CHAPTER 1

INTRODUCTION
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Transportation involves the basic function of moving people and goods over distance. Though obvious, the influence of transportation on mankind has been immense. If one analyses the history of human civilization in the light of advancements made in transportation, one can easily perceive the close linkages between the various milestones in civilization and the developments in the science and art of transportation. The social and economic progress that have characterised human civilization can, to a large extent, be traced to significant developments in the field of transportation. To quote Sir Peter Baldwin, Permanent Secretary, Department of Transport, U.K., from his Opening Address at the World Conference of Transport Research held in London in April, 1980, "It is one of the few but outstanding advantages of the age in which we live, that transport and communication have put on, as we say, their seven league boots and taken vast and swift strides forward by the human discoveries of science and the human inventiveness of technology." ¹

Importance of Transport

Modern economic activity requires speedy movement of men and materials. An efficient transportation system for movement of people is a sine qua non for improving the

quality of life enjoyed by a community. The impact of transport on social and economic development has been highlighted by the Kesker Committee on Road Transport Taxation, when it observed, "In large areas of world, lack of transport is a primary obstacle to economic and social development. Poor transport is a major factor in world hunger. Produce rots on the ground because it cannot be moved to the people. Much of the forest and mineral resources of the world lie untouched because no one can get them or move them to where they are needed. Industrial activity is severely hampered by unreliable transport, leading to erratic supply schedules for essential fuel, raw materials and spare parts as well as difficulties in marketing what is made ... On the political side poor transport makes it exceedingly difficult to achieve national unity." ²

In the complex process of modern economic development, transportation plays a special role in achieving various national goals, such as agricultural production and its marketing, making forest products and raw materials and natural resources available for industrial exploitation, expansion of trade, planning and executing health care and educational programme and above all exchange of ideas and experience. National development policy and transport planning are thus vitally connected.

This is because transport investment is a factor input to other processes, especially in agricultural countries, where "transport becomes an input to the food production process rather than an outside constraint upon the production of food." Further, in industrially developed countries, where all facilities are yet to be built, transport clearly influences production economies of the goods to be moved. Thus the transport development perspective for developing countries will need to take note of:

(a) development of markets for agricultural surpluses - and processing and distribution;

(b) migration of people from rural to urban centre and the provision of employment for them;

(c) carriage of raw materials to manufacturing centres and distribution of manufactured goods on a nationwide scale; and

(d) last, but not the least important, urban transport.

Mass transportation

While transport in general is thus crucial for planned development, the transport system for mass transportation

transit of the people within a country gains greater importance. Man's need for travel is essentially an economic need though it might also spring from other purposes, such as social, cultural, educational and religious. It is this need to travel that has found expression in the fundamental right to movement in the Constitution of many a country. Mobility is thus a very important index of the quality of life. Lack of adequate mass transport facilities hampers political integration of the people and impedes their social and cultural advancement.

Mass transport facilities in many countries have mostly been public systems because of the inability of a large majority of the people to acquire their own personal transport. This becomes all the more relevant in developing countries which are characterised by resource-scarce economies. Of late, even in advanced countries public transport system is increasingly replacing personal transport owing to energy crisis in the wake of the petroleum crisis and also because of a growing concern for atmospheric and noise pollution.

Road Transport

The traditional mode of inland transport for movement of people has been the road. Technological progress has indeed contributed to the development of road transport from its early days of animal-driven coaches to the
modern automobiles of enormous traction power. The invention of the steam engine has so revolutionised the concept of mass transportation that its application in railway traction has come to be considered as an important alternative mode of inland transport. But in spite of the railway's features of faster, safer and more economical (at least for long journeys) travel, it does not make it the obvious choice for mass transportation of people for two major reasons, viz.

(i) the railway is essentially capital intensive involving huge outlays of funds in permanent ways, coaches, wagons and signalling systems, and

(ii) it suffers from a limitation due to its inability to reach into the interiors.

These two factors have led the developing countries, especially those which are vast and thickly populated like India, to consciously plan and develop the road transport system for movement of people. Several advantages can be cited in favour of road transport which make it the most relevant mode for developing countries. These are -

(1) road transport is considerably less capital intensive than the railways and can reach the farthest corners of the country and thus bring the remote habitats
into the mainstream of national life and development.

(2) The route-network in road transport system is flexible since the routes are not constrained by rigidity of way as in the case of the railways. All that is required is some roads which facilitate the movement of a bus. On the other hand, the railways can provide services only between fixed points connected by railway lines.

(3) Road transport, apart from being a mode of transport in itself, also acts as the feeder mode to other modes of transport, especially the railways. The movement of agricultural products and other natural resources and raw materials and finished goods from the places of their occurrence/production to the places of their consumption, even when made by the railways, would still require some element of road transport facility at source and destination points for movement to and from the railhead.

(4) In developing countries grappling with massive unemployment problem, road transport is seen to be capable of providing more employment opportunity per unit of investment than the other modes. This can be seen from the employment generating capacity of different modes of transport given in the following table:-
Table 1.1

Employment generating capacity of different modes of transport

<table>
<thead>
<tr>
<th>Mode</th>
<th>Person/years of employment per investment of Rs.1 lakh</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Road</td>
<td></td>
</tr>
<tr>
<td>(a) Road Construction and</td>
<td>27.50</td>
</tr>
<tr>
<td>Maintenance</td>
<td></td>
</tr>
<tr>
<td>(b) Bullock Carts</td>
<td>27.00</td>
</tr>
<tr>
<td>(c) Three Wheelers</td>
<td>17.15</td>
</tr>
<tr>
<td>(d) Trucks</td>
<td>16.95</td>
</tr>
<tr>
<td>(e) Buses</td>
<td>9.26</td>
</tr>
<tr>
<td>(f) Taxis</td>
<td>3.71</td>
</tr>
<tr>
<td>(g) Vehicle production (chassis)</td>
<td>1.78</td>
</tr>
<tr>
<td>2. Railways</td>
<td>4.30</td>
</tr>
<tr>
<td>3. Air Transport</td>
<td>0.97</td>
</tr>
<tr>
<td>4. Coastal Shipping</td>
<td></td>
</tr>
<tr>
<td>(a) Coastal Shipping</td>
<td>2.40</td>
</tr>
<tr>
<td>(b) Sailing Vessels</td>
<td>20.00</td>
</tr>
<tr>
<td>5. Inland Water Transport</td>
<td></td>
</tr>
<tr>
<td>(a) Operations</td>
<td>33.59</td>
</tr>
<tr>
<td>(b) Development of Navigation</td>
<td>13.20</td>
</tr>
<tr>
<td>Cannals</td>
<td></td>
</tr>
</tbody>
</table>

Road transport has thus acquired significance as the most versatile and ubiquitous mode of transport capable of reaching into the far corners of a vast country and of adjusting its capacity to the requirements of rural people.

**Passenger road transport - A public utility**

Passenger road transport serves as the best example of public utilities since it is "subject to regulation, including price regulation, of a type designed primarily to protect consumers." Moreover, the two essential features of public utilities, viz. "the special public importance or necessity of the services supplied (and their) technical characteristics leading almost inevitably to monopoly or at least ineffective forms of competition" are seen fully present in passenger road transport. It also passes the two criteria prescribed by E.W. Clemens, viz. "Necessity and monopoly are almost pre-requisites of public utility status." In many countries, therefore, passenger road transport is aptly under the control of governments as a public utility. However, it may be noted that public utility service may as well be undertaken by privately owned companies. In such a case, the motive of private entrepreneurship, viz. maximisation of profit or

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shareholders' interest would rule as the objective rather than maximisation of consumers' satisfaction, which should be the real objective of a public utility. The culture, management and functions in a public utility should be governed by the criterion of total interest of the community which it seeks to serve rather than by immediate business interest of private ownership. This, coupled with the concept of welfare state adopted by many countries, has led to the nationalization of many public utilities in several countries. Thus public control has been further extended to public ownership but the reason for nationalization is more social than economic.

Passenger road transport in India

In India, the advent of Independence and the ushering in of a welfare state brought many public utilities, especially passenger road transport, under the public sector. The Road Transport Corporations Act (the RTCs Act) was enacted in the year 1950 by the Indian Parliament enabling the States to form corporations for progressive nationalization of bus transport in the country. The objectives of these corporations are to provide adequate, economical and efficient transport services, following, of course, business principles in their operations. The undertakings established under this Act, as well as others formed under other kinds of incorporation, are usually described as State Transport Undertakings (STUs).  

8. The abbreviation, STU has been used in this thesis to denote a public sector passenger road transport organisation irrespective of its incorporation details.
The performance of STUs in India is a function of both operational efficiency and economy and financial rationality dictated by business principles. But their performance has not been encouraging. Apart from public criticisms of inadequate, irregular and unpunctual services, provided under harrowing conditions of over-crowding and with minimal passenger comforts and amenities, their financial performance has also been one of continuous and mounting losses as can be seen from the following table.

Table 1.2

Losses incurred by STUs in India

<table>
<thead>
<tr>
<th>Year</th>
<th>Loss (Rupees in Crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1977-78</td>
<td>29.25</td>
</tr>
<tr>
<td>1978-79</td>
<td>56.11</td>
</tr>
<tr>
<td>1979-80</td>
<td>111.36</td>
</tr>
<tr>
<td>1980-81</td>
<td>215.81</td>
</tr>
<tr>
<td>1981-82</td>
<td>309.16</td>
</tr>
</tbody>
</table>

*Source: Reports on the Performance of Nationalised Road Transport Undertakings, Central Institute of Road Transport, Pune.*

It should be of interest to note that in a recent study of the STUs, the current problems faced by them have been identified basically as financial problems like continuous and increasing financial deficits, high
incidence of taxation and limited financial resources. 9

The Context of this Thesis

(1) Research gap in financial aspects of STUs

Public utilities in general have not been extensively researched into by scholars and administrators. 10 Public passenger road transport in particular has not been the subject of intense inquiry except in occasional discussions in seminars or articles and papers published in journals and newspapers. These too are generally in respect of the quality of service rather than any detailed analysis of the management of the services.

A survey of even the limited research pertaining to the STUs reveals that whereas research on say, the role of passenger road industry and their working, organisation structures and corporate performance, operational/management control systems, etc. has been undertaken, the financial management systems in the STUs has not received much

9. 'State Transport Undertakings in India - A study of Performance, Problems and Prospects' ILO/UNDP Project IND/73/022, Central Institute of Road Transport, Pune, 1981, p 3. The author of this thesis was a member of this study team, which was led by Dr. Ali El. Mesawie, ILO Expert in Transport Economics.

detailed inquiry or analysis. This research gap assumes a rather serious dimension in the context of the fact that the problems faced by the STUs are basically financial problems.

(2) The importance of working capital management

Day-to-day operations are both the cause and effect of overall financial performance. Within the framework of financial management, therefore, management of working capital becomes the crux of the problem. It impinges on the routine day-to-day functions of production and sales, the management of resources therefor and their financing. Apart from profitability which measures financial performance in a larger sense, there is equally the importance of liquidity which directly affects on organisation's ability to meet day-to-day commitments. Liquidity is a lower threshold of organisational profitability. Therefore, working capital management assumes as much as, or perhaps even greater importance than, other aspects of financial management.

11. See Annexure at the end of the Chapter providing a random list of some Doctoral Dissertations in recent years, the titles of which clearly indicate the research gap in the financial aspects of STUs.

12. Unless working capital is managed efficiently, corporate disasters in the form of insolvency might result. It is said that the historic slide down to bankruptcy of the Rolls Royce Limited, in Britain, is a classic example of inept management of working capital.
In the dynamic business environment, current assets constantly change composition. For instance, cash is converted into inventories, inventories turn into receivables and receivables ultimately result in cash. The levels of current assets and current liabilities, in relation to the level of the business activity and also the rate at which the current assets change their composition are important factors for continuous monitoring and controlling. While excessive working capital results in less remunerative use of funds, their insufficiency interrupts the smooth running of the business operations and impairs profitability.

Further, the fact that credit is becoming more and more costly and unavailable has thrown new challenges to the industries, specially in relation to the financing of working capital. The adverse effect of inflation and the stringent flow of finance from banks have rendered the financing machinery for many business firms totally out of gear.

The cruciality of various aspects of working capital management have made it an important function of the financial manager. Empirical observations show that financial managers have to spend much of their time relating to the management of current assets and current liabilities. As investment in current assets represents
a very significant portion of the total investment in assets, they are required to pay special attention to the management of current assets on a continuous basis and with care so that necessary investment in them is curtailed.  

(3) **Research gap in working capital management**

Although financial management in general has been well researched into and documented, two main points need to be stated. First, the development of the theory and principles of corporate financial management has been mainly in the context of the manufacturing process in business organisations. There appears to be very little development in the field of financial management in service industries and public utilities. Secondly, even within the area of financial management in manufacturing industries, theoretical advancements have mainly occurred in relation to long-term problems.  

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13. Current assets constitute approximately 60 per cent of the total net assets or total capital employed in the case of public companies in India.


'Much of the progress has focussed on longer-range financial decisions such as capital budgeting, capital structure, leasing, bond refunding, and mergers. Many books and articles have been devoted to shorter-term financial decisions but it would seem that progress in working capital management has not kept pace.'
This is of course not to say that long-term problems are less important but the fact remains that short-term problems like working capital management have received lesser attention.  

(4) **Special problems of working capital management in STUs**

Service industries like STUs have special features of their own which are different from the features pertaining to manufacturing industries. For instance, service industries do not have physical or tangible products which is the case in manufacturing industries. Further, the transactions in service industries are mainly against cash with very little credit sales. The

15. It is gratifying that in recent years researchers have started paying more attention to working capital management. For instance, in India, there have been quite a few studies in this area such as

(i) 'Problems of Working Capital with special reference to selected public undertakings in India,' by R.K. Misra (Somiya Publications, Bombay, 1975.)


Cash cycle in service industries is short because production, distribution (sales), and collections are more or less coincidental and not sequential. Though, according to Dileep Mehta, "if these three activities were instantaneous and synchronised, the management of working capital would obviously be a trivial proposition", the STUs face a plethora of problems in the area of working capital management. Some of the problems, which are specific to, and which arise from the organisational and financial features of, the STUs may be mentioned here.

(1) **Administered fare structures:** The fare structures governing passenger road transport operations in India are regulated by the State governments. Their policy in this regard is influenced by several socio-political factors and least by the economic rationality of covering the total cost of services provided. As a result, the State Transport Undertakings face a wide gap between revenues and costs. Profits are rather an exception than the rule. In the conventional management of working capital, retained profits constitute one of the most important sources of financing working capital. In the case of STUs this source is very nearly absent.


17. For a full discussion of these problems, see 'Working Capital Management in STUs – Proceedings of Workshop', C.I.R.T., Pune, 1984. This author edited these proceedings in his capacity as the Workshop Director.
(ii) **Funding arrangements**: State Transport Undertakings are public utilities controlled by the State governments. Most of these organisations have been incorporated under the RTCs Act. The financing pattern envisaged under this Act, provides for the State/Central government contributions to the undertakings for long-term and permanent assets only. For working capital requirements, the governments do not contribute funds. Under Section 26 of the RTCs Act, these organisations have been permitted to borrow money in the open market for financing working capital after obtaining the prior approval of the State government concerned. Although the cash cycle is short in passenger transport operations because of the preponderent cash sale of the services, the cash inflows from operations are much less than the cash outflows, mainly due to the administered fare structures mentioned in the preceding paragraph. Moreover, due to continuous increase in the cost of operations, these undertakings face many problems in arranging funds to pay for inputs like diesel, spare-parts, wages, etc. While, in theory, the State governments are expected to provide budgetary support to the STUs, it is doubtful whether they get sympathetic consideration of the governments in
18. This has led these undertakings to arrange for short-term funds for working capital mainly through borrowing from banks, but without much success as explained in the succeeding paragraph.

(iii) **Limited help from banks:** The principles and guidelines governing the grant of working capital finance by the commercial banks are generally in the context of the working capital requirements of manufacturing industries. Therefore, cash credits are made available by the banks against hypothecation of inventories, especially finished goods. As there are no tangible or physical finished goods in the case of passenger transport services, the banks do not provide cash credit facilities easily. Moreover, while granting working capital needs, the banks insist on the projection of the future financial results of businesses which should inspire the confidence of the banks to lend money for working capital purposes. In the case of STUs, their poor financial performance is often found to be the major hindrance for banks to grant loans.

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18. The governments' reluctance to provide budgetary support to public sector enterprises is also due to the extending of public deposits in their case. But, Kuchchal asks 'Should public deposits be utilized as the alternative to budgetary support? In fact, there should be emphasis on efficient operation and realistic pricing policy for reducing budgetary support' (Kuchchal S.C., 'Financial Management' An Analytical and Conceptual Approach', Chaitanya Publishing House, Allahabad, Eighth Edition, 1982, p 565.)
The justification of this thesis

The nature and nuances of working capital management in service industries like STUs, therefore, need to be examined in order to identify the relevance of conventional concepts and practices governing working capital management in general. The topic of this thesis viz. "Working Capital Management in Selected State Road Transport Undertakings" will thus be an effort to fill the research gaps noted to some extent. The topic is in the area of financial management of public utilities and is also concerned with a problem of short-term nature within the area of financial management - the two aspects of research gap.

Objectives of the Thesis

With a properly limited topic and full opportunity of research, the objective of a thesis could well have been to inform the world so well that, "the same path need never be trod by any one" ¹⁹ hereafter. However, the aim of this thesis is to show some main ideas, which though obvious, have not perhaps been stated so far on the basis of facts and figures, and, at the same time, draw the attention of others to pursue further with the ideas and find the truth.

Within the framework of the main aim, the objectives of the thesis can be stated as follows:

1. to examine the nature and kind of items which comprise the current assets and current liabilities in some selected State Transport Undertakings and to analyse the working capital position with reference to the components and their relative importance,

2. to examine the quantitative and qualitative aspects of working capital position in the selected STUs in respect of adequacy, liquidity, and profitability,

3. to examine the financing pattern of the working capital (current assets), and to focus the problem, if any, in this regard,

4. to highlight the main characteristics in respect of some important components of current assets such as inventories, cash, etc., and

5. to present, in general terms the state of art in working capital management in STUs on the basis of the analysis of the sample.

The thesis is mainly diagnostic and not prescriptive in relation to the problems. However, where solutions emerge as the logical conclusion of a clear understanding of the problems, these have been suggested in the last chapter.
Methodology

The methodology used in this thesis is mainly analytical. Data on working capital components pertaining to five major STUs have been used. These are (1) Andhra Pradesh State Road Transport Corporation (APSRTC), (2) Gujarat State Road Transport Corporation (GSRTC), (3) Karnataka State Road Transport Corporation (Karnataka SRTC), (4) Kerala State Road Transport Corporation (KSRTC) and (5) Maharashtra State Road Transport Corporation (MSRTC). The reason for choosing these five STUs is mainly on account of the fact that, together, they represent nearly one half of the STUs in terms of both capacity (fleet strength) as well as operations (kilometres of services provided). The combined fleet strength of the five STUs as on 31.3.1980 represented 47 per cent (30,697 buses) of the total buses (65,428) as on 31.3.1983 in the public sector. Their combined operations of nearly 234.22 crore kilometres in 1979-80 accounted for 48 per cent of the total operations of 487.32 kilometres by all STUs. Further, the five STUs are similar in many respects. They have all been established under the RTC's Act, with more or less similar organisation structures and management policies and practices. They operate in almost identical terrain conditions in the western and southern parts of India.

As this thesis covers the period upto 31.3.1980, all facts and figures have been brought upto 31.3.1980 only. However, wherever data/figures are stated they have been stated to highlight the point discussed. 
The period covered in this thesis relates to the ten year period from 1970-71 to 1979-80. This is in accordance with the usual practice adopted in studies of this kind, as the length of the period is neither too short nor too long to render meaningful conclusions of trends difficult. Moreover, the period 1970-71 to 1979-80, is typically reflective of the main features of the environment in which the STUs are functioning in India. The decade witnessed high inflationary conditions which affected the STUs through steep increases in cost of operations. The price hike in petroleum products like High Speed Diesel and lubricants, which are direct inputs in bus operations, was sky-high while the price of other inputs like tyres and spare parts also showed alarming increases. Further, as a labour intensive industry, the labour costs in STUs also rose considerably. Against such increasing cost of operations, there was virtual stagnation in the fare structures allowed to the STUs by governments during this period. Therefore the gap between revenue and cost not only became negative but started getting wider year after year. The scenario for the next two decades, i.e. upto 2000 A.D., under most optimistic estimation can only be the same, if not worse.
Data and their source

The data for this thesis have been mainly taken from the published annual accounts of the five STUs, viz. the Profit & Loss Accounts and Balance Sheets for the ten years chosen for the study. Additionally, literature pertaining to these STUs, such as their Annual Administration Reports and articles on them published in various journals, have been gone through. Back-up data and information have been collected from different accounting and information statements prepared by the respective STUs as well as the yearly data compiled by the Central Institute of Road Transport (Training & Research), Pune (CIRT) entitled "Report on the Performance of Nationalised Road Transport Undertakings."

No meaningful conclusions can emerge from an analysis of mere published data. To get a deeper insight into the matter, one should seek more facts from sources other than data such as managers concerned with the subject. Accordingly, many executives in the finance, stores, operations and maintenance departments of the STUs were contacted by the author through personal meetings and correspondence and useful discussions were held with them. Additionally, the Audit Reports pertaining to the five STUs as well as the departmental reports and returns provided many useful data.

The theoretical aspects of working capital management have been culled from various text books.
and reference books by prominent authors and scholars in the field of financial management. The CIRT Library has a good collection of such books and the same have been extensively used. In addition, the Libraries of the Gokhale Institute of Politics and Economics, Pune and the Indian Institute of Cost Management Studies and Research, Pune have also been consulted. A select Bibliography of these references is given at the end of the thesis.

Chapter Scheme

This thesis has been divided into two parts. The first part comprising 3 Chapters is mainly introductory. The second part of 4 Chapters deals with the analysis of working capital in the selected State Transport Undertakings and the findings and conclusions. The Chapter scheme may be briefly explained as under:

Chapter 1 - This highlights the importance of transport in general and the road transport in particular in the socio-economic setting of a country and its development. It also details the importance of Working Capital Management in service organisations like the STUs. Further, the objectives of the thesis, the methodology and the data base and sources of information used in the thesis have been explained.
Chapter 2 - The Chapter provides a bird's eye view of the public passenger road transport industry in India. The historical development, the present state of the art of the industry and its problems and perspectives have been provided. As the thesis is in the area of financial management, an attempt has also been made to critically examine the financial performance of the industry in general terms.

Chapter 3 - The Chapter provides an overall picture of the theory and practices in the area of working capital management. It includes definition of terms, objectives and scope of working capital management both in an overall sense as well as in relation to major components of working capital, tools and techniques in the management of working capital, sources of financing working capital etc. In the course of the presentation, an attempt has also been made to examine the relevance of some of the concepts and tools in relation to the STUs.

Chapter 4 - In this Chapter, a brief description of each of the 5 STUs chosen for study has been given to provide the necessary backdrop. The description includes, for each STU, a short history of its establishment, development and its present working. The financial picture as revealed by the abridged profit and loss accounts and abstracted balance sheets for the ten years covered by the thesis, has also been indicated.
Chapter 5 - The Chapter assesses the working capital position in the 5 STUs. The analysis begins with an examination of the nature and kind of the items which comprise the current assets and the current liabilities in STUs and notes the trend in their balances during the period under study. Their relative importance in the structure of working capital is studied. This is followed by an analysis of the working capital position in terms of adequacy and liquidity.

Chapter 6 - The analysis is extended in this Chapter further with reference to some more aspects of working capital management in STUs. These are, for example, the relationship between fixed assets and current assets in order to study the investment mix and its efficiency, the financing of the current assets in terms of permanent and debt capital and the general relationship between liquidity and profitability in the case of STUs. Problems such as in the area of financing working capital are focussed. A section of the Chapter is also devoted to examining the main features of some important components of current assets such as, inventories and cash.

Chapter 7 - As the last chapter, this is devoted to identifying and listing the major findings and interpreting them as meaningful conclusions. In the process,
generalizations are drawn in an effort to present the
genral state of art in the field of working capital
management in STUs. This is on the basis that the
sample of five STUs considered in the thesis is large
enough for validity of generalization. While solutions
to problems have been suggested, they are more in the
nature of natural corollary of problems identified
clearly than on the basis of any proven merit with refe­
rence to the actual situation in respective STUs.
ANNEXURE TO CHAPTER 1

SOME DOCTORAL DISSERTATIONS IN THE FIELD OF
PUBLIC PASSENGER ROAD TRANSPORT IN INDIA


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