per litre (KMPL), lubricant oil in KMPL, average tyre life, vehicle break down rate, Bus-staff ratio, accident rate and percentage of trip cancellation etc. Despite that, STU’s are criticised inside and outside the Government regarding its performance. Though there is an increase in their operational performance and in size of infrastructure activities, but their financial position has not been satisfactory since last decade time. The fleet strength with the STU’s has shown a steady growth from 1977 but there has been a progressive decline in the share of bus fleet as compared to total passenger transport buses in the country.¹⁸

Table 1.6
Buses per lakh Population in India (1971-1998)

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Year</th>
<th>Total Buses</th>
<th>Human Population in (million)</th>
<th>Buses per lakh Population</th>
<th>STU Buses</th>
<th>STU uses per lakh Population</th>
<th>% of STU Buses to Total Buses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1971</td>
<td>91582</td>
<td>547.95</td>
<td>16.71</td>
<td>35193</td>
<td>06.42</td>
<td>38.43</td>
</tr>
<tr>
<td>2.</td>
<td>1981</td>
<td>135146</td>
<td>685.18</td>
<td>19.72</td>
<td>65428</td>
<td>09.55</td>
<td>48.41</td>
</tr>
<tr>
<td>3.</td>
<td>1991</td>
<td>298082</td>
<td>846.30</td>
<td>35.22</td>
<td>102067</td>
<td>12.06</td>
<td>34.24</td>
</tr>
<tr>
<td>4.</td>
<td>1998</td>
<td>583840</td>
<td>992.00</td>
<td>58.85</td>
<td>115157</td>
<td>11.61</td>
<td>19.72</td>
</tr>
</tbody>
</table>


From the Table 1.6 it may be observed that, the total buses per lakh population in the country increased from 16.71 (1971) to 58.85 (1998) while the ratio of STU’s in respective year was only 6.42 and 11.61 buses. In the year 1981 the share of STU’s buses rose to 48.41 percent of the total buses in the country while during subsequent years their share declined sharply to 19.72 percent in 1998. STU’s has partly exercised monopoly business with full support of the respective State Governments upto the year 1985.

After passing the Motor Vehicle Act 1988, the private operators took full advantage of the liberal policy of the Government and provisions in the Motor Vehicle Act 1988 as well as bulk production of auto vehicles and each and every vehicles coming on Indian roads have been reducing the market share of STU’s and curtailing the revenue of STU’s.

Thus, STU’s are forced unwillingly to exercise to compete with private operators on both front legal as well as illegal while most of the traffic on trunk routes are attracted by private luxury and deluxe bus operators as stage carriages, the rural traffic is taken over by jeeps and station wagons with high frequency low capacity with result STU’s have incurred heavy losses.

Table 1.7
Losses Incurred by STUs During 1980-81 to 2001-02

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Year</th>
<th>Total Revenue</th>
<th>Total Expenditure</th>
<th>Losses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1980-1981</td>
<td>1345.29</td>
<td>1561.11</td>
<td>215.82</td>
</tr>
<tr>
<td>2.</td>
<td>1990-1991</td>
<td>5194.91</td>
<td>5767.72</td>
<td>572.81</td>
</tr>
<tr>
<td>3.</td>
<td>1995-1996</td>
<td>5499.01</td>
<td>10558.95</td>
<td>1059.94</td>
</tr>
<tr>
<td>4.</td>
<td>1999-2000</td>
<td>14113.47</td>
<td>16310.81</td>
<td>2197.34</td>
</tr>
<tr>
<td>5.</td>
<td>2000-2001</td>
<td>15325.56</td>
<td>17272.02</td>
<td>1946.46</td>
</tr>
<tr>
<td>6.</td>
<td>2001-2002</td>
<td>16040.50</td>
<td>18233.16</td>
<td>2192.66</td>
</tr>
</tbody>
</table>

Source: Profile and Performance, Annual Reports of STUs compiled by CIRT, Pune.
Table 1.7 shows the losses incurred by STU's in last 22 years, which have increased 10 times. During the year 1999-2000, the total revenue Rs.14,113.43 and total cost incurred Rs.16,310.81 and incurring the losses of Rs.2,197.34 crores. And the total cost incurred in the year 2000-01 was Rs.17,272.02 as against the revenue of Rs.15,325.56 crores whereas in the year 2001-02 the total cost was increased Rs.18,233.16 crores as against the revenue of Rs.16,040.50 crores. From the financial evaluation of STUs it reveals that, the STU's have been incurring huge losses year by year, because of rising staff cost, social obligation cost, material cost and high rate of taxation.19

The present scenario shows that Government has changed the policy from nationalisation to privatisation resulted by all above facts cause to enter private operators on profit making routes from bus operations with profit motive. Reluctantly, STU's will have to remain stuck only with loss making routes, ultimately, now the situation has become very competitive and the STU’s have to compete with private operators for their survival by improving the quality of their services. Thus, it may be concluded that the above situation has emerged due to the following facts:

1. The STU’s are being faced the severe resource crunch in recent years.
2. The capital contribution provided by the Central and State Government is almost stopped since last decade time and it is expected that STU’s should manage finances through their own resources.
3. They were forced to operate all the social obligatory routes, irrespective of the losses incurred through the operations and no reimbursement is made by the Government.
4. In case of those STU’s recommended for fair hikes were never accepted in time by the respective Governments.
5. As a result the gap between rising cost and revenue became even more pronounced.

6. The personnel cost which was 41 percent of the total revenue in 1994-95, has gone up to 51 percent of the total revenue in 1999-2000 and from 38 percent of the total cost to 44 percent of the total revenue during the same period.

7. The net loss steadily increased from 702.39 crores in 1994-95 to 2197.34 crores in 1999-2000. The amount spent on material, taxes, interest and miscellaneous have remained more or less constant over the year under review.

It could be found that the depreciation reserve fund is being used to makeup the cash losses actually incurred and thereby badly affecting timely replacement of the fleet in most of the undertakings. As a result of above factors, the cost of operation has gone up steadily without adequate increase in productivity.

In the present liberalised scenario the road passenger transport in public sector is mostly affected by illegal and legal private traffic. Hence, it is essential for STU's to remove from critical situation thereby come out from financial crunch and survive for future. It is inculcate with understanding and reviewing the STU's operational performance and financial health, it may be possible to overcome deterioration of STU's through the elaborating the various management control measures to be adopted, by STU's in utilising the available resources and reducing the cost of operation.

1.5 Maharashtra State Road Transport Corporation (MSRTC)

The Maharashtra State Road Transport Corporation (MSRTC) was established in 1961 under the State Road Corporation (SRTC) Act 1950, with the main objective of providing an efficient, economical and
properly co-ordinated systems of road transport services in the state of Maharashtra.

At present, 8 STU's are operating as public sector transport undertakings in Maharashtra State comprising of one State Road Transport Corporation (SRTC) and remaining 7 STU's are operations as Municipal undertakings in Municipal areas. MSRTC is becoming today one of the biggest State Transport Undertakings in India holding with a fleet strength of 17,435 buses. MSRTC also happens to be the first road transport Corporation in the country. The MSRTC is the 100 percent nationalised transport undertakings in India holding over 17,435 vehicles operating on more than 19,429 routes.

The MSRTC covers almost all villages in Maharashtra State and operate buses in the State there is road and Corporation reach for rendering rural people on mass level in the radius of 3 kms., 5 kms. and 8 kms. distance.

In 1976, the Corporation adopted a four-tier system of organisation. Accordingly, four regional offices created to act a link between the central office and divisions. This was further expanded to six regions in July/August 1994.

Traffic Staff

Traffic staff is one of the important factors for operating functions. Traffic staff includes drivers, conductors, traffic controllers, line checking staff, traffic inspectors and other traffic staff. The drivers and conductors are appointed based on the sanctioned schedules, their work norms are setting according to the provisions of Motor Transport Workers Act 1961 (MTW Act) which prescribes a daily steering duty of 8 hours and spread over duty of 12 hours.21
Services

MSRTC operates mofussil services, inter-state services and city services. Apart from this, with in view to consider and fulfil the increased demand of passenger in the state, MSRTC has undertaken few need based operations.

1. MSRTC introduced semi-luxury Asiad buses in 1982-83, which is a feather in MSRTC’s cap.

2. During 1993-94 the Corporation introduced deluxe buses specially for Pune-Dadar (Mumbai) operations which are still very much popular and running with almost – 100 percent load factor.

3. MSRTC introduced 2 A/c coaches on Pune-Dadar route on a trial basis in the year 1996-97. However, with the increased demand the Corporation is running 6 numbers of A/c coaches.

4. In the year 2000-01 MSRTC has started minibuses operations with 21 seating capacity in its fleet. Besides to the need based service, the passenger friendly Janta Bus services on the principal of ‘Board on the Bus’ any where enroute has also enhanced and operated city buses to cater the needs of urban peoples; within city limit and beyond city limit within radius of 10/15/20/50 kilometres of those municipal councils or Corporation can not run city operations. One more policy decided by MSRTC is that adopt the liberalised policy of payment of accident compensation to passenger on humanitarian ground, in this regard it is the first road transport Corporation in India.22

Need of the Study

MSRTC was once a model STU, of the STU’s of India. It has been developed well infrastructure, by utilising largely its realised profit from operations and partly by the Government contribution for developing bus stations, depots, divisional offices, divisional workshops, central workshops etc. and amenities to passengers as to provide improved quality of services, with the help of its expanded vast infrastructure. MSRTC is being operated majority of routes in rural areas. However, since the last decade MSRTC is loosing its ground, it has incurred huge losses continuously over the years. It is well known fact that there is some where odd in the operation and financial set-up of the Corporation. In such a situation it is critical to come back from financial crisis and build a sound position of the organisation.23

From the foregoing paragraphs it is summed up that the present scenario calls for suitable strategy for improvement in operational and financial performance at least for survival, not for growth. This study is therefore, intended to review the operational and financial aspects of transport services of the Corporation and pursue some alternatives.

1.6 Operations Management – Relevance with Transport Services

The term operations management refers to the planning, coordination and control of all activities concerned with conversion of inputs into output of product or service.24 The most obvious common ground of operations management is system’s purpose; the operation function is responsible for providing the goods or services offered to customers by the organisation. To obtain the system’s purpose, the operations function of the organisation must obtain the certain need full inputs and perform the necessary operation to provide the outputs. The operations function transforms inputs into the outputs that will serves

the customers need, the aim is to make the value of any service organisation to run by through operation function the value of outputs, considerably greater than the cost of inputs.\textsuperscript{25}

Road transport undertakings produce the services, which are totally into intangible form and perishable one. In such type of organisation, there should be planning for better resources utilisation, proper co-ordination between the traffic operations and maintenance function and effective control all over the transport activities. These are the functions of operations management through by applying this function process, transport undertakings can improve their efficiency and performance at large. Planning function covers the aspects of estimation, by fixing, re-fixing targets in terms of route planning, scheduled fixing departure and arrival usage targets etc. are involved. Co-ordination function requires the traffic operation and maintenance function must go with hand in hand for achieving their work as quickly as possible to maintain the reliability and punctuality of the overall transport management by taking action to achieve the planned targets. It is an exercise of plan implementation and to take corrective action. Evaluation of data provided enabled to pinpoint the major ills of the MSRTC, it is analysed and deeply discussed in succeeding chapter which also relates to the operational performance of the MSRTC during last decade span time. Similarly certain suggestions have also been made to improve the present state of affairs of the MSRTC in particular and STU’s in general.

1.7 Scope of the Study

Scope of the present study is confined to operations management of passenger transport services of MSRTC. In order to evaluate the operational performance of MSRTC, data for the period 1990-91 to 2002-2003 is used. Further, study covers the evaluation of physical and financial performance of MSRTC of the said period. The study also covers all those aspects, which are related to, and affected on operational efficiency of MSRTC.

1.8 Objectives

The overall objective of the study is to ascertain and evaluate the operational performance of Maharashtra State Road Transport Corporation (MSRTC). The specific objectives of the study are as follows:

1. To review the progress of the public sector passenger transport system in India in general and MSRTC to the particular.
2. To assess operational efficiency of MSRTC.
3. To evaluate physical and financial performance of MSRTC.
4. To take the account of the various operational problems/short falls faced by MSRTC and to suggest measures to overcome them.
5. To suggest policy measures for the overall development of MSRTC.

1.9 Period of the Study

The period of present research work is widely embraced in the tenure of thirteen years i.e. 1990-91 to 2002-2003; for the purpose of operational efficiency evaluation of MSRTC a state owned public sector undertaking in India.
1.10 Hypotheses

Following are the principal hypotheses of the study:

1. Internal and external factors are the cause of downfall of the Corporation which clench in dilemma.

2. MSRTC has failed to maintain its operational efficiency at desired level.

1.11 Methodology

In order to attain these objectives of the study, the technique of investigation, the tools used, the methods of statistical analysis etc. are determined as below:

i) Sources of data

The study being analytical in nature, as based on secondary data which is collected from the following growers:

a) Annual Administrative Reports prepared by MSRTC and published by State Governments.

b) Audit Reports prepared by Office of the Accountant General (A.G. Office, Mumbai) and published by Government of Maharashtra.

c) State Transport Undertakings (STU’s) profile and performance, related to study period, compiled and published by Central Institute of Road Transport (CIRT) Pune.

d) Various issues of Journal on Transport Management, published by CIRT, Pune.

e) Basic Road Statistics of India published by Ministry of Surface Transport (MOST).

f) Five Year Plans documents, Government of India.
g) Motor Statistics of India published by MOST.


i) Periodicals like journals, magazines and newspapers.

j) Websites available for data based information on transport sector.

Though the study is based on secondary data, opinions and views on various issues, which are related to the study, are obtained from the personnel’s of MSRTC, experts and researchers in this field.

ii) Presentation of Data

The data based information collected is presented by using appropriate tables and charts for ready comparison and interpretation and conclusion. Data in the form of time series depicted in various tables wherever necessary.

iii) Statistical Tools

For analysing the depicted data in various tables, the various statistical tools such as averages, percentages, ratio’s, indices etc. are used.

1.12 Scheme of Presentation

The present study is divided into seven chapters including conclusions and suggestions.

i) The First Chapter being introductory in nature covers meaning, definition origin of transport, role of transport, role of STU’s need of the study and conceptual nature of operations management and scope, objectives and methodology of the study.

ii) Literature review of the studies regarding nationalised public sector road transport undertakings in India which are related to the aspects of the present study is included in Chapter-II.

iii) The Third Chapter is devoted for the profile and performance of STU’s in India.
iv) The profile of MSRTC during the study period is presented in Chapter-IV.

v) The analysis of physical and financial performance of MSRTC during the study period is presented in Chapter-V.

vi) Sixth Chapter covers the observations as well as problems of MSRTC bus service operations. It includes an analysis of various problems and inherent limitations of operations of MSRTC. It includes to a critical review of various issues affecting the operations of MSRTC. It also covers a future look of MSRTC in present competitive environment.

vii) The Seventh Chapter contains the summary of conclusions of the study and suggestions to improve the operational performance of MSRTC as well as the measures to overcome the various problems faced by the MSRTC; so that the quality and reliability of services of MSRTC could be improved.

1.13 Limitations of the Study

Like any other works, the present research work also has its own limitations, these are stated below:

1. The study period is limited to 12 years.

2. We could not incorporate the latest date due to its non-availability.

3. The study is limited to the operational and financial performance of MSRTC only.

4. Due to the non-availability of divisional and depot level data we could not involve in the study.

5. The study is based on secondary data which may having its own limitations.

6. The data for study to make available from CIRT, Pune, Ministry of Surface Transport, New Delhi and Annual Reports of the SRTC concerned to the study.
REFERENCES


6) Ibid.


8) Ibid, p.17.


11) Ibid, p.32.


13) Ibid, p.49.


20) Annual Reports, Profile and Performance of STU’s, Year 1990-91 to 2001-02, compiled by CIRT, Pune.


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