1.0 Introduction

There are various characteristics of underdeveloped countries according to the definition of Oxford Dictionary. It is as “One of the basic characteristics of under development happens to be the various deficiencies found in infrastructure. Infrastructure is basic physical and organisational structures needed for the operation of a society or enterprise” (Oxford Dictionary, 2009)\(^1\). Infrastructure is the services and facilities necessary for an economy to function (Sullivan & Sheffrin, 2003)\(^2\). It can be generally defined as the set of organised structural elements that provide framework supporting an entire structure of development. It is an important term for judging a country’s or region’s development.

The term infrastructure typically refers to the technical structures that support society, such as roads, bridges, water supply, sewers, electrical grids, telecommunications, and so forth. It can be defined as “the physical components of interrelated systems providing commodities and services essential to enable sustain, or enhance societal living conditions” (Jeffery, 2009)\(^3\).

There are two basic types of infrastructure i.e. hard infrastructure and soft infrastructure. The hard infrastructure includes transportation, communication, energy, water management, etc., while governance, economic, social and cultural infrastructure included in the soft type of infrastructure. Rural development as well as economical development is depending on basic infrastructure development.

1.1 Meaning of Transport

Transport is the science of moving men and materials (Encyclopaedia of America).\(^4\) It is the movement of persons or property from one place to another.
Any transportation network is a manifestation of the contemporary spatial organisation of economy, social conditions and political set up. It also carries a bold impression of the past; it evolves gradually through the human history experiencing May stages primary, diffusion, condensation and saturation and does not come into being all of a sudden (Singh, 1966). As per the time goes out, means of transport has also been changing according to changed conditions and particular requirements. In India also the transport system has been experiencing continuous growth and development from ancient to the modern.

An efficient, effective and adequate system of transport is necessary for economic development of any nation. The transport industries which undertake the extensive movement of persons and things from one place to another have constituted one of the most important activities of men in every stage of advanced civilization (Marshall, 1932). The transport and economy goes hand in hand. It means if rapid development occur in the economy, then pressure on transport also increases in the same way. Transport the factor barometer of economic, social and commercial progress has transformed the entire world into one organised unit (Ogburn, 1964). It carries ideas and inventions to the people of different countries. It has virtually contributed to the development of human culture and ecology. Nowadays, the development of transport is of vital importance for the growth of urban as well as rural economy, and quelling the barriers between states, regions, individual towns and villages. Transportation is one of the important elements for national integrity. Especially, in our agro based industrial economy, with the major emphasis on the economic activities like the agricultural operations, concentration in 5.5 lakh scattered villages, the necessity to inter connect them and bring them into main stream of national economy is obvious (Hanumanthappa, 1975). A well organised transportation is a most fundamental instrument for central advice, guidance and action regarding to keep a country as large as India together and to ensure smooth administration of law, order and stability. The development of any country and the improvement in the quality of the community largely depend upon a good
transport system. The industrialisation of a country and the development of productive forces based on it can be achieved only by a sound and strong transport system. Therefore, transport is one of the infrastructural component, which is essential for industrial development as well as economic development of India especially of backward areas.

It has been said that the modern civilization, the development of huge cities and the concentration of economic, cultural and social activities in them is essentially a modern phenomenon brought about by transport. It can help in the solution of the social problem of slum clearance in our crowded cities and to a great extent determines the migration trends of population. Transport has made the world as global village. All countries are in close contact with each other by means of transport (Bhaatnagar, 1954). The nation’s transportation system is a major component of the national economy as well as an important factor in shaping our life style, community development and industrial location patterns (Interim Report, 1980).

The significance of transport sector lies not only in the specific services it enders, but even more in the unifying and integrating influence it exerts upon the economy, enhancing productivity, widening the market, introducing new stimuli to economic activity and bring village, town and the remoter and the more developed regions closer the one another (Committee on Transport Policy and Coordination, 1966).

1.2 Classification of Transport

Transport can be classified on the basis of surface or track, vehicles or motive power used. Taking into consideration the basis of surface, transport can be classified as Land Transport, Water Transport and Air Transport. The following chart (Chart 1.1) gave a detail classification of transport. As per above said consideration, there are three major classes of transport i.e. Land, Water and Air transport. Land transport is further classified into two parts one is road transport and rail transport is another, while Water transport is also classified in two categories: Inland water and ocean water transport.
Chart 1.1
Classification of Transport

Source: Shivaji University, Centre of Distance Education (2013): Economics of Transport and Communication, Superintendent, Shivaji University Press, Kolhapur.
1.3 Road Transport

The road transport is the most primitive mode of transport. It has been existed since ancient times when man used to carry goods on his own head back or arms in absence of any Alternative means of transport. At present, road is the principal means of transport in the backward regions as well as in the highly advanced regions. Road is described as a fundamental institutions of mankind. The progress in science and technology has immensely contributed towards the improvement in the system of roads and road vehicles. Roads occupy a pivotal place in the overall development of a nation.

The relative significance of Road Transport as against other forms of transport arises from the basic fact that roads are vital for opening up, and integrating rural areas. There where good roads and provided, door-to-door services are possible. This naturally tips the scale in favours of this form of transport in preference to others which are less flexible in as much as they are tied down to the fixed routes. Moreover, the road transport system can be started with comparatively lesser capital because road vehicles are comparatively cheaper and may even be obtained on the hire purchase system. The operational cost of road transport is also small. Where short distances are involved, there is generally a great saving of time by road vehicles (Bhaatnagar, 1954).\(^\text{12}\)

1.4 Significance of Transport

Transportation reflects the progress of a nation. It is a link between industry, trade and agriculture. The modern civilization, which rests on the large scale industrialisation, would collapse in absence of transportation. In the words of W. F. Ogburn, (1964)^{13}, “the transport – the defector barometer of economic, social and commercial progress-has transformed the entire world into one organized unit. It carries ideas and inventions to the people and has considerably contributed to the evolution of civilization.” Now the significance
of transport in different walks of human life especially economic, political, social and cultural life is understandable.

1.4.1 Economic Significance

1.4.1.1 Transport and production

In the production, if production is in large scale, it requires enormous quantity of raw materials, huge number of workers, better capital investment, wider markets, etc. It also requires the immediate distribution of production over national and international markets. The efficient transportation ensures regular supply of impulse to the producer as well as the distribution of production over the wider markets.

1.4.1.2 Transportation and Consumption

Nowadays the consumers use goods, which produced in different parts of the world. Different countries have different geographical advantages in the production of different goods. As a result, the quality of their products is better and cost is lower. Modern transportation has made their markets worldwide. This results into the increased demand and supply of various goods and services and transportation. It plays a major role in the consumption of goods also.

1.4.1.3 Transport and Exchange

Transport extends the area and scope of exchange of goods and also services. It put down the monopolies of areas and saves the people from exploitation. It carries excess goods to the scarcity areas and thereby ensures fair prices to the producers and sellers. Besides, it stabilizes prices and brings equality in prices at different areas.

1.4.1.4 Transport and Distribution

Transport manipulates rewards of the factors of production, i.e. land, labour, capital, organisers and entrepreneurs. It increased the rental values of
land by assuring future hopes and ambitions of the people for development. It increases the mobility of labour, capital and there by helps them to have better rewards. It also helps the organisers in arranging various factors of production at economical rates from distant places. Besides, it helps the entrepreneurs in finding new business opportunities with higher profit.

1.4.1.5 Transport and Geographical specialization

The geographical specialisation connotes surplus production of a specialised commodity of a particular area. The surplus of a specialised commodity needs to be transported to other areas and goods of self requirement to be brought from outside areas. The economic and efficient transport system can only assure such a regular exchange of goods.

1.4.1.6 Transport and utility

Transportation increases the form, place and time utilities of the commodities. It helps in the process of transformation of raw materials into the finished goods. Similarly, it carries goods from places where they are in abundance to places where they are scarce. Thus, transport increases place utility. Besides, transport also increases time utilities of the commodities, e.g. quick and prompt supply of perishable goods.

1.4.1.7 Transport and land utilization

Transport opens new aspirations of the people of that area for development. It opens new possibilities of economic activity, ensures effective use of local resources and enhances the productivity of land. It also carries effective use of inaccessible places such as forests, hills, deserts, valleys etc.

1.4.1.8 Transport and agriculture

Transport helps to increase the production and productivity of agriculture by providing facilities like improved seeds, fertilizers, marketing
facility, storing facility, etc. Nowadays Indian agriculture is developing stage. It is, no doubt, attributed to the factor like the miserable condition of roads.

**1.4.1.9 Transport and Industries**

Transport helps in the development of industries. It plays a dominant role in location of a factory. Regional development and decentralization of economic activities also take place due to transportation. Besides, it influences the cost structure of a product.

**1.4.1.10 Transport and employment**

Transport provides employment opportunities on a large scale. The industries involved in the manufacture of ships, locomotives, wagons, automobiles and other vehicles, their parts and accessories employ labour and capital on a large scale. Besides, the services provided by rail, road, water and airways provide employment to many people.

**1.4.1.11 Transport and planned Economy**

In a planned economy, the state deliberately regulates production, distribution and consumption of goods. Transportation plays a vital role in this context. The location of industries, regional balance, better distribution of products, and better maintenance by administration, justice and defence all necessitate a well developed transport in a planned economy.

**1.4.1.12 Transport as public utility**

Public utility services include transport, electricity, water supply, post and telegraph etc. These services are of great public significance as they provide the collective demand. An efficient transport system serves the society in number of ways. Therefore, the Government invariably either nationalises transport services or puts considerable restrictions over their working through various legislations. The rates and fares are kept deliberately low as to recover
only cost of service. At times, in public interest, the Government provides the transport services even when they endure losses.

1.4.2 Political Significance

1.4.2.1 Transport and National Unity

Transport supports national integrity by promoting homogeneity among people. People connect better to each other when they live and speak alike. Besides, transport creates a need for political unity by making the different parts of country economically interdependent. It prepares the way for unity in diversity.

1.4.2.2 Transport and National Defence

Transport strengthens national defence. Construction of roads along with as well as towards borders is of extreme importance for national defence. Transportation by rail, highways and air had transformed military procedure. For instance, the aeroplane has greater mobility, range and speed. It is very effective in moving troops and supplies as well as in battle. In short, transport is an agency through the entire resources of a country can be mobilised and directed towards military purposes.

1.4.2.3 Transport and Internal Law and Order

Transport assists in maintaining internal law, order, administration and justice. The timely police and military aid, service of fire brigade and ambulance, etc. all requires a well developed transport system in country.

1.4.2.4 Transport and International Political Relations

Transport has incorporated the entire world by clearing the obstacles of time and distance. It makes possible the regular exchange of people, goods and views on the international level. Thus, it helps to strengthen political friendship amongst various countries of the world.
1.4.2.5 Transport and Political Division of states

Transport is one of the most important factors preventing the size of political stilts of a country. The size of the states should be determined in such a way as to ensure efficient administration, internal and external security and facilities for economic development. Moreover, all these aspects depend on the stage and pattern of transport facilities available in the state.

1.4.3 Social and Cultural Significance

1.4.3.1 Transport and Sectionalism

The complete eradication of sectionalism is not desirable. Sectionalism cannot be justified when it leads to misunderstanding, self-motivated interests or short-sightedness. Hence, transport expands the outlook and promotes the feelings of inter-adjustment. Transport, thereby, helps in reducing the sectional frictions.

1.4.3.2 Transport and Advancement of Knowledge and Culture

Transport plays a major role in widening knowledge and culture. Students go to distant colleges and universities. Researchers visit national and foreign universities and also research institutions. The books, newspapers, magazines etc. reach every corner of the world. Cultural heritage, fashions, traditions and fine arts such as music, dance, paintings, etc. pass on from one country to another. All these things are not possible without modern means of transport.

1.4.3.3 Transport and Standard of Living

Transport helps to improve the standard of living of people. It makes available the goods manufactured in different countries of the world. It helps to reduce the urban and rural discriminations and there by enriches the lives of city dwellers as well as villagers. Besides, it also contributes in public health by providing quick medical aids even in distant places.
1.4.3.4 Transport and Eradication of Conservatism

Transport is active in reducing the traditional beliefs of the people. For instance, space travel and landing of man on the moon reduced conservative belief of the people. Besides, transport provides a scope for joining together of the people of different castes, creed, race, religion, region, etc. and thereby promotes equality, brotherhood and secularism.

1.4.3.5 Transport and Dispersion of Population

Transportation solves the problems of rural and urban people. It can quickly arrange adequate materials for urban people. It enables people to live in nearby villages and work in cities. It also helps in providing the rural people with modern facilities and opportunities to visit cities. Besides, it helps in the development of industries in the backward areas and thereby restricts the unwanted migration of the people from the rural areas to the cities.

1.4.3.6 Transport and Tourism

Tourism is an industry and transportation makes it global. Modern transport has significantly increased national and international tourism. World tour, which is nowadays a reality, was very difficult in the distant past.

1.5 Limitations of Road Transport

Road transport has do not pay much attention to punctuality, but Railways and Airways, have to maintain fair accuracy in their timings, because one delayed journey would cause the delay in other subsequent train or planes. As per the accidents is concerned road accidents are usually not as serious as railway accidents, but their frequency is very high.

The most important point of road transport is that the vehicle owner is not master of his own expenditure which largely depends upon the various factors outside the control of the haulers. Further the haulers have to depend for the roads on several authorities like notational highways, state highways,
district roads and village roads. In the road transport there is big problem of traffic management. The railways have their own traffic, speed and freight controls, managed by their own men. Road vehicles are subject to external authorities, usually the traffic police.

1.6 Brief History of Road Transport in India

Transport improves access to markets, promotes the growth of productivity, movement of passengers and employment. It is a primitive carter of development. Roadways and Railways are the two most important inland transport services of India. They carry 95% of domestic and freight traffic together. The Road Transport Corporation Act 1950 is an act to provide for the incorporation and regulation of Road Transport Corporation. It was passed in 1950 as central legislation for providing the association of the industry under Government monopoly. To provide road transport services with the objectives of socio-economic development on a planned basis is one of the main objectives of this Act. India is rightly termed as sub-continent for its diversity and heterogeneity. Indian Railways are extensive but cannot provide necessary links between the villages to towns and cities. Road Transportation is popular, familiar, economical and important transportation system for transporting the passengers and goods. Road Transportation system is only powerful factor on which the economic, social and political activities of a nation are depends. Prior to 1930 Indian Railways were in the hands of different companies of Britishers and main offices and board members were in England. Making the profit was the main objective of those companies.

Road Transport system is the most popular medium of transport in India. In fact, travelling in various parts of India is very easy, if you are aware about the transportation facilities offered by State Road Transport Corporations including undertakings or institutions authorized by the Ministry of Transportation, Government of India or by the State Government authorities. All the Government authorised transport organisations have their own
operational style and they tried their best by providing free services to public. Almost all the states in India have their own State Road Transport Corporation. They are providing transport facility within the state and the nearby states. Apart from the public transport corporations, private operators also play a major role in fulfilling the needs of the public, but many times they affect the public transport. Some of the State Transport Corporations offer city bus services also and there by provide comfortable, affordable and on-time service to the public (cometourandtravel.com)\textsuperscript{14}.

Public Transport has an important contribution in the nation’s economy. Since the economic liberalization in 1991, development of infrastructure within the country has been progressing at a rapid rate, and today there is a wide variety of modes of transport by land, water and air. However, the relatively low GDP of India has meant that access to these modes of transport has not been uniform.

Public transport still remains the primary mode of transport for most of the population, and Indian public transport systems are among the most heavily utilized in the world. India’s rail network is the longest and fourth most heavily used system in the world transporting over 6 billion passengers and over 350 million tons of freight annually. Despite ongoing improvements in the sector several aspects of the transport sector are still riddled with problems due to outdated infrastructure, lack of investment, corruption and a rapidly increasing population. The demand for transport infrastructure and services has been rising by around 10 per cent in a year, and current infrastructure being unable to meet these growing demands (studymode.com)\textsuperscript{15}.

Buses are an important means of Public Transport in India particularly in the countryside and remote areas where the rail network cannot be accessed and airline operations are few or non-existent. Due to this social significance, public bus transport is predominantly owned and operated by public agencies, and most state governments operate bus services through a State Road
Transport Corporation. These Corporations, introduced in the 1960s and 1970s, have proven extremely useful in connecting villages and towns across the country (en.wikipedia.org).  

After the economic liberalization, many state transport corporations have introduced various facilities like low flower buses for the disabled and air-conditioned buses to attract private car owners to help decongest roads. Bangalore was the first city in India to introduce VOLVO B7RLE intra-city buses in India in January 2006.

The country has one of the world’s largest Railway and Roadway network transporting millions of people every year. However, a vast section of the country’s transportation network yet to develop.

1.7 Bus Transport

Buses are taking up over 90 per cent of public transport in India, and serve as an economical and convenient mode of transport for all the strata of society. Bus services are mostly run by state transport corporations, which are government owned. All passenger buses use the standard truck engine and chassis and are not economical for city use. There are virtually no buses in India specifically designed for urban conditions. As a result, available urban bus transport services are over-crowded, unreliable, and involve long waiting periods. Various state governments have been adopted the new initiatives like Bus Rapid Transit (BRT) systems and air-conditioned buses to improve the bus public transport systems in urban area.

Bus Rapid Transit systems already exist in many cities like Pune, Delhi, Ahmadabad, and Indore while it will implement in Visakhapatnam and Hyderabad cities very shortly. High Capacity buses can be found in cities like Mumbai, Bangalore, Nagpur and Chennai. The city of Bangalore is the first Indian city to have an air conditioned bus stop, located near Cubbon Park. It was built by Airtel. Mofussil Bus Terminus is the Asia’s largest bus terminus
located in the Chennai. Public Land Passenger Transport services in India can be classified into two groups, viz. Rail passenger transport and the Road passenger transport. Out of total land passenger requirements of the country, 80 per cent are fulfilled by road transport while the remaining 20 per cent are carried by railways nowadays.

The Road passenger transport in India is operated partly by public sector and largely by private sector comprising about 28.7 per cent and 71.3 per cent respectively. The percentage of nationalisation in different states varies considerably, being highest (68.78%) in Maharashtra State. Public sector passenger road transport in India is operated 71 passenger road transport undertakings owning 113370 buses having fleet strength varying between 5 buses to 17000 buses among organizations under single management and control. The number of public bus transport undertakings having more than 1000 bus fleets as on 31st March 2013 was 20, the largest among them are the Maharashtra State Road Transport Corporation and the Andhra Pradesh State Road Transport Corporation with a fleet of about 17000 passenger buses each.

The organizational form for public sector bus transportation varies from state to state, the most common thing is that of a Corporation form constituted under the provisions of the Road Transport Corporation Act, 1950. There are 21 such corporations, while 31 undertakings are formed under Indian Companies Act, 1956. Urban Transport is pirated by 10 local Municipal Councils while remaining 9 Undertakings function as part of Government Departments. Total number of buses, including private and public sector, in India was 0.45 million in the year 2013. Total number of buses in public sector held by the State Transport Corporation was 0.11 million in the year 2013. Thus public sector buses constitute only 25 per cent of the total buses in the country.
1.8 Road Transport Corporation Act

It is one of the earliest Acts giving effects to the post-independence accent on nationalisation of core sectors in business and industry. The concept “Government in Business” rises from the socialist philosophy. It supposed for the state to carry on such activity does not encroach upon right to carry on, so long as such activity does not encroach upon the rights of other or is not contrary to law. If in the interest of general public, the state decides to provide transport amenities, it will only be discharged out of its primary duties.

The Motor Vehicles Act of 1939 was intended for regulation and co-ordination of road transport. It put in the control of the use of transport vehicles in the transport authorities. Separate government department was established as per the amendment. This department has been running transport services to the exclusion of private operators in defined areas and routes. The private operators approach to High Court against this decision of the Regional Transport Authorities is giving preference to State Government. The government of India felt the necessity of having statutory bodies to operate transport services. Therefore it was decided that road transport operations should be publicly managed by establishing corporation.

The Constituent Assembly passed Road Transport Corporation Act in the year 1948. As per the provisions of this Act, the Government of Bombay established the first Road Transport Corporation on 17th November, 1949. The road transport services which were being operated by the Road Transport Department were handover to the new Corporation. This act was challenged by the private operators. The Bombay High Court accepted the contention of the private operators and declares the Road Transport Corporation Act 1948 as ultra virus and consequently the Corporation established in pursuance of the provisions of the said Act was declared as having no legal existence. The Parliament immediately took up the matter and passed the Road Transport Corporations Act, 1950 on 4th December, 1950 with reforming certain defects in the earliest Act. The Act passed in 1950 repealed the 1948’s Act and
validated retrospectively the incorporation of the Bombay State Road Transport Corporation, which was established under the provision of the 1948 Act (Central Institute of Road Transport).\textsuperscript{17}

1.8.1 Power and Duties of Corporation

As per the Road Transport Corporation Act, 1950 following are duties of State Road Corporation:

- To operate road transport services in the state.
- To provide any subsidiary service for providing any amenity of facility to persons making use of any road transport services of a corporation.
- To provide for its employees suitable conditions of service including fair wages, establishment of provident fund, living accommodation, places for rest and recreation as well as other amenities.
- To manufacture, purchase, maintain and repair rolling stock, vehicles, appliances, plants, equipments or any other things required for any of the activities of the Corporation.
- To acquire and hold such property both movable and immovable as the Corporation may deem necessary for the purpose of any of the said activities and to lease, sell or otherwise transfer any property held by it.
- To purchase by agreement, to take on lease or under any form of occupancy any land or building.
- To authorise the disposal of scrap vehicles, old tyres, used oils, or any other spare parts.
- To purchase vehicles of any kind as required.
- To do anything to develop the skill of persons employed by the corporation.

- With the prior permission of the State Government, to do all other things to facilitate the proper carrying on of the business of the Corporation.

1.9 Maharashtra State Road Transport Corporation

Maharashtra State Road Transport Corporation also referred to as MSRTC, or Simply ST, is the state run bus service of Maharashtra, India with 15,500 buses which carry 70 lakhs passengers daily on 17,000 routes. It is the third largest bus service provide apart from locations within the state of Maharashtra, the MSRTC service also covers destinations such as Ahmadabad and Surat (in Gujarat) Bangalore (in Karnataka), Hyderabad (in Andhra Pradesh), Udaipur (in Rajasthan), Indore (in Madhya Pradesh) and Goa. It is one of the largest fleet owners in India. It also offers a facility for online booking of tickets for all 17000 routes. The main terminal is located opposite Mumbai Central Railway Station. They are popular modes of transport for locals and tourists alike. Public service to most cities is available at 30 minute intervals, and private bus service is also available at an additional cost, with prior booking. One of their most profitable routes is the Mumbai to Pune, via the expressway, on which buses depart on 10-15 minute intervals (en.wikipedia.org).

MSRTC is one of the largest fleet owners in India, operating a fleet of approximately 16000 buses that carry 70 lakh passengers daily on 17000 routes. The Ordinary, Parivartan, Asiad and City Buses are built at MSRTC in house workshops at Pune, Aurangabad, and Nagpur on Ashok Leyland and TATA chassis. These workshops produce as high as 2000 buses per annum on an average. The real secret of the buses built at MSRTC workshops lies in their safe and light-weight body structures with low maintenance and cost effective design. This along with a regular and exhaustive periodic maintenance of
MSRTC has resulted in huge profits for the corporation, comfort and safety to the passengers.

1.9.1 History of MSRTC

Early bus services in Maharashtra (then part of the states of Bombay, Madhya Pradesh and Hyderabad) were started in the early 1920s largely due to efforts of local entrepreneurs. With no regulatory laws governing Motor Vehicle Act of 1939 brought in amongst many other things, regulation of fares, standard routes and rules for governance and monitoring of public transportation providers. As a result of the act individual operators were asked to form a union on defined routes in a particular area. Bus schedules were set in; pick-up points, conductors, and fixed ticket prices were mandated.

Still passenger continued and then in 1948 Bombay State Government, started its own state sponsored road transport service called State Transport of Bombay. The first blue and silver-topped bus took off from Pune to Ahmadnagar in 1948. In mean time, in 1950 the central government under the initiative of Morarji Desai, the home minister passed the Road Transport Corporation Act. This act delegated powers to states to form their individual road transport corporations, the central government would contribute up to a third of the establishment of such services. The Bombay State road Transport Corporation (BSRTC) was formed following the on whose name was changed to Maharashtra State Road Transport Corporation after the re-organization of the states (en.wikipedia.org).

1.9.2 Aims of MSRTC

- Use of buses based on new and modern technology.
- Competition among private passenger travel.
- Objective of every route increasing minimum four passengers.
- Use of CNG and LPG buses.
Depots fortification.

Encouragement allowance policy of labour.

Bus for Every village (ST).

Courteous behaviour of passengers.

Use of electric ticket machines.

Expanding services on rural area.

Service of safe and without accident.

Luxurious and attractive bus service.

Smartness and cleanliness of bus stops.

Stability of corporation.

Rush hour (season and non season) and low rush hour different fare rates.

1.9.3 Organisation of the Corporation

An effective organisational structure facilitates the process work, systems and people. It is necessary for any business enterprise to create, develop and maintain organisational structure especially for public road transport organisations require a distinct organisational pattern to suit the demands of the passengers. The organisation structure of MSRTC has undergone several changes over the years.

The organizational structure of MSRTC is a focus on operational performance and as shown in Chart 1.2, the organisational structure consists of Central Office, Regional Office, Depot Office and the Bus Stations to cater the needs of the public. In order to strengthen the Corporation in terms of operational and cost it is suggested that eliminate these layers between Central Office and the Frontline office.
Chart 1.2
Organisational Structure of MSRTC

Chairman & Board of Directors

Managing Director

Secretary

Executive Director Engineering
Executive Director Administration
Executive Director Operations
Executive Director Zones
Executive Director Medical
Executive Director Vigilance
Financial Advisor
Chief Account Officer

Divisional Manager

Depot Manager

Depot Traffic Manager
Depot Mechanical Engineer
Depot Personnel Officer
Depot Stores Officer
Depot Account Officer
1.10 Financial performance of MSRTC

It is clear that from the Table No. 1.1 revenue from passengers was Rs 2638.77 crores in the year 2002-03, which increased by 0.72 per cent in 2003-04. In the year 2004-05 revenue reflects increase significantly by 19.24 per cent, thereafter it was increased by 0.74 per cent, 9.21 per cent and 4.03 per cent in the year 2005-06, 2006-07 and 2007-08 respectively.

In the year 2008-09, revenue from passengers increased by 12.80 per cent then, it increased by 4.45 per cent in the year 2009-10. But in 2010-11 and 2011-12 it increased by constant growth rate of 13.26 per cent and stood at Rs 5482.61 crore in 2011-12.

Revenue from other sources like rent from commercial complexes, advertisements on the buses and bus stations, etc was Rs 88.74 crores in the year 2002-03, which increase slowly and reached Rs 113.17 crores in 2007-08. Thereafter in the year 2008-09 to 2011-12 it shows decline trend except in the year 2010-11 it increased by 44.59 per cent and reached at Rs 138.81 crores. Total revenue was Rs 2727.51 crore in 2002-03 has increased significantly by 18.80 in 2004-05 and thereafter it increased continuously and reached to Rs 5600.25 crores in 2011-12. It is concluded that share of the other revenue to the total receipts of MSRTC is less as compare to revenue from passengers.

It is seen that passengers and motor vehicle tax shows increasing trend, it was Rs 394.24 crore in 2002-03 increased to Rs 749.67 crores in 2011-12. During this period percentage of annual growth rate fluctuating between 3 per cent to 14 per cent.

Expenditure on depreciation recorded Rs 47.18 crores in 2002-03, which increased by seven times and reached to Rs 351.92 crores in 2011-12. It has also seen that annual growth rate in depreciation expenditure is very high i.e. 163.03 per cent in 2008-09.
Table 1.1
Financial Performance of MSRTC
(Rs in Crores)

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<td>A) Receipts</td>
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<td>Revenue from passengers</td>
<td>2638.77</td>
<td>2657.89</td>
<td>3169.38</td>
<td>3193</td>
<td>3487</td>
<td>3627.73</td>
<td>4091.96</td>
<td>4274.16</td>
<td>4840.86</td>
<td>5482.61</td>
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<td>(0.72)</td>
<td>(19.24)</td>
<td>(0.74)</td>
<td>(9.21)</td>
<td>(4.03)</td>
<td>(12.80)</td>
<td>(4.45)</td>
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<td>Other revenue</td>
<td>88.74</td>
<td>94.07</td>
<td>103</td>
<td>107</td>
<td>113.17</td>
<td>104.23</td>
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<td></td>
<td>(0.50)</td>
<td>(5.48)</td>
<td>(9.49)</td>
<td>(3.88)</td>
<td>(5.77)</td>
<td>(-7.90)</td>
<td>(-7.90)</td>
<td>(44.59)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total receipt</td>
<td>2727.51</td>
<td>2747.07</td>
<td>3263.45</td>
<td>3296</td>
<td>3594</td>
<td>3740.90</td>
<td>4196.19</td>
<td>4370.16</td>
<td>4979.67</td>
<td>5600.25</td>
</tr>
<tr>
<td></td>
<td>(0.72)</td>
<td>(18.80)</td>
<td>(1.00)</td>
<td>(0.04)</td>
<td>(0.09)</td>
<td>(12.17)</td>
<td>(4.15)</td>
<td>(13.95)</td>
<td>(12.46)</td>
<td></td>
</tr>
<tr>
<td>B) Expenditure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Passenger &amp; Motor vehicle tax</td>
<td>394.24</td>
<td>413.29</td>
<td>430</td>
<td>464</td>
<td>500</td>
<td>548.18</td>
<td>573.26</td>
<td>593.82</td>
<td>671.51</td>
<td>749.67</td>
</tr>
<tr>
<td></td>
<td>(4.83)</td>
<td>(4.04)</td>
<td>(7.91)</td>
<td>(7.76)</td>
<td>(9.64)</td>
<td>(4.57)</td>
<td>(3.59)</td>
<td>(13.08)</td>
<td>(11.64)</td>
<td></td>
</tr>
<tr>
<td>Depreciation</td>
<td>47.18</td>
<td>53.74</td>
<td>54</td>
<td>60</td>
<td>69</td>
<td>73.23</td>
<td>192.62</td>
<td>218.72</td>
<td>329.18</td>
<td>351.92</td>
</tr>
<tr>
<td></td>
<td>(13.90)</td>
<td>(0.48)</td>
<td>(11.11)</td>
<td>(15.00)</td>
<td>(6.13)</td>
<td>(6.13)</td>
<td>(163.03)</td>
<td>(13.55)</td>
<td>(50.50)</td>
<td>(6.91)</td>
</tr>
<tr>
<td>Other Expenditure</td>
<td>2358.01</td>
<td>2485.11</td>
<td>2913</td>
<td>2812</td>
<td>30.17</td>
<td>2959.26</td>
<td>3313.22</td>
<td>3487.84</td>
<td>3937.98</td>
<td>4439.51</td>
</tr>
<tr>
<td></td>
<td>(5.39)</td>
<td>(17.22)</td>
<td>(-3.47)</td>
<td>(7.29)</td>
<td>(7.29)</td>
<td>(-1.91)</td>
<td>(11.96)</td>
<td>(5.27)</td>
<td>(12.91)</td>
<td>(12.73)</td>
</tr>
<tr>
<td>Total expenditure</td>
<td>2799.43</td>
<td>2952.14</td>
<td>3397</td>
<td>3337</td>
<td>3586</td>
<td>3580.67</td>
<td>4079.10</td>
<td>4300.38</td>
<td>4938.67</td>
<td>5541.10</td>
</tr>
<tr>
<td></td>
<td>(5.45)</td>
<td>(15.06)</td>
<td>(-1.77)</td>
<td>(7.46)</td>
<td>(-0.14)</td>
<td>(13.92)</td>
<td>(5.42)</td>
<td>(14.84)</td>
<td>(12.20)</td>
<td></td>
</tr>
<tr>
<td>Profit(A)-(B)</td>
<td>-71.92</td>
<td>-205.07</td>
<td>-133</td>
<td>-41</td>
<td>8</td>
<td>160.23</td>
<td>117.09</td>
<td>69.78</td>
<td>41.00</td>
<td>59.15</td>
</tr>
</tbody>
</table>

Source: Economic Survey of Maharashtra 2008-09 to 2011-12
Note: Fingers in brackets indicate annual growth rate
Apart from that other expenses such as toll tax, VAT, compensation for accidents, etc., even though it decline by -3.47 per cent in 2005-06 and -1.91 per cent in 2007-08. It rose continuously from Rs 2358.01 crores in 2002-03 to Rs 4439.50 crores in 2011-12.

Total expenditure shows increasing trends. It was Rs 2799.43 crores in 2002-03 to 5541.10 in 2011-12, except in the year 2005-06 and 2007-08 it declined by -1.77 per cent -0.14 per cent.

It is concluded that for four consecutive years from 2002-03 to 2005-06 MSRTC suffered a loss. It was very high in 2003-04 i.e. -205.07 crores. Thereafter MSRTC earns profit, it was high in 160.25 crores in 2007-08.

1.11 Operational Statistics of MSRTC

The following table gave the detail account on the operational statistics of Maharashtra State Road Transportation (MSRTC) during the study period from 2004-05 to 2011-12:
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Average no. of passenger carried per day (lakh)</td>
<td>58.65</td>
<td>57.98</td>
<td>59.38</td>
<td>61.21</td>
<td>65.73</td>
<td>65.36</td>
<td>69.5</td>
<td>71.05</td>
</tr>
<tr>
<td></td>
<td>(-1.15)</td>
<td>(2.41)</td>
<td>(3.1)</td>
<td>(7.38)</td>
<td>(-0.56)</td>
<td>(6.33)</td>
<td>(2.23)</td>
<td></td>
</tr>
<tr>
<td>Average no. of buses owned by the MSRTC (No)</td>
<td>15992</td>
<td>15756</td>
<td>15352</td>
<td>15446</td>
<td>15695</td>
<td>15950</td>
<td>16211</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>(-1.23)</td>
<td>(-2.56)</td>
<td>(0.6)</td>
<td>(1.61)</td>
<td>(1.6)</td>
<td>(1.6)</td>
<td>(1.6)</td>
<td></td>
</tr>
<tr>
<td>Average no. of buses on road per day (No)</td>
<td>15229</td>
<td>14679</td>
<td>14657</td>
<td>14640</td>
<td>14797</td>
<td>15040</td>
<td>15359</td>
<td>15891</td>
</tr>
<tr>
<td></td>
<td>(-3.62)</td>
<td>(-1.57)</td>
<td>(1.3)</td>
<td>(1.07)</td>
<td>(1.6)</td>
<td>(1.6)</td>
<td>(2.1)</td>
<td>(3.5)</td>
</tr>
<tr>
<td>Average effective kms operated per day (lakh)</td>
<td>49.25</td>
<td>47.16</td>
<td>47.54</td>
<td>48.87</td>
<td>49.67</td>
<td>50.61</td>
<td>51.98</td>
<td>54.20</td>
</tr>
<tr>
<td></td>
<td>(-4.25)</td>
<td>(0.81)</td>
<td>(2.8)</td>
<td>(1.64)</td>
<td>(1.9)</td>
<td>(2.7)</td>
<td>(4.3)</td>
<td>(4.3)</td>
</tr>
<tr>
<td>Vehicle productivity (km)</td>
<td>307.90</td>
<td>299.30</td>
<td>309.66</td>
<td>316.67</td>
<td>316.50</td>
<td>317.23</td>
<td>320.6</td>
<td>322.6</td>
</tr>
<tr>
<td></td>
<td>(-2.79)</td>
<td>(3.46)</td>
<td>(2.2)</td>
<td>(-0.05)</td>
<td>(0.2)</td>
<td>(1.1)</td>
<td>(0.6)</td>
<td>(0.6)</td>
</tr>
<tr>
<td>Crew productivity in (km)</td>
<td>215.54</td>
<td>206.26</td>
<td>208.82</td>
<td>215.00</td>
<td>222.20</td>
<td>221.80</td>
<td>228.10</td>
<td>225.40</td>
</tr>
<tr>
<td></td>
<td>(-4.77)</td>
<td>(1.73)</td>
<td>(3.0)</td>
<td>(3.34)</td>
<td>(0.2)</td>
<td>(2.8)</td>
<td>(2.8)</td>
<td>(-1.2)</td>
</tr>
<tr>
<td>Average seating capacity utilisation of buses on road (% load factor )</td>
<td>56.20</td>
<td>56.59</td>
<td>57.28</td>
<td>59.03</td>
<td>60.8</td>
<td>60.9</td>
<td>61.84</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>(0.39)</td>
<td>(0.69)</td>
<td>(0.8)</td>
<td>(2.99)</td>
<td>(0.1)</td>
<td>(1.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus: Staff ratio(on schedule)</td>
<td>7.25</td>
<td>7.41</td>
<td>7.37</td>
<td>7.16</td>
<td>6.87</td>
<td>6.97</td>
<td>7.03</td>
<td>6.93</td>
</tr>
<tr>
<td>(as on 31st March)</td>
<td>(2.21)</td>
<td>(0.54)</td>
<td>(-0.2)</td>
<td>(-4.05)</td>
<td>(-1.5)</td>
<td>(0.9)</td>
<td>(1.5)</td>
<td>(-1.4)</td>
</tr>
<tr>
<td>Total vehicles held</td>
<td>16472</td>
<td>15956</td>
<td>15362</td>
<td>15864</td>
<td>15834</td>
<td>15839</td>
<td>16212</td>
<td>17168</td>
</tr>
<tr>
<td></td>
<td>(-3.13)</td>
<td>(-3.72)</td>
<td>(3.3)</td>
<td>(-0.19)</td>
<td>(Neg.)</td>
<td>(2.4)</td>
<td>(5.9)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Economic Survey of Maharashtra 2008-09 to 2011-12
It is clear from above table that the average number of passengers carried per day increased from 58.65 lakhs per day in the year 2004-05 to 71.05 lakhs per day in the year 2011-12. It is also seen that average number of passengers carries per day deducted in 2005-06 by -1.15 per cent and -0.56 per cent in the year 2009-10, while the year 2008-08 recorded 7.38 per cent, which is highest percentage annual growth in average number of passengers carried in per day.

This average number of buses owned by the MSRTC was 15992, which declined by -1.23 per cent and -2.56 per cent in 2005-06 and 2006-07 respectively. Thereafter it increased continuously and recorded 16211 in the year 2010-11.

It is also observed that out of the total buses owned by MSRTC on an average 15229 buses were on road, which increased on an average to 15891 buses in 2011-12.

About average effective kilometres operated per day recorded 48.25 km in 2004-05, in spite of decline in 2005-06 by -4.25 km, thereafter it increase continuously and reached to 54.20 km in 2011-12.

Vehicle productivity records 307.90 km in 2004-05, which is declined by -4.25 in 2005-06 and -0.05 km in 2008-09, thereafter it increase and stood at 322.6 in 2011-12.

In case of MSRTC, its crew ratio stood between 206.26 and 225.40 only. Crew productivity shows declined trend in annual growth i.e. -4.77 and -0.2 in 2005-06 and 2009-10 respectively.

Load factor is important indicator of financial performance of passenger transport. In the study period it stood between 56.20 and 61.84 per cent, which is very low but slowly increasing. Then bus-staff ratio of MSRTC is very high in the year 2005-06 i.e. 7.41 and lowest in the year 2011-12 i.e. 6.93
1.12 Population Served By MSRTC

The following table shows that the percentage of villages and population served by MSRTC:

**Table 1.3**

Percentage of Villages and Population Served by MSRTC

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Villages Served</th>
<th>Population Served</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009-10</td>
<td>2010-11</td>
</tr>
<tr>
<td>Direct</td>
<td>67.77</td>
<td>70.99</td>
</tr>
<tr>
<td>Upto 3 km</td>
<td>19.73</td>
<td>18.74</td>
</tr>
<tr>
<td>Between 3 to 5 km</td>
<td>7.42</td>
<td>6.07</td>
</tr>
<tr>
<td>Beyond 5 km</td>
<td>5.08</td>
<td>3.99</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Source: Economic Survey of Maharashtra 2008-09 to 2011-12*

Above table shows that percentage of villages and population served by MSRTC from year 2009-10 to 2011-12. In the year 2009-10, MSRTC directly connected to 66.77 per cent villages and there were 88.92 per cent population covered by MSRTC. Besides, MSRTC served 19.73 per cent villages, 7.06 per cent population up to 3 km. 7.42 per cent villages and 2.40 per cent population covered from 3 to 5 km, while there were 5.08 villages 1.62 per cent population served from more than 5 km distance. In the year 2010-11, MSRTC directly connected to 70.99 per cent villages and total population covered population was 89.88 per cent. Up to 3 km villages covered was 18.74 per cent, population was 6.59. Villages served between 3 to 5, km 6.07 per cent and population served was 2.20 per cent. Beyond 5 km villages served was 3.99 and population served was 1.33 per cent. In the year 2011-12 MSRTC direct connect to 71.28 per cent villages and total population covered population was 90.47 per cent. Up to 3 km villages covered was 18.07 per cent, population was
6.15 Villages served between 3 to 5 km 6.59 per cent and population served was 2.15 per cent. Beyond 5 km villages served was 4.07 and population served was 1.23 per cent.

1.13 Compensation paid by MSRTC

The following table shows that the compensation paid by MSRTC as per the number of accidents per annum:

<table>
<thead>
<tr>
<th>Particulars</th>
<th>2006-07</th>
<th>2007-08</th>
<th>2008-09</th>
<th>2009-10</th>
<th>2010-11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of accidents</td>
<td>3,269</td>
<td>3,450</td>
<td>3,220</td>
<td>3,204</td>
<td>3,407</td>
</tr>
<tr>
<td>Number of deaths</td>
<td>468</td>
<td>449</td>
<td>553</td>
<td>458</td>
<td>547</td>
</tr>
<tr>
<td>Number of persons injured</td>
<td>6,503</td>
<td>7,372</td>
<td>6,848</td>
<td>6,414</td>
<td>6,523</td>
</tr>
<tr>
<td>Rate of accidents per lakh km (in %)</td>
<td>0.19</td>
<td>0.19</td>
<td>0.18</td>
<td>0.17</td>
<td>0.18</td>
</tr>
<tr>
<td>On the spot payment (Rs in lakh)</td>
<td>20.62</td>
<td>26.23</td>
<td>26.48</td>
<td>25.42</td>
<td>31.67</td>
</tr>
<tr>
<td>Final compensations (Rs in lakh)</td>
<td>3,312.73</td>
<td>3,221.19</td>
<td>3,040.99</td>
<td>3,318.79</td>
<td>3,549.20</td>
</tr>
</tbody>
</table>

Source: Economic Survey of Maharashtra 2008-09 to 2011-12

Above table shows that Number of accidents and compensation paid by MSRTC since 2006-07 to 2010-12. In the year 2006-07, total accidents were 3269, there were 468 deaths occurred from these accidents, and while 6503 persons were injured. In this year, rate of accidents per lakh km was 0.19 per cent. Corporation paid Rs 20.62 lakh as a spot compensation and final compensation was Rs 3312.73 lakh. In the year 2007-08 total accidents were 3450, killed persons were 449 and injured persons were 7372. In this year rate of accidents per lakh km was 0.19 per cent Corporation paid on the spot compensation was Rs 26.23 lakh and final compensations was Rs 3221.19 lakh. In the year 2008-09 total accidents were 3220, killed persons were 553 and injured persons were 6848. In this year rate of accidents per lakh km was 0.18
per cent Corporation paid on the spot compensation was Rs 26.48 lakh and final compensations were Rs 3040.99 lakh. In year 2009-10 total accidents were 3204, killed persons were 458 and injured persons were 6414. In this year rate of accidents per lakh km was 0.17 per cent Corporation paid on the spot compensation was Rs 25.42 lakh and final compensations was Rs 3318.79 lakh. In the year 2010-11 total accidents were 3407, killed persons were 547 and injured persons were 6523. In this year rate of accidents per lakh km was 0.18 per cent Corporation paid on the spot compensation was Rs 31.67 lakh and final compensations was Rs 3549.20 lakh.

1.14 Services of MSRTC

1.14.1 Ordinary Bus Service

Ordinary is a basic bus service provided by MSRTC. The buses are in red livery. The service is meant to connect entire Maharashtra together. This includes smallest of towns irrespective of the road or revenue conditions. The main motto of this service is not profit making but the service of people from masses. The buses are fairly comfortable, extremely economical and offer various concessional services for Senior Citizens, Students, War widows, and Freedom fighters and so on. This for sure one trend setting example of public service with a class and has been serving Maharashtra for ages. Major fleet of MSRTC consists of these buses (en.wikipedia.org).

1.14.2 Parivartan Bus Service

Parivartan is a Marathi word means 'change'. This is the changed face of the ordinary red bus service and a successful attempt by MSRTC to offer comfortable service to masses. The buses consist of a 2x2 seating arrangement and offer better comfort. These are slowly replacing the ordinary buses from the fleet and are also responsible for 'change' (Parivartan) in urban people's mind-sets about the ordinary ST bus services. The fare structure of Parivartan buses is same as that of the ordinary buses and all the concessions can also be availed (en.wikipedia.org).
1.14.3 Asiad Bus Service

The first ever comfortable bus service in the country meant to ferry the sports persons of the Asiad games which took place in 1982 is now become in an inevitable part of Maharashtra's intercity transport. The Asiad is a Non AC, Semi-Luxury bus service with 2x2 seating arrangement. The Asiad service was recognised by Indira Gandhi, the Prime Minister during 1982 as this was the first Government built, owned and operated bus service offering world class comfort at that time. Later on MSRTC used these beautiful white and green buses with a blue band on their lucrative Dadar-Pune sector and got an overwhelming response from the commuters. MSRTC decided to keep the service in operation on this route and started producing more Asiad buses at their workshops. Slowly the Asiad services were introduced on other sectors. Today Asiad buses run between all the cities in Maharashtra. The Asiad livery was modified in 2010 with a shiny white paint and a purple colour. A few popular Asiad bus routes in the state are Dadar-Pune, Nashik–Pune, Sangli-Pune Station, Miraj-Nashik, Tasgaon-Pune, Aurangabad–Pune, Thane–Pune, Satara–Mumbai, Nasik–Mumbai and Kolhapur–Pune (en.wikipedia.org).

1.14.3 Shivneri – An Ac Bus Service

‘Shivneri’ is an Air-conditioned bus service of MSRTC between important cities. Most of the services are operated by the world class Volvo - B7R buses in a light blue livery. The services were started to Dadar - Pune in the year 1996, and now MSRTC operates Shivneri bus services on many selected routes. Currently MSRTC operates Shivneri buses on following routes in a descending order of frequency & number of services Dadar (Mumbai) - Pune (Pune Station), Borivali (Mumbai) - Pune (Swargate), Aurangabad - Pune (Shivajinagar), Thane - Pune (Swargate), Sangli - Pune Station, Pune (Swargate) – Udaipur, Borivali – Shirdi, Nashik - Pune (Shivajinagar), Mumbai (Mumbai Central) –Hyderabad, Mumbai (Mumbai Central) – Panjim (Goa), Jalgaon - Pune (Shivajinagar), Pune (Swargate) – Bangalore, Nagpur
(Ganeshpeth CBS) – Pune, Kolhapur - Pune (Swargate), Nagpur (Ganeshpeth CBS)–Hyderabad, Nanded - Pune (Shivajinagar) (en.wikipedia.org). 

In future MSRTC plans for starting long haul routes like Mumbai - Bangalore, Nagpur - Aurangabad, etc. are in process.

1.14.4 Sheetal Bus Service

‘Sheetal’ is the latest entrant into the long list of bus types operated by MSRTC. These are air-conditioned semi-luxury buses with 2x2 seating arrangement. The pricing is slightly higher than the Asiad buses, but significantly lower than the Shivneri buses. These buses have been introduced only on the Dadar - Pune Station route, though there are plans to introduce them on other popular routes like Pune - Nasik, Pune - Aurangabad, etc. (en.wikipedia.org).

1.14.5 City Bus Service

An intercity & semi-urban service arm MSRTC is providing services that cater to the transportation needs of mid size and smaller towns which do not have their own transportation services MSRTC has always been known as the backbone of the rural public transport in Maharashtra, and with several new urban centres coming up, the undertaking has plans to exploit the market in these townships (en.wikipedia.org).

1.14.6 Ashwamedh Bus Service

After launching Shivneri and Sheetal air-conditioned buses, the Maharashtra State Road Transport Corporation (MSRTC) has now added another AC fleet called ‘Ashwamedh’ for long distance journeys. The Shivneri buses play on the Mumbai-Pune, Pune-Nashik routes and to cities like Aurangabad, Sangli and Kolhapur. The Sheetal services, on the other hand a blend of AC bus and semi-luxury buses aimed at tier II cities. Apart from being multi-axle and fully air suspension electronically controlled buses the new
Ashwamedh buses are 13.8 meters long, 1.8 metres more than Shivneri and can accommodate 53 passengers, they can be used on long distance routes that involve journeys of more than 14 to 16 hours (en.wikipedia.org).  

1.14.7 Mahabus Bus Service

‘Mahabus’ fleet of buses is a part of re-structuring program of Maharashtra State Road Transport Corporation (MSRTC) to get a fair share of the “Luxury” segment market which is mainly dominated by private operators. Though legally speaking, in Maharashtra, only MSRTC is permitted to operate stage carriage bus services; many private operators operate services under the guise of “Package tour” or “Conduct tour” using buses which have a normal “Tourist Permit” instead of the mandatory “Stage Carriage Permit” (en.wikipedia.org).  

1.14.8 Midi Bus Service

The corporation has placed orders for buying 250 brand new midi buses, which are smaller than a normal ST bus and have just 32 seats. It will definitely serve its purpose of catering to passengers on shorter routes. Citizens will no longer depend on maxi cabs and tourist taxis as we will offer a far better service and faster comfortable travel. The midi buses would have an advantage over the normal St bus- it can ply faster in hilly areas, remote villages and on narrow roads where normal buses are difficult to operate (en.wikipedia.org).  

1.14.9 MSRTC Daily Conducted Tours

MSRTC operate daily conducted tours by Asiad buses to the tourist destinations around Aurangabad like Ellora, Ajinta and Daulatabad wherein they also take a note of the tourist destinations in the city. Tour 1:Aurangabad CBS to Ajinta Caves, Bibi-Ka-Muqbara, Pan-Chakki and back to Aurangabad CBS Tour 2: Aurangabad CBS to Ellora Caves, Daulatabad Fort, Bibi- Ka-Muqbara, Pan-Chakki and back to Aurangabad CBS (en.wikipedia.org).
1.14.10 Yatra (Festivity Services)

A seasonal service targeted at travellers visiting various festivities of Maharashtra.

1.14.11 Inter State Service

State Transport also started Interstate service in collaboration with Karnataka, Madhya Pradesh, Goa, Gujarat, Andhra Pradesh and Dadara Nagar Haveli.

1.14.12 Parcel Courier Service

MSRTC buses also provide the use of their buses for shipping cargo or courier services.

1.14.13 Tours & Packages

Maharashtra State Road Transport Corporation (MSRTC) conducts different tours & packages all around India. These tours cover all the important tourist & religious places in that particular region. The tours & packages conducted by MSRTC are very reasonable & luxurious.

The MSRTC is introducing various new tours & packages for the people. Every district conducts its own tours & packages (en.wikipedia.org).30

1.15 Social Responsibility Focus

MSRTC activities to provide free travel /concession in fare to different categories of commuters to travel by its buses operating both in cities and town areas, as per the policy of State Government.
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Types of Concession</th>
<th>% of concession</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>For students to go for Education</td>
<td>66.67</td>
</tr>
<tr>
<td>2</td>
<td>For students to go for examination</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>For students to go to native place</td>
<td>50</td>
</tr>
<tr>
<td>4</td>
<td>For students to go on an educational trip</td>
<td>66.67</td>
</tr>
<tr>
<td>5</td>
<td>Senior citizen</td>
<td>50</td>
</tr>
<tr>
<td>6</td>
<td>Blind persons and blind students</td>
<td>75</td>
</tr>
<tr>
<td>7</td>
<td>Cancer patients</td>
<td>50</td>
</tr>
<tr>
<td>8</td>
<td>Leprosy patients</td>
<td>50</td>
</tr>
<tr>
<td>9</td>
<td>T. B. patients</td>
<td>50</td>
</tr>
<tr>
<td>10</td>
<td>Freedom Fighters</td>
<td>100</td>
</tr>
<tr>
<td>11</td>
<td>Recognized Press Reporters</td>
<td>100</td>
</tr>
<tr>
<td>12</td>
<td>Physically Handicapped</td>
<td>75</td>
</tr>
<tr>
<td>13</td>
<td>“Dalit Mitra” Awardees</td>
<td>100</td>
</tr>
<tr>
<td>14</td>
<td>For carrying the Tiffin of students</td>
<td>100</td>
</tr>
<tr>
<td>15</td>
<td>For students to meet their parents when they are ill</td>
<td>50</td>
</tr>
</tbody>
</table>

Source: [http://www.msrtc.gov.in/msrtc_live/concession-eng.html](http://www.msrtc.gov.in/msrtc_live/concession-eng.html)

As a part of social responsibility MSRTC gives concessions in fare from 50 per cent to 100 per cent. It is seen from above Table No 1.5 that MSRTC gives 100 per cent fare concessions to freedom fighters, recognized press reporters, “dalit mitra” awardees and for carrying the Tiffin of students. Followed by 75 per cent fare concessions given to blind and physically handicapped persons. For students go for education, for students educational
trip MSRTC gives concessions of 66.67 per in total bus fare. While it gives concession for senior citizen, cancer, Leprosy, T. B. Patients up to 50 per cent for each category.

1.16 Research Design

The present study is designed as under -

1.16.1 Statement of Problem

MSRTC is the cornerstone in the public transport of Maharashtra and it covers almost entire state. The prime aim of providing transport services to the needy not only to earn profit but to ensure social welfare. Accordingly at some routes MSRTC cannot make profit nevertheless it serves continuously. However, it earns minimum profit at few places. The present research put focus on this kind of disparity showing in MSRTC. Hence, ‘Economics of Maharashtra State Road Transport Corporation with special reference to Kolhapur division’ is the main aspire of present study.

1.16.2 Significance of the Study

MSRTC is one of the important corporations in Maharashtra, which connects with major cities as well as rural and remote places of Maharashtra. It is an institute run by state Government of Maharashtra and provides safe travel to the laymen including servicemen, students and others. It is, therefore, very close to the society. It works as mediator between rural and urban society and contribute in development and expansion of rural markets. Majority of employees in MSRTC are in low and medium income class, hence, MSRTC plays an important role in empowerment of their employees. Today, MSRTC is facing several problems and challenges regarding their profitability, infrastructure, load factor, vehicle utilisation, competition of private transport, etc. As per the new economic policy expansion private sector has been introduce rapidly and it directly affect MSRTC. Due to all these aspects need and necessity of the present study increases.
1.16.3 Limitation of Study

The present study is about Economics of MSRTC in Kolhapur division only. The study period is limited to thirteen years only i.e. since 2001 to 2013.

1.16.4 Objectives of the Study

In the present study an attempt is made to analyse the Kolhapur division of Maharashtra Road Transport Corporation through economic perspectives. The major objectives of the study are as follows;

1. To study the profile of MSRTC in Kolhapur Division.

2. To evaluate depot-wise economic performance of Kolhapur division of MSRTC.

3. To study the physical performance of MSRTC of Kolhapur Division.

4. To measure the level of satisfaction of passengers through amenities and services provided by MSRTC.

5. To study the problems of MSRTC.

6. To make suggestions for the upgrading of passenger transport system of MSRTC in Kolhapur.

1.16.5 Hypothesis

1. The economic performance of Kolhapur Division is not satisfactory.

2. Passengers are not satisfied about the quality of passenger’s services provided by MSRTC.

3. MSRTC has been facing various problems.
### 1.16.6 Research Methodology

#### 1. Source of Data

The present study is based on both primary and secondary data. Primary data is collected from passengers of Kolhapur division of MSRTC through planned and pre-tested scheduled. The personal interviews of concerning persons are taken and field observation is also made.

The secondary data is collected from various reports, records, magazines and periodicals of MSRTC and trade unions. Source of internet will also be used.

#### 2. Sample Design

The present study covers all segments of MSRTC. Convenient sampling is used for the collection of primary data and relevant information. The sample passengers includes from all the bus depots of Kolhapur division of MSRTC. Priority is given to equal representation of the passengers from all the bus depots. All the twelve depots are covered in this study, from these depots 50 passengers from each depot are selected for the study. It means that total No of 600 passengers are analysed.

![Chart 1.3: Sampling Technique](chart.png)
3. Data Analysis

The collected primary and secondary data is classified, tabulated in the light of objectives of the present study. The data is processed by employing suitable statistical tools like Simple Growth Rate, percentage, range, different ratios of MSRTC, etc. to analyse the relationship among the various variables. Besides this, the use of computer software packages like SPSS, MS Excel will be made. Graphs and diagrams are made for better comprehension. All these methods and ratios are calculated by using the following formula as:

i. Percentage Variations

\[ P = \frac{A}{B} \times 100 \]

ii. Average / Mean

\[ A = \frac{\sum X}{N} \]

*Where,*

- \( A \) = Average
- \( \sum X \) = Sum of Variable X
- \( N \) = No. of Items

iii. Simple Growth Rate

\[ SGR = \frac{C - B}{B} \times 100 \]

*Where,*

- \( C \) = Current value
- \( B \) = Base value
iv. Cost per Kilometre (CPKM)

\[ \text{CPKM} = \frac{\text{Total Cost}}{\text{Effective Kilometre}} \]

v. Earnings per Kilometre (EPKM)

\[ \text{EPKM} = \frac{\text{Total Revenue}}{\text{Effective Kilometre}} \]

vi. Margin

\[ \text{Margin} = \text{Total Earnings} - \text{Total Cost} \]

vii. Load Factor

\[ \text{Load Factor} = \frac{\text{Passenger kilometers}}{\text{Capacity Kilometers}} \times 100 \]

viii. Bus-Staff Ratio

\[ \text{Bus-Staff Ratio} = \frac{\text{Staff strength}}{\text{Number of Buses held}} \]

ix. Vehicle Utilisation

\[ \text{Vehicle Utilisation in Km} = \frac{\text{Total effective km operated on a day}}{\text{Total Buses on Road an Average Day}} \]

x. Rate of Accidents

\[ \text{Rate of Accidents} = \frac{\text{Total Number of Accidents}}{\text{Total effective kilometres}} \times 1,00,000 \]
xi. Cancelled Kilometres

Cancelled Kilometres = Expected Operating km – Actual Operating km

xii. Rate of Breakdowns

\[
\text{Rate of Break-downs} = \frac{\text{Total Number of Break-downs}}{\text{Total effective kilometres}} \times 10,000
\]

1.16.7 Area of the Study

Area of the study of present research work is Kolhapur division of MSRTC. All selected samples are highly represented of all the bus depots in the Kolhapur division. Present study is limited to Kolhapur division of MSRTC only.

1.16.8 Period of Study

New economic policy adopted by the Government in the year 1991 and privatisation was accepted as per this policy. Afterward private transport system spread out its wings all over. Its adverse impact on MSRTC came forward in the second phase of this policy i.e. after the year 2001. Thus the period of 2001 to 2013 has been considered to analyse the present status, comparative and competitive views of public transport system such as Kolhapur division of MSRTC.

1.16.9 Chapter Scheme

The present study has been organised and presented in seven chapters as follows:

1. Introduction and Research Design

This chapter covers introductory part of the study, which will include the meaning, classification and significance of transport, statement of the
problem, objective of the study, hypothesis, significance and scope of the study. Research methodology and tools of data analysis used in the study are covered in this chapter. Further the organisational setup of MSRTC. Region, division and depot-wise organisation and growth of MSRTC will be studied in this chapter. The management of Maharashtra State Road Transportation will also be covered.

2. Physical Features of Kolhapur District

In this chapter, physical features like physiography, climate, drainage pattern, agricultural, tourism, landuse and cropping pattern, transport and communication, etc, is studied. Apart from that, a brief account is made on the profile of Kolhapur division of MSRTC in this chapter.

3. Review of Literature

In the chapter an attempt has been made to take review of studies related to present study.

4. Economic Performance of Kolhapur Division of MSRTC

The chapter includes the depot wise economic performance of Kolhapur division of MSRTC. Economic performance of MSRTC is studied through some financial indicators viz. Cost per km, earning per km. Depot wise Profit margin of Kolhapur division of MSRTC during the study period is also been calculated.

5. Level of Satisfaction of Passengers

Satisfaction level of passengers about amenities and facilities provided by MSRTC are analysed in this chapter. Total 35 attributes are taken to analyse the level of satisfaction of passengers.
6. Problems of Kolhapur Division of MSRTC

MSRTC has been facing several internal and external problems during the delivering the services, all these problems and causes behind it as well as consequences of these problems on services of MSRTC will included in this chapter. The problems pertaining to the physical performance is also studied in this chapter.

7. Findings and Suggestions

This chapter includes major findings of the research and conclusions. It also includes some remedial measures for the problems of MSRTC.

There are many ways of transport but land transport is the most primitive mode of transport, therein road transport is more frequent and significant. Concerning road transport buses are more economical and convenient mode of transport. In this regard MSRTC serves entire Maharashtra. According to economic performance of MSRTC, it faces a problem of deficit during the earlier period of this investigation (i.e. 2002-03 to 2011-12), while it makes some profit after the year 2007-08. Almost all the villages covered by MSRTC near or far 5 km distance. Ordinary to luxurious all types of bus services provided by MSRTC, in some urban areas it provides city bus services also. MSRTC gives fare concessions from 50 to 100 per cent to different groups of society as their social responsibility.

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