Chapter No. 06:

Conclusions and Suggestions.

- Introduction.
- Conclusions.
- Suggestions.
- Future Studies.
Introduction:

The roads are playing an important role in 'uplifting the social, economic and cultural life of the people, under the transitional stage of any society. Similarly, the developing country’s no way backward in construction of roads in view of providing basic needs and creation of roads. India though it is a developing country, it has given prime importance for constructing roads to her people, even to the people who are having in less infrastructural areas. It is very much eager to know, the impacts of the roads on the living standard of the people. How far rural roads helped in adopting the changing technological tools or methods in framing activities. Since the changes are natural, though such changes have not been studied from the socio-economic point of view. These infrastructure and the changing pattern of farming have not been studied in recent days. Road constructions have contributed significantly to the growth of the Gross National Product all over the world, but India has remained significantly backward in this regard. Besides there is tremendous scope for creating employment through road construction and maintenance. Further, India needs increased road mileage, especially to open up the vast areas which cannot be reached except through roads.

The study is mainly based on secondary data sources as well as primary data. Primary data collected through interviews conducted with the officials of roads authority,
observation and experience survey and obtained the necessary information from them. The field visit was conducted by the field survey. To get the primary data the interviews were held with State level and District level Implementing Authority. The secondary data is collected from Government authority, Research Books, Journals, newspapers, reports, articles other important sources. In addition, the study is supplemented with the spot observations at various destination of Marathwada region. The simple statistical and mathematical tool is used for data analysis for the present study. The following conclusions is drawn from the study and important suggestions were offered.

**Conclusions:**

- Road Communication plays a crucial role in promoting economic, social and cultural development of the Marathwada region.

- Roads are definitely a cost efficient and popular mode of transport. It helps in the movement of men and material from one mode to another. It forges national unity and is instrumental in the nation’s socio economic development.

- Road transport in India contributes to 60 per cent freight or cargo transport and 80 per cent passenger transport of India.
• An efficient road transport system is a pre-requisite for sustained economic development.

• Transport investments within cities and across cities are essential for economic growth, job creation, and poverty reduction.

• India has an extensive road network and provides amenity to millions of people every day, thus road transport is one of the important ingredients for the social and economic development of the country.

• India has the third largest road network in the world stretching 3.32 million kilometers in length.

• In the Road Transport Sector, energy planning has a special significance, because transport is the second largest consumer of energy.

• National highways in India constitute a length of close to 70,748 km, which is a mere two percent of the road network, but carry about 40 percent of the total road traffic in India.

• In the transportation sector, road transport has emerged as a dominant segment with a share of 4.8 percent in India’s Gross Domestic Product (GDP).
With the development of Railways in India, the road development received a serious setback. The work of road construction and maintenance was given a secondary importance and thus the roads gradually lost the interest of the government.

According to Nagpur plan, all roads were classified into four broad categories namely National Highways, State Highways, District Roads and Village Roads.

Among the different categories of roads, National Highways constitute around 2 per cent, State Highways 4 per cent while 94 per cent of the entire network. Out of these, PWD Roads are 21 per cent, Urban Roads 7 per cent and the rest of the road length in India is accounted for by the rural roads.

The state highways and major district roads carry 40 per cent of total road traffic and constitute 13 per cent of India’s total road length.

India has more than 3.3 million km of road network, making it one of the largest in the world of which rural roads i.e. 2.65 million.

Traffic on roads is growing at a rate of up to 10 per cent per annum, while vehicle population growth is nearly 12 per cent per annum.
• The quality of the roads in Marathwada region is inappropriate and cannot meet the needs of efficient and fast moving transportation.

• The carrying capacity of roads in Marathwada region has not been able to keep with the increase in vehicles.

• The growth potential of the roads sector is tremendous in Marathwada with a fast-growing economy and a rising need for world-class infrastructure for better road connectivity.

• Yedshi-Latur-Nanded Highway is a 240km long expressway in the Marathwada linking two major cities Latur and Nanded and further with National Highway 9.

• Road development does not only talk about urban space, but is also very important for the growth of rural Marathwada.

• The road system has attracted very limited private sector participation in the past in Marathwada region.

• Most of the roads in Marathwada region are un-surfaced and are not suitable for use of vehicular traffic. The poor maintenance of the roads aggravates the problem especially in the rainy season.
• The traditional system of financing road projects through budgetary allocation has proved to be inadequate.

• The beginning of a significant private sector participation in road projects was made with the launching of India’s largest road project.

• Maharashtra has the largest network of highways in India with 18 national highways.

• It is concluded from the study that in the year 2001-02 National highways was 3,688 Km. in Maharashtra state increased up to 4,376 Km. in the year 2010-11; State highways was 33,212 Km. in the year 2001-02 was increased up to 34,103 Km. in the year 2010-11; The figures of major district shows 46,751 Km. in the year 2001-02 was increased up to 49,936 Km.; Other district roads was 43,696 Km. was increased up to 46,897 Km.; and Villlage road shows increase from 89,599 Km. in 2001-02 to 1,06,400 Km. in 2010-11 in Maharashtra State.

• There is very little participation of private sector in road development in Marathwada region because of long gestation period and low-returns.
• The legislative framework for private investment in roads is also not satisfactory.

• The road engineering and construction are yet to gear themselves up to meet the challenges of the future.

• There has been no stability in policy relating to highway development in the country. It has changed with the change of government.

• There are a number of agencies which look after the construction and maintenance of different types of roads.

• Since there is no co-ordination between these agencies their decisions are often conflicting and contradictory.

• The average productivity of a truck is 200 kms a day as against 350-400 kms that would be possible through reduction of congestion in Marathwada region.

• There is shortage of funds for the construction and maintenance of roads. Instead of giving high priority to this task the percentage allocation has decreased over the years.
• Investment in transport must reflect the need to make up for existing capacity shortages and also to allow for growth in demand.

• The Maharashtra State Road Transport Corporation as well as private operators provides good services connecting all the tourist centers in the state.

• Total road length in the Maharashtra state, was approx. 2.45 lakh km. More than 99 percent of the villages are connected by all weather roads and fair weather roads.

• The road infrastructure in the State is managed by various local bodies including Public Works Department of the state, municipal corporation, Maharashtra State Road Development Corporation (MSRDC), Maharashtra Industrial Development Corporation (MIDC), Forest Department.

• In order to cater to the increasing traffic volumes, Government of Maharashtra has envisaged large scale improvement measures including widening and strengthening of pavements, enhance speed and safety of traffic movement and over bridges.

• At present, out of 92,851 km of National Highways about 24 per cent length is of 4-lane and above
standard, 52 per cent length is of 2-lane standard and 24 per cent length of single and intermediate standard.

• The establishment of fully state owned corporation, MSRDC has propelled private sector participation in road projects.

• MSRDC is a corporation established and fully owned by the Government of Maharashtra through a resolution on 9th July, 1996 and has been incorporated as a limited company under the Companies Act 1956 on 2nd August 1996.

• Entire share capital of MSRDC is held presently by Government of Maharashtra and its nominees.

• MSRDC mainly deals with the properties and assets comprising movables and immovable including land, road projects, flyover projects, toll collection rights and works under construction which vested with the State Government and were under the control of the Public Works Department.

• The Commercial Unit has been established in January 2003 to monitor the various commercial activities of the Corporation. The Commercial Unit of MSRDC works under the supervision of Joint Managing Director.
• The Commercial Unit of the MSRDC is handling the commercial exploitation of various assets of MSRDC for revenue generation purpose.

• The Govt. of Maharashtra has authorized MSRDC to utilize space above and below flyovers to generate revenue from commercial exploitation of the said space below and above the flyover.

• MSRDC has been declared as an ‘Entrepreneur’ for the flyovers by Government of Maharashtra.

• MSRDC is utilizing the space above the flyovers for generation of revenue by way of advertisements on the flyovers, on electric poles and on kiosks.

• MSRDC strives hard to deliver exceptional, strategic and integrated infrastructure services to the State of Maharashtra. MSRDC encourages the use of state of the art construction technology to reduce construction period.

• Decentralized decision-making, constructive co-ordination with the private sector, technical support from professional consultants and FIDIC system of contracts with work-specific amendments provide added advantage to MSRDC’s lean organization structure.
• Speedy land acquisition is crucial for timely completion of road projects. This is more important for implementation of major projects of MSRDC which have a time bound programme for completion. In Maharashtra it took a long time for acquiring the land.

• Development of roads particularly 4- laning under MSRDC sometimes requires shifting of utilities like electric lines, telephone lines and water pipes etc. Despite the entire allocation cost being met by MSRDC and advance payments being made, there have been instances of inordinate delays.

• There have been problem of law and order in Maharashtra States which has affected the progress of MSRDC.

• MDRDC also start charging toll even before work on the highway begins. The amount charged is exorbitantly high without giving any extra facilities to road users.

• Most roads in Marathwada region are of poor quality and the maintenance of roads remains significantly under-funded with the result that only one-third of maintenance needs are met.
• The basic cause for poor management of National Highways is a lack of funds made available for maintenance as per norms. They do not exceed 60 per cent of normal requirements for main roads. Maintenance being a non-plan activity there is also a tendency by the Government to apply adhoc cuts in the face of resource constraints.

• It is concluded from the study that the development of rural roads has become a necessity to accelerate socio-economic transformation of rural society.

• Maharashtra (33,223 km) had the longest length of state highways next to Gujarat (19,796 km), Madhya Pradesh (11,789 km) Rajasthan (10,047 km), and Andhra Pradesh (8,763 km).

• The study shows that the district roads in Maharashtra with 1,70,269 km district road length is at the top. Following Maharashtra are Uttar Pradesh (1,10,206 km), Madhya Pradesh including Chhattisgarh (85,792 km), Rajathan (62,357 km), Punjab (42,757 km), Karnataka (28,247 km), Assam (26,416 km), Himachal Pradesh (20,772 km), Haryana (19,651 km) and Kerala (18,504 km).
• The road development in many ways exemplifies both the challenge and opportunity in infrastructure development.

• MSRDC is contemplating projects for road improvement in the Marathwada region under Marathwada Vikas Karyakram.

• MSRDC is looking ahead taking up more and more such massive projects, mainly on B.O.T. basis in the near future depending without deviating from its objectives, vision, in Marathwada region.

• Integrated Road development projects in Latur, Pune, Nagpur, Aurangabad, Amravati, Solapur, Baramati, Kolapur, Nanded, Nandurbar was undertaken by MSRDC.

• The Government of Maharashtra plans to construct total of 50 flyovers in the Mumbai Metropolitan region. Initially 46 flyovers / works were handed over to MSRDC as BOT projects for 30 years by the PWD, Government of Maharashtra.

• Out of the 50 flyover projects 36 flyovers have been completed to date and four flyovers are under progress. MSRDC has also completed five sub -ways to smoothen movement of traffic.
• The Mumbai Pune Expressway project has been awarded as a BOT project for 30 years to MSRDC by Government of Maharashtra.

• MSRDC has taken up integrated road improvement projects in the cities viz. Aurangabad and Latur in Marathwada region. The projects encompass construction of flyovers, rail over bridges, road improvements, widening of bridges and construction of subways.

• A separate Toll Monitoring Unit has been established by MSRDC from April 2002 to monitor the toll collection work.

• It is concluded from the study that in the year 2011 National highways maintained by PWD and ZP was 4,376 Km; State highways 34,103 Km.; Major district roads 49,936 Km.; Other District roads 46,897 km.; and Village roads 1,06,400 km. Out of 2,41,712 Km. 53,468 km roads was in Marathwada region.

• Road capacity in Marathwada is very low with most national highways having two lanes or less.

• The road network in Marathwada though extensive is still inadequate and suffers from a number of
deficiencies like inability to handle high traffic density, poor conditions of roads etc.

- With a growing population in Marathwada region, demand for road transport would increase further by 2020. While state highways are expected to link most districts, all-weather rural roads are expected to provide access to the furthest outlying villages.

- The future challenge in road sector revolves around building all-weather roads connecting each and every village to a State Highway or a National Highway in Marathwada region.

- The length of state highways could be a better index of road accessibility at the state level.

- Road sector may also, like any other sector of the economy, have to perpetually re-evaluate the existing planning and policies so as to constantly change and move on the challenges of faster growth rate.
Suggestions:

*The following important suggestions were offered on the basis of present study.*

- The need for new technology in road sector acquires greater urgency because the sector had been suffering from slow technological development for a long time.

- About 14,000 kms of National Highway require four laning, while 10,000 kms require widening from single lane to two-lane to facilitate normal flow of existing road traffic in Maharashtra.

- Upgrading of roads by way of widening of carriage-ways, improved surface quality, strengthening or reconstruction of old/weak bridges and culverts, etc. has been carried out.

- The road development programme would need to be implemented jointly by the Central and State Governments with participation of the private sector.

- Institutional strengthening with development of adequate in-house capabilities and sufficient numbers of skilled personnel.

- Thrust on R&D and acquiring State-of-Art Technologies.
✓ Encourage formation of JV of Indian contractors with overseas contractors along with Technology Transfer arrangements.

✓ The Government may consider levy of cess on petrol and High Speed diesel (HSD) oil as per the provisions of the Central Road Fund (CRF) Act, 2000 on ad-valorem basis in place of the current policy of charging it at Rs. 2.00 per litre of petrol and HSD oil.

✓ Progressive use of Technologies should be made for enabling real time monitoring of projects, putting the projects in right track by taking up of timely necessary corrective actions, fast decision making, etc.

✓ Advanced Traffic Management System should be introduced in more and more stretches.

✓ The State Governments must extend their active cooperation for enabling successful implementation of the PPP Projects by signing of the State Support Agreements for the PPP Projects and providing necessary support and assistances in letter and spirit.

✓ In order to reduce this total transport cost it is essential to maintain the roads at a good level of service.
✓ The total road network of an area needs proper integration with necessary interfacing befitting the functionality assigned to a type of road otherwise the continuity of transport flows may get affected.

✓ There should be a balanced development approach for all types of road in order to achieve continuity in movement from rural habitations to market centers at local, regional, and national levels.

✓ The MSRDC should identify the gaps in the existing systems of roads and adopt the master plan, in order to achieve the integration.

✓ There is need for network structural analysis with assigned traffic flows for the development of regional level roads comprising of highways and rural roads.

✓ Many of the technical aspects of road making i.e. adequate compaction of sub-grade, roadside drainage, required cross drainage etc. should be given due importance in road construction.

✓ While considering the creation of new transport facility in Marathwada regions however, it must be borne in mind that transport is only one of the essential elements for development of the region and it is not necessary that highly capital-intensive transport
projects will by themselves bring about economic development.

✓ There is an urgent need for the introduction of the new technology in the designs, engineering and construction methods as also carrying out surveys through remote sensing techniques particularly in the upgradation of the roads.

✓ There is a need to up-grade the road system in India by widening and strengthening the existing highways, reconstruction and widening of bridges and provisions of user friendly improvements.

✓ To encourage private sector participation, the Govt. has introduced annuity approach in which a fixed annual payment is made to the entrepreneur.

✓ The need to promote road connectivity across the country and maintain road infrastructure poses an enormous challenge.

✓ Rehabilitation and construction of new roads are essential to provide sufficient, safe and efficient transportation for passenger and goods and are vital for making the economy competitive and for sustaining a high rate of growth.
Various infrastructure development projects in the transport sector will require increased amount of investments.

State Government and local administration need to take effective steps to curb such incidents and create an atmosphere of security.

Efforts need to be made to construct as many surfaced roads as is practically possible.

The National highway network will have to be improved to meet the growing traffic of men and materials.

About 20 per cent of national highways need widening from single to double lanes and 70 per cent of two lane roads have to be strengthened and selected corridors on national highways need conversion into expressways.

The main objective of road development strategy should be to provide and promote sustainable high quality links for people, goods, and services to, from and within the city.

Strategy should be designed in such a way that it reduces the need to travel by personalized modes and boosts public transport system.
✓ Amending the National Highway Act to expedite land acquisition, permit private financing and allow tolling.

✓ Transport planning has to give priority to creating a policy framework, which ensures an adequate flow of resources to this sector.

✓ Transport infrastructure development needs to be treated as a high priority area for continued resource allocation.

✓ Increasing participation of the private sector would also be necessary to augment the resource base and increase competitive efficiency.

✓ In order to augment availability of resources for the sector, the budgetary resources could be used to leverage private investment.

✓ Within the budgetary constraints, transport infrastructure development needs to be treated as a high priority area for continued resource allocation.

✓ Promote energy efficient and more environment friendly travel with enhanced safety.

✓ Develop road corridors necessary for Investment Regions and Investment Areas.
✓ Improve road connectivity in backward districts of Marathwada region.

✓ Make highway designs in tune with the international best practice.

✓ The users of national highways throughout the country will be benefited due to infrastructure development which will also help uplift the socio-economic condition to increase connectivity with far flung areas leading to higher economic activity. It will also increase the employment potential for local labourers for project activities.

✓ The planning framework in the road sector needs approach towards preparedness in short-medium range future, medium range future and medium to long term future. This will help in assessing and assimilating impact of changing investment environment as well as impact of new technologies besides preparing the sector for possible worst case scenario.

✓ Therefore, the planning process should be such that it spread confidence not only in the investors / entrepreneurs but also among the community and other sectors of the economy. It may not be out of the place to mention that the road sector has not
attempted to have investment from the other segments of the economy.

**Future Studies:**

The following studies can be undertaken by another researcher in this area.

1. A study of quality of road of MSRDC in Marathwada region.

2. Impact of Toll policy of Government in road development in Marathwada region.

3. Impact of private sector participation in road development of Marathwada region.

4. Impact of road development on socio-economic development of road side living people in Marathwada region.

5. Impact of road development on goods transport in Marathwada region.

6. Study of Road Infrastructure development in Marathwada region.