CHAPTER IV
REVIEW OF LITERATURE

4.1 INTRODUCTION

The review of the past studies in the research means to note the observations, search and many more things done in the past regarding the question in the hand. It is base for natural and social sciences. It provides details regarding the tools used, procedures adopted, conclusions and observations made. It is also guides how the introduction and data should be collected and from where and how it could be had. All these information can be had from this type of study. The study of the past researches is useful to define and delimit the sphere of our research. It saves time, energy and helps indirectly towards a particular goal.

4.2 MEANING

Study of the related literature implies locating, reading and evaluating reports of research as well as report of casual observation and opinion that are related to the individual’s planned research project.

According to Walter R. Borg, “the literature in any field forms the foundation upon which all future work will be built”.

4.3 INDIAN STUDIES

The survey of the existing literature reveals the facts that many studies have been undertaken in India. The review of the literatures has covered the articles / papers / projects undertaken to study the impact of privatization and its impact and needs. Starting with the privatization it has covered the road transport industry and its growth and development in India. Various studies have been undertaking covering many aspects of road transport. The review of the literature mainly try to focus on the state own road transport. Authors are of the views that state own road transportation is not doing well and is lacking at the planning level. They have emphasis on the role of government in improving the financial performance of STUs. All the state own transportation is running into a huge loss.
Dr. N. K. Bishnoi, Ms. Sujata (2010), the paper examines economic profitability and productivity of Haryana State Road Transport Undertaking. It is departmentally operating public transport undertaking. For the purpose of analysis, annual statistics of HSRTC from the year 1988-89 to 2006-07 was used. They have found that total factor productivity was decreasing from 1988-89 to 1992-93 that shows many fluctuations till 2006-07. The productivity of HSRTC has declined by around (-) 6 percent over the sample period. The paper has attempted to analyze the TFP (Total Factor Productivity), TPP (Total Price Performance) and Economic Profitability (Financial Performance) of STHAR. Total factor productivity of STHAR was calculated by using index number (Fisher method by using software TFPIP version 1.0).¹

S. Sriraman (2009), The study observed that “lack of transport connectivity and trade facilitation, and high transport costs increase the risk of marginalization of many economies especially in developing countries”. Enabling legal and regulatory frameworks, and access to global transport networks, are paramount to transport, logistics and trade facilitation. For a country’s economy, the transportation sector is often viewed as an important barometer of growth. As more goods are consumed within a country, the transportation sector must grow accordingly in order to accommodate the transport of additional goods. And, as the wheels of commerce turn with ever greater speed, so does the volume of passenger traffic. As a corollary, the location of manufacturing facilities and distribution centers can have a major impact on the growth of a country’s transportation sector and transportation Infrastructure. The relative location of these manufacturing facilities and distribution centre can dictate whether the country becomes a hub within a logistics network or a spoke in the wheel, serving in effect as a transit corridor. Such matters are of particular importance to emerging economies where transport and logistics infrastructure is in a process of rapid development. Logistic service providers are confronted with clients, who wish to source out of low-cost countries or access these new markets. They need to ensure that they can help their clients meet their objectives, understand the emerging markets environment, and expand their competencies and resources. Thus, it is necessary that location of activities is based on considerations that help achieve minimum transactions costs.²
**The Times of India (November 5, 2009)**, Soon, the bus will be best way to town. The buses will be ready to roll after they sign a MoU with Mumbai Entry Point. BEST will start plying a super fast bus service between Dahisar and Churchgate. These buses—both AC and non-AC will help cut commuting time by taking all the flyovers along the route and, for the first time, the Bandra-Worli sea link as well.³

**M. Kannadhasan (June, 2007)**, the principal objective of his article was to ascertain the financial health of Wendt (India) Limited company and consistency of financial performance for five financial years 2001-02 to 2004-05. The study has made an attempt to evaluate the general financial health of Wendt India Limited through “Z” score analysis with the five weighted financial ratios. It was clear that this company’s financial health was good during the study period. The efficiency of the company in the matter of management of working capital was satisfactory which helps the company to maintain good financial health.⁴

**Members of the State Transport Employees Union – STEU (2007)**, affiliated to the National Federation of India Road Transport Workers, said that the privatization policy pursued by the Government was harming public sector industries and the State-run transport corporations. The STEU, which took out a procession to protest against the policies and held a demonstration in front of the Deputy Commissioner’s office, said that private transport operators were eating into the revenue of the State-run North Eastern Karnataka Road Transport Corporation. The Lokayukta had directed the district authorities to take stringent action against private transport operators violating the High Court directions and also against the private operators. STEU says privatization policy is harming public sector Special Correspondent GULBARGA: Online edition of India’s National Newspaper Monday, July 30, 2007 -THE HINDU. Public Sector Undertakings (PSUs) would soon have new criteria for the evaluation of their financial and non-financial performance, including accountability and autonomy.

**Competition Commission of India (2007)**, a study was conducted with the objectives of studying the passenger road transport segment competition policies - inter state & intra state. At the end of the study a competition enhanced model was advocated. A study focuses on the seven states. It was observed that fare was fixed by all state government. There was no entry/exit barrier for private operators and they can obtain permission for the routes other than nationalized route. Rajasthan STC has been cost effective and has adequate contribution of taxes to state exchequer despite
being carrying moderate tariffs. West Bengal and Kerala on the other hand shown opposite trend despite levying higher tariffs than Rajasthan. Three indices are used for the study:

**Competition Index**: Resisted time, Permit charges for more than one region, Permission to change time table.

**Efficiency Index**: Surplus before tax, Per Cant age of fleet utilization, Effective kilometer per staff per day, Kilometer per liters of HSD, Accidents per lacs effective kilometers.

**Consumer Satisfaction Index**: Avg. waiting time for a bus, Skills and training of the staff, Punctuality of the bus, Quality of bus services and stoppage on each stands, over stay at the bus station, Stoppage in between bus stand, overcrowding of buses.\(^5\)

**Singre Narendra (2007)**, Responsibilities for the transport system in India is divided between the central and state governments. In broad terms, the central Government is responsible for railways, national highways, major ports and international shipping, civil aviation and national inland waterways. The responsibility for each mode resides with a mode-specific ministry in the central Government. The National Highways Authority of India (NHAI) was created under an act of Parliament in 1988 to be responsible for developing, maintaining, and managing the national highway system. Because of lack of funds and a clear organizational strategy, however, NHAI was not formally established until February 1995. In 1998, NHAI initiated the National Highway Development Program (NHDP) for the upgrading and widening of the national highways network. It now implements about $1 billion worth of projects yearly. The Asian Development Bank (ADB) and the World Bank were catalysts in NHAI’s establishment. Aside from providing loans to set up NHAI, ADB worked closely with the authority over the years in providing technical assistance projects for institutional development; capacity building (contract administration, environment and social development, corporate finance); private sector promotion; toll strategy setting; commercialization of operations and maintenance; and road safety. State government nodal agency is implementing road and related projects under public private partnership (PPP) and build-operate-transfer (BOT) schemes.\(^6\)

**NCAER-The National Council of Applied Economic Research (2003)**, reviewed the criteria for performance evaluation and suggested changes in the weight allocation
for different performance parameters and introduced the balance score card approach under which equal weights (50%) were given to both financial and non-financial parameters. The principal components used to evaluate the performance include financial parameters (50%), non-financial parameters (50%), dynamic parameters (30%), enterprise-specific parameter (10%) and sector-specific parameter (10%) – Financial Express, 19th Sept., 2008 - PSUs TO HAVE NEW CRITERIA FOR PERFORMANCE EVALUATION.  

Singh, Sanjay Kumar (2006), in his study says that “Cities play a vital role in economic growth and prosperity. Sustainable development of cities largely depends upon their physical, social and institutional infrastructure”. In this context, the importance of transportation system is paramount. Urban transportation is probably the single most important component instrumental in shaping urban development and urban living. While urban areas may be viewed as engines of growth, urban transport is, figuratively and literally, the wheel of that engine. As cities expand to the point where walking can no longer satisfy the mobility requirements of the people, public transport becomes the major mode of transportation. Until recently the main function of public transport was to satisfy the individual needs of the less affluent members of the society. Now, it is required to attract all segments of the society to provide congestion relief and environmental preservation. Productivity improvement and efficiency in the public transport system must be concerned not only with keeping costs down, but also with providing a flexible framework within which all income groups can use public transport with confidence and convenience. Buses form the backbone of the public transport system. However, bus transport systems in many cities have not been able to keep pace with the rapid and substantial increase in travel demand. Moreover, urban bus transport operators face huge financial losses. They are usually dependent on Government subsidy which need not be available all the time. When financial losses mount, first maintenance, then service reliability and finally operating capacity disappear. Consequently, operators are forced to run fleets that have long outlived their utility. In this present scenario, tackling the problem of financial crisis appears to be the biggest challenge for urban bus transport operators.  

N. Ravichandran, M. V. N. Surya Prasad (2005), in their article “Reviving Gujarat State Road Transport Corporation: An Agenda for Action” examine that the broad action plan to revive GSRTC would need restructuring the routes (drop/exit from the
non-viable routes), rationalize (downsize/right size) manpower, outsource non-core activities, improve and control cost of operations, replace the buses due for condemnation and augment fleet size, price fixation based on demand and supply, and focus on customer service to achieve revenue stability and increase in contribution. A set of tactical ensures to support this is appended.9

Sharma A. K. (2005), “The role of public enterprises board” highlighted the role of board of directors in the public and private enterprise. The author has pointed out that in private enterprise the board of director enjoys the command of top management and the board of directors themselves takes all the important decisions relating to distribution of dividends to the shareholders etc. Whereas in the public sector enterprises the board of directors plays a negligible role, the board of director works as a channel between the government and the financial management. The government being major shareholders, the public sector is accountable to the ministry, so the board of director takes important decisions only with the approval of the ministry. The author has clarified that the private sector board of director are more powerful than that of the public sector.10

Mishra R. K. (2004), in his book disseminates the findings of research sponsored by the 10th Finance commission on rate of return in SLPEs. The financial performance of these enterprises has an important bearing on the finances of the state governments. The recent book classifies the SLPEs into three categories: Commercial, Commercial-cum-Promotional and Promotional SLPEs. The research develops a framework of targeted profitability. It then compares the existing state of profitability with the desirable state. As a corollary, an attempt has been made to study the state-wise profitability of the SLPEs. The book contains a survey of privatization trends in the various states and presents a case study of restructuring of SLPEs in Andhra Pradesh. The information contained in the book was collected through a questionnaire on individual SLPEs in the various states. The principal components of the data collected for a seven-year period related to turnover, net profits, capital employed, investment, and net worth. The data for the next eight year period was forecast using the index numbers. The book contains very vital information on SLPEs including the state-wise portfolio, their classification, profitability intensity and their classification into core and non-core organizations.11
Mishra R. K. (2002), Performance of PE always occupies the front page in newspapers and the headlines of mass media. Hardly there is any session of the Parliament and the state assemblies where stormy debates do not take place on performance of PE. The success of the Indian economy in terms of growth and distributive justice largely hinges on the performance of public enterprises in both the central and the state governments. The public enterprise personnel are deeply interested about continuous sensitization of performance of PEs to take stock of their work and contribution. Private enterprises and trade associations such as FICCI, CII, and state chambers of commerce and Industry, are attracted to study the performance of PEs for a comparative view and benchmarking.  

Mishra R. K., Gerard De Bernus, (2002), Privatization has been the most widely used and extensively debated topic in the world for the last quarter century. He has considered in his book various policy issues of the governments in relevance to the privatization. It also examines the effects of privatization from various angles like, employment, distribution effects and so on. Brief annotations of path-breaking works on privatization have been included in the seventh chapter. The book talks about the methodological problems by making available at there dispense various theories and models, linked to the privatization studies. The book primarily focuses on issues, consequences and direction of privatization in India and France. The book debates upon the various policies, procedural, implementation and strategic issues as related to privatization in India and France and its future course. The book presents various issues under six sections. Besides providing the economic backdrop for the two countries, the book incorporates extensive research inputs on the privatisation scenario, issues and trends in privatization of energy, telecom, manufacturing and banking and insurance sectors. Several case studies on privatisation in India and France have been incorporated to illustrate the practical problems in the implementation of policy and policy effectiveness.

Dinesh Mohan (2002), there has been a few attempts in India to estimate the costs of road traffic crashes over the past few decades. But, these have followed very simple economic models to include actual expenses and direct and indirect loss of income, etc. One of the early studies which attempted to evaluate road accident costs was conducted for Delhi for the year 1968 and another study calculated accident costs based on insurance company data for Chennai (Madras) for the year 1978. Both
studies used rudimentary methods for cost analysis. The first major road user cost study (RUCS) was published in India in 1982. This study, sponsored by the World Bank, included a section on accidents as a component of road user cost. The costs include were: medical expenses, legal fees, property damage, insurance costs, and loss of out put due to death (future consumption as one-third of income and future output calculated up to the age of 55 years). The latest study on evaluation of road accident costs was sponsored by the Ministry of Surface Transport (Roads Wing, Research Scheme R-79) and conducted by M/s Tata Consultancy Services. The life expectancy of Indians was assumed to be 54 years. This is a serious technical error, as this was the life expectancy at birth at that time. Since very large proportions (approximately 40 per cent) of deaths were at ages below 4 years the life expectancy at birth in India was lower than that at 10 years. If they had calculated the life expectancy of Indians at 5 years they would have found that it was in the region of 70 rather than 54 years. According to their sample only 7 per cent of the victims were under 10 years. Therefore, it is possible that they underestimated the life span by more than 20 per cent. The study did not account for the undercounting inherent in the official statistics on road accidents. As mentioned earlier in this paper, fatalities in India may be underestimated by about 5 per cent and injuries by an order of magnitude.

K. C. Pant (2001), focuses his attention on the development of road sector and stressed begin with quality. Road development is expensive but it has many benefits in conserving the future resources. According to pant the poor financial conditions of the SEB was a major constraint in achieving financial closures. Power sector reforms are therefore the crying need of the hours’

Pucher John, Korattyswaroopam Nisha (2001), the rapid growth of India’s urban population has put enormous strains on all transport systems. Burgeoning travel demand far exceeds the limited supply of transport infrastructure and services. Public transport, in particular, has been completely overwhelmed. Most bus and train services are overcrowded, undependable, slow, inconvenient, uncoordinated, and dangerous. Moreover, the public ownership and operation of most public transport services has greatly reduced productivity and inflated costs. India’s cities desperately need improved and expanded public transport service. Unfortunately, government financial assistance and the complete lack of any supportive policies, such as traffic priority for buses place public transport in an almost impossible situation.
Singh Sanjay Kumar, Mishra Ashish (2001), The Vehicular population growth was tremendous in Patna, with just 4384 registered motor vehicles in 1981 to 294164 in 2001, an increase of 67 fold in a span of just two decades. It was interesting to note that vehicular growth has slowed down substantially during the 1990s from 1996-2001. Vehicular population in Patna grew at an average annual rate of around 6%, whereas if we calculate it from 1981 to 2001, annual growth rate figures goes up to around 23%. It was observed that growth of personalized vehicles such as 2-wheeles and cars was very steep due to non-availability of mass transport system. The problem of death and injuries as a result of road accidents in Indian cities was serious enough to demand attention of respective administrative authorities. Apart from the humanitarian aspects of reducing road death an injuries, a strong case can be made of reducing road crash death on economic ground alone. It was estimated that the total economic loss due to road accidents was of the order of Rs 60 bn each year in India. As one would expect, Patna was also suffering from the problem of death and injuries on its roads.17

Kaushi Deb (2000), reviews policy development in transport sector, and writes about liberalization which according to him led to the state withdrawing gradually from several infrastructure sectors, which has boosted the importance of private investment in infrastructure development.18

Rajeswari, Gundam (1998), in their book has examines the performance of Andhra Pradesh State Road Transport Corporation both at the state and regional levels. It particularly deals with the pricing policies of the transport service as being implemented by the corporation. The organizational set up of the corporation along with its various features like capital investment and staffing has been described in full length. Both financial and social performance were examined using indicators like cost per kilometer earnings per kilometer, load factor and arrived at gross margins for the survey period.19

S. Sriraman (1997), the road transport industry in India has emerged as the dominant part of the transport system. However, the industry was finding it increasingly difficult to meet emerging requirements. This may be partly due to the inadequacies of the road network, which if expanded and upgraded could go a long way in promoting efficient vehicle operations. Part of the problem also lies in the inability of service organizations, especially in the public sector, to deliver services efficiently.
With the industry having suffered from a near absence of technological improvements in the design and manufacture of vehicles, there was an urgent need to effect these changes immediately. Public sector participation in passenger road transport services in India commenced with the passing of the Road Transport Corporations Act, 1950. At present, there are 71 State Transport Undertakings in the country comprising 21 Corporations registered under the Road Transport Corporations Act (1950), 31 Companies registered under the Companies Act, 1956 (this number may be different in Tamil Nadu now), 8 Departmental Undertakings and 11 Municipal Undertakings. As on 31 March 1995, there were around 1,11,200 buses in the public sector with a total investment of over Rs. 6,000 crores and formed 27% of the countries bus population. These Corporations earned total revenue of Rs. 8,385 crores in 1995–96, showing an operating loss of about Rs. 610 crores. The financial return on capital invested (net profit or loss/capital invested) was (–) 9.25%. According to a study by the Planning Commission, there has been a perceptible improvement in the rate of return during the last five years though the return is still negative.\textsuperscript{20}

S. Sriraman, A. Bagchi (1997), the transport sector comprising the railways, roads, ports and civil aviation has been one of the principal areas of State intervention in India. Given the transport sector’s fundamental contribution to economic growth and social welfare, State intervention was perceived to be necessary, as in the case of many other infrastructure sectors, because of the market failure hypotheses, high risk perception emanating from long gestation periods, irregular revenue flows, higher average debt-equity ratio, and economies of scale as well as substantial sunk costs reflected in the high costs of entry and exit, in turn, leading to (natural) monopolistic tendencies/practices. Public Sector ownership, management and financing of the transport sector in India, however, suffers from several forms of inefficiencies and has been found to be unresponsive to user demand. Further, services are usually priced below costs which impedes the generation of adequate internal surpluses, in turn, leading to excessive dependence on budgetary support. Moreover, in recent times, (i) contemporary cost curves do not justify the natural monopoly of State and (ii) technological developments have allowed unbundling and competition in many infrastructure services, once viewed as the natural monopoly of State. Furthermore, the on-going structural reform process in India, initiated in the early nineties, has cast a new dimension to the overall framework for the financing of transport infrastructure.
and services. Some of the major elements of the reform process are to bring about an orderly correction of fiscal imbalances, develop and strengthen financial institutions and capital markets and (further) liberalize the economy with a view to encouraging private initiative and competition. In the transport sector, this has translated, inter-alia, into encouraging public sector entities to maximize internal resource generation in order to finance future expansion.\textsuperscript{21}

**Singh, Sanjay K. (1997),** in his article “Estimating the level of rail and road based passenger mobility in India” has forecasted the level of rail and road based passenger mobility for the next twenty years. S-Shaped growth curves have been used to model the development in passenger mobility in India. Annual data from 1950-51 to 1995-96 are used for the purpose of estimation. In Indian context, **L. C. Gupta (1999)** attempted a refinement of Beaver’s method with objective of predicting the business failure.\textsuperscript{22}

**Rao, K. Rajeshwar (1996),** while studying the Management Effectiveness in transport operations has stated that Delhi Transport Corporation was not being managed properly, due to mismanagement. The corporation was running into losses. The study reveal that the corporation needs a favorable government attitude in terms of transport policy, simultaneously the working of the organization can be improved by introducing scientific organizational structure. Effective planning and sound financial management can help the corporation to stand in the market.\textsuperscript{23}

**Rao, Kotnana Rama (1994),** the multiplicity of agencies at different levels with different roles was not found to be conducive to the rural road transportation system, on account of lack of co-ordination and the resultant duplication of efforts leading to wastage of scarce resources. He has observed that the revenue earnings from the operation of buses in rural areas have been encouraging but the cost of operation went up much ahead of it all along, landing the Corporation in losses year after year. Despite the Corporation’s earnestness and eagerness in the village connectivity, it received a setback due to various reasons such as the government’s beating the corporation hollow with only empty promises and no tangible help. The villagers imputed to the introduction of the bus service, the mobility thus imparted which in turn accounted for the improvement of incomes through subsidiary occupations and also for an increase in the number of earning members in different families. It was
observed that prior to the introduction of the bus service dependence on slow and strenuous means of transport made rural lists more immobile. 24

Dr. Srinivasan. N. S., Paul Babu D, Keeping in view that urbanization trends in most of the developing countries, point to increased growth of the larger cities and considering that in most of the cities the urban form and road network are not suited to the requirements of modern traffic, detailed comprehensive studies must be taken up to suggest decongestion of intense-activity core areas, the future pattern of growth and provision of transport facilities in a phased manner. Efforts must be made for augmentation of supply and simultaneous reduction of demand of transport facilities. Since the bulk of the population was in low income groups which cannot fund their own transport, emphasis has to be given to the provision of public transport. 25

Dr. Bagade M. V. (1982), Where the roads are comparatively narrow and greatly congested with people and vehicles, the likelihood of minor accidents due to brushing of vehicles, in an effort to speed up, was more. Hence the larger number of accidents in a city likes Bombay, whereas in comparatively un congested roads which enable greater speeds, the impact of accidents was likely to result in more fatalities. In view of concentration of industrial and commercial activities within a radius of 3 kms in case of Bombay, life tends to be faster and the drivers attempt to speed up, this result into high amount of accidents. 24

Rao, R. Prabhakar (1981), State Transport industry needs an organization which can mobilize finances from the various sources to the extent of about Rs. 500 crores annually and channel the same to State Transport Undertakings. So it was easier for them to plan their future growth. An organization like the shipping development fund will have a limitation in that the resources available are only the funds provided by Government along with the interest and repayment theron. It may not be able to raise funds from financing institutions. Further, State Transport Corporations already is getting Central Government’s Contribution directly under a provision in the Road Transport Corporation Act and they would both be interested in channelising the same funds through the Committee. It would therefore be desirable to continue the flow of Central Government’s Capital Contributions to STUs as present by channelising the same through the Ministry of Shipping & Transport and not through Railway Board. The constitution of “TRANSPORT DEVELOPMENT FINANCE DEVELOPMENT
CORPORATION” as a statutory corporation/company, with suitable equity base to be provided by the Central Government, State Government & Financing Institution.\textsuperscript{25}

\textbf{Chand Mahesh (1980)}, in his paper, carried out traffic projections Karnataka State Road Transport Corporation (KSRTC), Bangalore, which is the fifth biggest public road transport undertaking in India. Four forms of traffic projections viz. number of passengers, passengers’ kilometers, vehicle kilometers and fleet size have been projected. The forecasting was proceeded by construction of five growths models and, then based on forecast error analysis, selecting of the best model. Using the selected growth model, the number of passengers has been projected. Based on passengers’ forecasts, other items of traffic projections have been arrived at by using either regression equation or ratios.\textsuperscript{26}

\textbf{S. Subramanian (1976)}, focuses on some of the Planning Problems of State Road Transport Undertakings in India. It seeks to examine the environment in which the State Road Transport Undertakings are called upon to operate. It seeks to clarify the nature of the product and services rendered and also identify the constraints under which the State Road Transport Undertakings are called upon to operate. Finally the article seeks to examine certain strategic planning problems involved, such as nationalization of private operations, consolidation and expansion, traffic and route surveys and scheduling aspects. It was concluded that what ultimately matters is what the passenger gets and not what the undertaking plans and hence the article emphasizes the importance of Operational Planning to meet the needs of the passenger as the basis of Corporate Planning for State Road Transport Undertakings. The issues examined in the article will be of relevance to State Road Transport Undertakings in other developing countries.\textsuperscript{27}

\textbf{K. C. Vijay Kumar} conducted a study on “Corporate Model for Kerela State Road Corporation”. He has pointed out that Kerala government wis creating “Zones” for the efficient operations, without much change in the administrative set-up, which has resulted in creating another level in the management hierarchy. He feels that any plan for re-organization should take other modes of transport and the Kerala State Road Transport Corporation in the overall transport plan of the state.

\textbf{S. Sriram} study of state road transport in India reveals the financial performance of the state roads in the past decade. The author attributed losses partly to the
inefficiency and partly to uncompensated burden of social obligation and constraints in external operating environment.

**Sinha R. K.** focuses on “Economics of public enterprises” that in spite of phenomenal growth and achievement the public sector has come in for sharp criticism He has stated again the public sector has primarily been a losing a concern, resulting into a heavy losses to the exchequer mainly on account of lack of autonomy for managers, adoption of bureaucratic procedures over staffing, over stocking in inventories, unproductive expenditure.

**Uppal. K. K. and Amandeep** in their study in “Public sector in India Economy-A critical evaluation management of public sector in India”- has pointed out that public sector undertaking has played an important role in the development process of the country. But these undertaking are running into losses. These loss making organization are to be converted into profit making as well as economically viable. They emphasized the need of holding public sector units accountable for the performance with regard to the objective of these units. These units must operate at its full capacity and have to become cost conscious if these are to earn profit at an anticipated time.

### 4.4 SUMMARY OF THE INDIAN STUDY

Table 4.1: Summary of the Indian Literature Review

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>S. Sriraman</td>
<td>2009</td>
<td>Transport and Logistic infrastructure was in a process of rapid development and resulted in minimal transportation cost.</td>
</tr>
<tr>
<td>Times of India</td>
<td>2009</td>
<td>BEST has introduced super fast bus services.</td>
</tr>
<tr>
<td>M. Kannadhasan</td>
<td>2007</td>
<td>Z-Score model was used to evaluate the financial health of Wendt (India) Limited company. Five Years financial year 2001-02 to 2004-05 was used for evaluation purpose.</td>
</tr>
<tr>
<td>Competition Commission of India</td>
<td>2007</td>
<td>Competition policies of inter-state and intra-state should include: 1. Competition Index 2. Efficiency Index</td>
</tr>
</tbody>
</table>
### 3. Consumer Satisfaction Index

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singre Narendra</td>
<td>2007</td>
<td>With the development of NHA, transport system was also developing.</td>
</tr>
<tr>
<td>Financial Express</td>
<td>2008</td>
<td>PSUs to have new criteria for performance evaluation.</td>
</tr>
<tr>
<td>Singh Sanjay</td>
<td>2006</td>
<td>Buses form the backbone of the public transport system. However, bus transport systems in many cities have not been able to keep pace with the rapid and substantial increase in travel demand. Moreover, urban bus transport operators face huge financial losses.</td>
</tr>
<tr>
<td>N. Ravichandran, M. V. N. Surya Prasad</td>
<td>2005</td>
<td>Need to Revive GSRTC</td>
</tr>
<tr>
<td>Sharma A. K.</td>
<td>2005</td>
<td>Role of Board of Directors in Public and Private Enterprise. Public Sector BOD was more powerful than that of the Public Sector.</td>
</tr>
<tr>
<td>Mishra R. K.</td>
<td>2004</td>
<td>The financial Performance of the enterprise has important bearing on the finance of the state Government.</td>
</tr>
<tr>
<td>Mishra R. K., Gerand</td>
<td>2002</td>
<td>Effects of Privatisation on employment.</td>
</tr>
<tr>
<td>Dinesh Mohan</td>
<td>2002</td>
<td>Cost of Road Traffic crashes over the past few decade-cost analysis of Delhi Transport Corporation.</td>
</tr>
<tr>
<td>Gundam Rajeshwari</td>
<td>2001</td>
<td>Performance of APSRTC at State and Regional Levels</td>
</tr>
<tr>
<td>K. C. Pant</td>
<td>2001</td>
<td>Poor financial condition of the SEB was a major constraint in achieving financial goals.</td>
</tr>
<tr>
<td>Pucher John, Korattyswaroopam Nisha</td>
<td>2001</td>
<td>Increasing travel demand and limited supply has potential of developing transport system. But lack of government financial assistance is stopping it from developing.</td>
</tr>
<tr>
<td>Singh Sanjay Kumar</td>
<td>2001</td>
<td>He has find out various reasons for increasing road accidents by STUs.</td>
</tr>
<tr>
<td>Author</td>
<td>Year</td>
<td>Citation</td>
</tr>
<tr>
<td>-------------------------------</td>
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</tr>
<tr>
<td>Kaushi Deb</td>
<td>2000</td>
<td>Liberalisation led to the State withdrawing gradually from several infrastructure sectors.</td>
</tr>
<tr>
<td>Rajeshwari, Gundam</td>
<td>1998</td>
<td>In his book he has examines the performance of Andhra Pradesh State Road Transport Corporation both at the state and regional levels. It particularly deals with the pricing policies of the transport service as being implemented by the corporation.</td>
</tr>
<tr>
<td>S Sriraman</td>
<td>1997</td>
<td>The rate of return of the 71 STU has improved during the year.</td>
</tr>
<tr>
<td>S Sriraman, A. Bagchi</td>
<td>1997</td>
<td>STU services are under priced. Contemporary cost curve do not justify the natural monopoly of State.</td>
</tr>
<tr>
<td>Singh Sanjay K.</td>
<td>1997</td>
<td>Estimating the level of rail and road bases passenger mobility in India for the next 20 years, S-Shaped growth Curve has been used.</td>
</tr>
<tr>
<td>Rao K. Rajeshwar</td>
<td>1996</td>
<td>Delhi Transport Corporation not properly managed. Favourable government attitude in terms of transport policy is needed.</td>
</tr>
<tr>
<td>Rao Kotnanan Rama</td>
<td>1994</td>
<td>Multiplicity of agencies at different levels with different roles was not conductive to the rural road transport system.</td>
</tr>
<tr>
<td>Dr. Srinivasan. N. S. and Paul Babu D.</td>
<td>1983</td>
<td>Increasing Urbanization leads to the increase in the demand for road transportation.</td>
</tr>
<tr>
<td>Dr. Bagade. M.V.</td>
<td>1982</td>
<td>Narrow roads are responsible for more number of accidents.</td>
</tr>
<tr>
<td>Rao R. Prabhakar</td>
<td>1981</td>
<td>Need of financing State Transport Undertaking. The constitution of “TRANSPORT DEVELOPMENT FINANCE DEVELOPMENT CORPORATION” as a statutory corporation/company, with suitable equity base to be provided by the Central Government, State Government &amp; Financing Institution.</td>
</tr>
<tr>
<td>Chand Mahesh</td>
<td>1980</td>
<td>Regression equation, ratios analysis techniques was used for Traffic Projection of KSRTC.</td>
</tr>
<tr>
<td>S. Subramanian</td>
<td>1976</td>
<td>STU in India lack planning.</td>
</tr>
<tr>
<td>----------------------</td>
<td>------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>K. C. Vijay</td>
<td></td>
<td>Corporate Model for Kerela State Road Corporation was used.</td>
</tr>
<tr>
<td>S. Sriram</td>
<td></td>
<td>Loss in SRTU was partly due to inefficiency and partly to uncompensated burden of Social obligations.</td>
</tr>
<tr>
<td>Uppal K K, Amandeep</td>
<td></td>
<td>Public sector undertaking has played an important role in the development process of the country. But these undertaking are running into losses.</td>
</tr>
</tbody>
</table>

### 4.5 FOREIGN STUDIES

The survey of various literatures, authored by foreign author emphasis on the importance of public transport for the economic development of any nation. It examines various factors which influence the demand for public transport, like quality of service, fare charge, income, ownership of car etc. Various models have been used to evaluate the performance of the road transport. Literature also reveals the facts that government has initiated changes and has implemented modern management tools to overcome the financial constraints. A Balance Score card technique and Z-Score were also used for measuring the performance of government sector.

**J. Preston (2009),** Public transport may be defined as any form of passenger or freight transport that is available for hire and reward. In practice, it usually refers to land-based passenger transport and in particular bus and train services and variants thereof. It is this narrower definition that was used in this article. The academic study of public transport has tended to be an interdisciplinary affair – geographers have studied public transport in conjunction with engineers, economists, planners, and others. These studies have focused on three themes. The first theme was that of public transport operations as a spatial system worthy of study in, and of, itself. The second theme focuses on the economics of public transport systems, in terms of demand, supply, prices, investment, subsidy, regulation, and ownership. It emphasizes elasticity, returns to scale, and welfare optimization. The third theme highlights the ways that public transport interacts with the wider economy and promotes social inclusion, as well as the impact of public transport on the environment, its interaction
with private transport, and its contribution to sustainable development. Key work in these three areas was described.  

**Rocky R. J. Akarro (2009),** Tanzania is one of the countries in which big losses due to road accidents was evidenced. For example in 1994 alone the estimated losses due to motor accidents was approximately at least 11 billion ($22 Million) and the trend was continuing. The National Insurance Corporation (NIC) disbursed over 15 billion Tshs ($30 Million) in 1993 on motor vehicle accidents, which accounted for 55 percent of all claims launched by customers during the year. The government of Tanzania has been putting road safety measures in its agenda. Speed limiters on buses have been affected but this has not reduced road accidents significantly as incidences of road accidents was still a common occurrence in Tanzania. Realizing this SIDA/SAREC in conjunction with the Department of Statistics at the University of Dar es Salaam carried out a research on people’s opinions regarding possible causes of road accidents with a possibility of designing a remedial solution. People whose opinions were sought were the drivers themselves, the motor cyclist, the pedal cyclist/gutta cyclist/mkokoteni and the pedestrian. Analysis identifies driver errors as the main causes of accidents followed by a combination of driver/vehicle errors and vehicle/road errors. Findings show that effective remedial solutions should be designed to capture for the drivers whom as the study shows are the main players in road accidents.  

**Portugal Rita, Lourenco Helena R, Paixao Jose P (2008),** The Drivers Scheduling Problem (DSP) consists of selecting a set of duties for vehicle drivers, such as bus, train and boat drivers or plane pilots, for the transportation of passengers or goods. This was a complex problem as it involves several constraints related to labour and company rules and may also entail different evaluation criteria and objectives. The ability to develop an adequate model for this problem, which can represent the real problem as closely as possible was an important research area. In his paper he has presented new mathematical models for the DSP which embody the very complexity of the drivers scheduling problem, besides demonstrating that the solutions generated by these models can easily be implemented in real situations. On the strength of extensive passenger transportation experience in bus companies in Portugal, they propose and test new alternative models to formulate the DSP. These models are
based on Set Partitioning/Covering models. Moreover, they also take into account the bus operator issues and the user’s standpoint and environment.\textsuperscript{30}

\textbf{Athena Rournboutson, Seraphim Kapros (2008),} A game theoretic conceptual framework model was presented to highlight strategies undertaken by individual public transport operators, public or private, vis-à-vis operational integration strategies. The Nash equilibrium was used to identify possible outcomes in various market situations. These are compared with reported case studies. The model, as a strategy-guiding tool, may be used to assist transport policy decision-makers concerned with public transport integration in identifying the most cost-effective form of intervention and its timely implementation.\textsuperscript{31}

\textbf{Aaron Golub (2007),} Informal transport services—para transit-type services provided without official sanction—can often be difficult to rationalize from a public policy perspective. While these systems provide benefits including on-demand mobility for the transit-dependent, jobs for low-skilled workers, and service coverage in areas devoid of formal transit supply, they also have costs, such as increased traffic congestion, air and noise pollution, and traffic accidents. This article reviews the range of informal sector experiences worldwide, discusses the costs and benefits of the sector in general and uses several case studies to illustrate different policy approaches to regulating them.\textsuperscript{32}

\textbf{Munnawar Ahmed (2007),} the provision of urban public transport in Indonesia was not free of problems. Some of the problems include: an overall lack of capacity, lack of quality and choice, severe traffic congestions and insufficient fund to renew and repair vehicles. Generally, the comfort and quality of the city bus was poor, and many of the vehicles are dilapidated and dirty. Surveys were carried out in the city of Yogyakarta, by counting city bus vehicles and occupancies, interviewing the bus passengers, drivers and institutional staffs, who involve in public transport management. This paper then analyzes the possible plan to develop the public transport system to become more attractive and to improve the public transport management. The short, medium and long term plans are analyzed, to find the best solutions. Some constraints such as social impacts and financial impact are also taken into accounts.\textsuperscript{33}
Neil Paulley, Richard Balcanbe, Roger Mackett, Helena Titheridge, John Presten, Mark Wardman, Jeremy Shirm, Peter White (2006), This paper reports on key findings from a collaborative study whose objective was to produce an up-to-date guidance manual on the factors affecting the demand for public transport for use by public transport operators and planning authorities, and for academics and other researchers. While a wide range of factors was examined in the study, the paper concentrates on the findings regarding the influence of fares, quality of service and income and car ownership. The results are a distillation and synthesis of identified published and unpublished information on the factors affecting public transport demand. The context was principally that of urban surface transport in Great Britain, but extensive use was made in the study of international sources and examples. 

Mark Wardman (2004), the paper reports research on the valuations of public transport time relative to car travel time and on the valuations of the walk time, wait time and service headway associated with public transport use. The results are derived from a meta-analysis of a very large data set of British empirical evidence and are set against a review of previous research. A large number of methodological and policy relevant results emerge, some of which challenge established conventions, and the implications for value of time recommendations, policy and further research are spelt out. The research findings challenge several conventions and provide a number of practical recommendations regarding the valuations of time and service quality to use in appraisal and areas for future research. 

McKinsey Quarterly (2004), In a study titled “Organizing for effectiveness in the public sector” published in the McKinsey Quarterly, they write: By privatizing state-owned monopolies and deregulating whole industries, governments the world over have brought market forces to bear on electricity, telecommunications, and other economic activities formerly carried out in the public sector. Traditional public-sector organizations can be redesigned to perform more successfully, even when market forces are lacking, according to Mr. Keith Leslie, a principal, and Ms. Catherine Tilley, a consultant, in McKinsey's London office. 

Martin Lowson (2004), He has presented results from two idealized models for public transport. Models are evaluated for trips via a corridor and for a network system meeting a uniform trip demand. The network transport model uses a grid-based synchronous system which could serve a whole city with a maximum of one
transfer. This model has been proposed by others, but as far as is known no basic results have been published for its operational effectiveness. The analysis has provided a number of mathematical results for this system. The system proposed may have value in its own right, but was introduced to enable the effectiveness of meeting transport demand with transport networks of different density to be calibrated. An interesting result, which may be new, was that the average trip length for uniform demand in a grid-based city was equal to one sixth of the city perimeter served, independent of grid density. The network results demonstrated that transport effectiveness increased with reducing vehicle size. Optimum vehicle capacity for 0.5 km spacing was projected to be seven passengers. This would require automatic control to be operationally effective. This makes a case for the consideration of small automatically controlled vehicles for public transport.

Cokins (2002), there is also a need to reinforce accountability, so that they are clearly held to account for the resources they use and the outcomes they achieve (Randor & Lovell 2003). In response, government administrators have begun introducing changes and implementing modern private sector management tools in their organizations to deal with the financial constraints and increasing demand in terms of accountability to stakeholders (Ho & Chan 2002). However, there are underlying differences between the private sector.

Kidwell (2002), Governments around the world are under pressure to control their costs and improve their services. Federal, national, state, county, municipal and local governments in almost all the countries in the world are feeling some sort of fiscal squeeze.

Alan T. Murray (2001), Public transport service provision was viewed as an important component of the overall transportation planning and management process. Research examining public transportation performance and how it may be enhanced was much needed. The paper addresses strategic aspects of service access. Public transport in Brisbane, Australia was evaluated using a commercial geographical information system integrated with various spatial analytical techniques including a location covering model. The developed strategic analysis approach was effective for justifying local modifications to the public transport system with respect to system inefficiencies and also allows this to be done with significant user (or public) input.
Such strategic approaches are likely to result in higher regional utilization of public transportation.  

**G. Jacobs, A. Aeron-Thomas and A. Astrop (2000),** paper have attempted to highlight the road safety situation within the various regions. It has shown that fatality rates (i.e. death per 10,000 vehicles) were lowest in HMCs whilst the highest were found in African countries, particularly Ethiopia, Uganda and Tanzania. Fatality risk (i.e. deaths per 100,000) was highest in a disparate group of countries including Thailand, Malaysia, South Africa, and Saudi Arabia. In most of these analyses, as might be expected, values in Central and Eastern European countries lay closer to the HMCs, than to countries of Africa, Asia or Latin America. The relative regional share of fatalities, population and one of the most important differences between HMCs and the LMC regions was that over the last ten years or so the number of deaths taking place actually fell by about 10 per cent in HMCs, whilst in the Africa, Asia/Pacific and Latin America regions road deaths continued to rise. In Central and Eastern Europe there was a marked difference between Poland where deaths increased by 31 per cent and other countries where deaths fell. Over the period 1987-95 deaths in the Asia Pacific region rose by 39 per cent, in Africa by 26 per cent (excluding South Africa) and in the MENA region by over 36 per cent. In China, Malaysia and Thailand, pedestrian deaths were surprisingly low at around 10-15 per cent of the total. Conversely in Singapore, Taiwan (China) and Malaysia over 50 per cent of deaths were motorcyclists.  

**Kaplan and Norton (1996),** describes - The balanced scorecard retains traditional financial measures. But financial measures tell the story of past events, an adequate story for industrial age companies for which investments in long-term capabilities and customer relationships were not critical for success. These financial measures are inadequate, however, for guiding and evaluating the journey that information age companies must make to create future value through investment in customers, suppliers, employees, processes, technology, and innovation.  

**World Bank’s (1995),** official study (Ghalal et al, 1995) - Public road passenger transport was a key element of a strategy to contain congestion and environmental air pollution, as well as being essential to the poor. When it is appropriately regulated, competition best guarantees efficient supply, and through franchises and concessions can mobilize low-cost operations to provide the best quality of service and price for
any budget capability. Without adequate regulation, however, competition can have some very damaging effects. The informal sector can also contribute effectively. Public transport should not be viewed as only for the poor, however, as the importance of public transport to all income groups in many rich European cities demonstrates. Improving efficiency in public transport must be concerned not only with keeping costs down but also with providing a flexible framework within which the less poor, as well as the poor, can use public transport with confidence and comfort. If adequate public transport is not available, then the rich will use private automobiles while the relatively poor will shift first to bicycles, then to motorcycles (Vietnam and Indonesia), then to taxis (China and Indonesia), and ultimately to inexpensive cars as their incomes increase. The failure of conventional public transport may also.

Kay, Thompson’s (1986), In macro economics, especially after the Latin American debt and inflationary crisis in the 1980s, privatization was widely advocated as a quick and sure means of restoring budgetary balance, to revive growth on a sustainable basis (Dornbusch, 1991). Right from the beginning in the UK, privatisation has been a policy in search of an economic rationale – to borrow the title of Kay and Thompson’s (1986) well-known contribution. Mainstream economics was largely agnostic about the role of ownership, focusing mainly on how market structure affects performance of firms (Vickers and Yarrow, 1991). If privatisation was seen as a means of raising resources for the budget, it can be analytically shown to be cheaper to sell public bonds than public assets (Yarrow, 1986).

Jacobs, GD & Sayer, I (1983), by the early 1970s countries of the Third World was becoming increasingly aware that they faced a growing road safety problem. In 1972, following numerous requests made by developing countries for aid and guidance in the road safety field, a small research team was formed within the Overseas Unit of the Transport and Road Research Laboratory. The aim of this team was to undertake research in Third World countries with a view to establishing the nature and extent of their traffic accident problems and, in the longer term to assess the effectiveness of remedial measures. The paper describes some of the major findings of this research team. Research work carried out by the Overseas Unit TRRL has shown that road accident fatality rates (i.e. deaths per 10,000 vehicles licenced) are high in developing countries”, very often 20 times greater than for those countries of Western Europe and
North America. Perhaps even more worrying was the fact that whereas fatality rates in developed countries have decreased steadily over the last twenty years, those in a considerable number of developing countries have increased. Using data for road fatalities, vehicles and population for the year 1938 from 20 mainly European. In many Third World countries a major road safety problem may be present that does not exist at all in Western Europe and North America – accidents involving para-transit forms of public transportation. Thus in Surabaya, the second city of Indonesia, 17 per cent of Major casualties was drivers or passengers of betjaks (cycle rickshaws).

Fama (1980), In fact, it was mainly the property right theorists who have underlined the role of ownership on economic performance. But in the twentieth century, with the separation of ownership from control in modern industry, there was a serious agency problem regardless of its ownership. The view that the secondary capital market and the market for managers provide adequate discipline on a firm’s performance was at variance with evidence; especially the US experience (more about it later). What was the evidence on the efficiency effects of privatisation? It was highly mixed, to put it mildly. Florio (2004), perhaps the most recent and definitive quantitative account covering the longest time period of the UK experience, does not show any measurable efficiency gains on account of the changes in ownership.

Gratwick, Fahey W. R., Schneiderman Allah (1976), in his article “A role for transportation in Canada”, say that “Transportation planning today involves all modes—airways, railways, roadways, waterways, and pipelines. Even the transmission of electrical power may be considered as a mode of transportation. Moreover, transportation planning involves the economic, political, and social systems of a nation. In his paper an attempt was made to create an awareness of the vast importance and complexity of transportation planning, to define a potential role of transportation, and finally, to suggest ways and means of achieving transportation's possible role.

Altman I. Edward (1968), He has used classical Multiple Discriminate Analysis technique with five financial ratios was used for predicting the risk of failure and developed a model (Z score) to find a bankruptcy prediction model based on a sample composed of 66 manufacturing companies with 33 companies in each of two matched –pair groups (33 publicly-traded manufacturing bankrupt companies between 1946
and 1965 and matched them to 33 firms on a random basis for a stratified sample), which was built out of the five weighted financial ratios.\textsuperscript{48}

**W. H. Beaver (1966)** was the first researcher to study the prediction of bankruptcy using financial data. His analysis was based on ratios, which have discriminating power to predict the bankruptcy of the companies using failed and non-failed 79 manufacturing companies in each of two matched pair groups.\textsuperscript{49}

### 4.6 SUMMARY OF THE FOREIGN STUDY

Table 4.2: Summary of the Foreign Literature Review

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>J. Preston</td>
<td>2009</td>
<td>Public transport interacts with the wider economy and promotes social inclusion, as well as it also impacts the environment and private transporters. Public Transport contribution to sustainable development.</td>
</tr>
<tr>
<td>R. J. Akarro</td>
<td>2009</td>
<td>Loss due to Road Accident in Tanzania. He has analysis the driver errors as the main cause of accidents followed by a combination of driver/vehicle errors and vehicle/road errors.</td>
</tr>
<tr>
<td>Portugal Rita, Lauren Co Helena</td>
<td>2008</td>
<td>Focus on overall mode of transport and its complex problem related to labour and compulsory rules. DSP model was used for solving complexity of the drivers scheduling problems.</td>
</tr>
<tr>
<td>Athena Rournboutson</td>
<td>2008</td>
<td>Game Theoretic Conceptual framework model was used as a strategy-guiding tool for making decision in Public Transport.</td>
</tr>
<tr>
<td>Aaron Golub</td>
<td>2007</td>
<td>Informal transport services—Para transit-type services provided without official sanction—can often be difficult to rationalize from a public policy perspective. They also have costs, such as increased</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Year</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Munnawar Ahmeded</td>
<td>2007</td>
<td>Urban Public transport in Indonesia was not free of problems. The basic limitation was the quality of service which was consider as very poor.</td>
</tr>
<tr>
<td>Neil, Paulley, Richard Balcanbe, Roger Mackett, Helena Titheridgr, John Preston</td>
<td>2006</td>
<td>It examine various factor which influence the demand for public transport, like quality of service, Fare charge, Income, ownership of car etc.</td>
</tr>
<tr>
<td>Mark Wardman</td>
<td>2004</td>
<td>A Study of Public Transport in Great Britain was conducted .He has used meta-analysis of a large number of valuations of the attributes, including in-vehicle time, walk time, wait time, service headway, interchange, departure time adjustments, search time, late time and time spent in congested traffic conditions.</td>
</tr>
<tr>
<td>McKinsey Quarterly</td>
<td>2004</td>
<td>In favour of Privatisation.</td>
</tr>
<tr>
<td>Martin Lowson</td>
<td>2004</td>
<td>He has presented results from two idealized models for public transport. Models are evaluated for trips via-a corridor and for a network system meeting a uniform trip demand. The analysis has provided a number of mathematical results for the system. An interesting result was that the average trip length for uniform demand in a grid based city was equal to one sixth of the city perimeter served independent of grid density.</td>
</tr>
<tr>
<td>Cokin</td>
<td>2002</td>
<td>Government administrators have begun introducing changes and implementing modern private sector management tools in</td>
</tr>
</tbody>
</table>
Kidwell 2002 Government under pressure to control cost of Public Sector.

Alan Murray 2001 Study of Public Transport in Brisbane was done using Commercial Geographical information system integrated with various spatial analytical techniques including a location.

G. Jacobs, A Aeron, Thomon, A Astrops 2000 He has attempted to highlight the road safety situation within the various regions. It has shown that fatality rates (i.e. death per 10,000 vehicles) were highest in African countries, particularly Ethiopia, Uganda and Tanzania.


World Bank 1995 Public road passenger transport was a key element of a strategy to contain congestion and environmental air pollution, as well as being essential to the poor. The informal sector can also contribute effectively but public transport should not be viewed as only for the poor.

Kay Thompson 1986 In favour of Privatization.

Jacobs, GD, Sayer 1983 Road Accident fatality rate was high in developing countries. Very often 20 times greater than for those countries of Western Europe and North America.

Fama 1980 In favour of Privatization.

John Gratwick, W. R. Fahey, Allan Schneiderman 1976 Transportation planning involves the economic, political, and social systems of a
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<table>
<thead>
<tr>
<th>Altman, Edward</th>
<th>1968</th>
<th>Z-Score was developed to evaluate the performance and bankruptcy.</th>
</tr>
</thead>
<tbody>
<tr>
<td>W. H. Beawer</td>
<td>1966</td>
<td>Ratio analysis was used to predict the Bankruptcy in State Own Transport Undertaking.</td>
</tr>
</tbody>
</table>

REFERENCES:


3. Times of India, November 5, 2009, “Soon Bus Will Be The Best Way To Town”.


