
HISTORICAL DEVELOPMENT OF ROAD TRANSPORT MANAGEMENT WITH SPECIAL REFERENCE TO LUCKNOW AND MEERUT ZONE OF UTTER PRADESH ROAD TRANSPORT CORPORATION

PRATIMA YADAV

Assistant Professor

Department of Commerce

Sanjay Gandhi P.G.College Sarurpur, Khurd, Meerut

ABSTRACT

Those days are now dead and gone when small communities inhabiting distant tracts of land were economically self-sufficient producing all the vast range of goods. In the modern age of specialisation such a self-sufficient society is inconceivable. Now, People reap the advantages of the territorial division of land, labour and the operation of the theory of international trade. Thus, nations depend upon one another for the supply of raw materials and finished products, for the maximization of human satisfaction. It is imperative that the scarce resources, which have alternate uses, have a constant flow, which is obstructed due to the physical separation of different countries. It is the transport, which helps human beings in removing these unwarranted barriers of physical separation and enables a given flow of resources to produce greater results. The transport industries, which undertake nothing more than the mere 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 civilisation. In fact, the whole structure of industry and Management rests on the well-laid foundations of transport.

Key Words: Road developments, Civilisation, Labour operations

India occupies a strategic position in Asia, looking across the seas to Arabia and Africa on the west and to Burma, Malaysia and the Indonesian Archipelago on the east. Geographically, the Himalayan ranges keep India apart from the rest of Asia. India lies to the north of the equator between $8^{\circ}4'$ and $37^{\circ}6'$ north latitude and $68^{\circ}7'$ and $97^{\circ}25'$, east longitude. It is bounded on the south west by the Arabian sea and on the south east by the Bay of Bengal. On the north, northeast and the northwest lay the Himalayan Ranges. The southern tip, Kanyakumari is washed by the Indian Ocean. India measures 3214 km from north to south and 2933 km from east to west with a total land area of 32,87,263 sq km. It has a land frontier of 15200 km and a coastline of 7516.5 km Andaman and Nicobar Islands in the Bay of Bengal and Lakshadweep in the Arabian Sea are parts of India. India shares its political borders with Pakistan and Afghanistan on the west and Bangladesh and Burma on the east. The northern boundary is made up of the Sinkiang province of China, Tibet, Nepal and Bhutan. India is separated from Sri Lanka by a narrow channel of Sea formed by the Palk Strait and the Gulf of Mannar. The mainland comprises of seven regions.

India's population stands at 131 million (m) as per 2017 out of which 631.3 m are males and 595.7 m are females. This includes the projected population of 10.69 m of Jammu and Kashmir. The second most populous country. India is the home of 16.01 Percent of world's population.

India has one of the largest road networks in the world. The volume of road transport in India has been growing at an average rate of 10 percent and it has emerged as one of the preferred modes of Transport. The country's total road length is 70000 km (as per year (2014-15)). The parliament approved the National Highways (Amendment) bill in 1995, which provide for private investment including foreign in building of National Highways and their maintenance. The current position regarding infrastructure is increasing rapidly.

CONCEPT OF TRANSPORT

In general, transportation means the conveyance of persons or goods from one place to another in a vehicle. It minimises the adversity of distance and results in creation of utilities for resources and products. Transport eliminates the barriers among different places, regions thereby permitting unrestricted movement of scarce resources. It has two dimensions first is movement of persons and second is movement of goods. The present research works focus on the movement of persons in specific and movement of resources in general because of the fact that Uttar Pradesh State Road Transport Corporation (UPSRTC) is providing mobility to men.

The demand for transport is a derived demand. Transport is demanded due to demand for goods and services in places where it is in shortage. The level of production and consumption in a country in different sectors of the economy therefore decides the fortune of transport sector. Public administration, diversification of industries, mass literacy programmes, community development programmes and tourism has increased the demand for transport. The introduction of transport system opens up new avenues for investment of capital and employment of labour. Transport eliminates the barriers among different countries, different places and regions thereby permitting unrestricted movement of scarce resources. Transport is a subsystem of our culture and civilization. Large volume of global business activities, spread of multinational corporations, the intensity and velocity of merchandising and commercial activities, the speed and intensity of business competition, development in the field of communications bears an eloquent testimony of contribution of transport. Transport is an indispensable business activity. Lack of transport or disruption in transport resulting in losses to several factors of production, leads to colossal wastage of scarce economic resources, causes social tension and ultimately cripples the national economy affecting the gross domestic product and national income.

It minimizes the adversity of distance and results in creation of utilities for resources and products. Transport is the medium to provide linkage with distant places for demand and supply of goods. Its need mainly arises due to social and economic necessity and regional disparity, which requires movement of men and materials from one place to another. Transportation involves relocating the objects by an energy consuming mechanism, through an environmental medium. Transportation services are characterized by several inter-relationships. The superior quality transport services permits scope for modification as per the requirement of the users and reduces the transportation cost to increase the satisfaction of individual customers. A system of transportation is to be enforced by rules to maintain coordination among the various transportation systems to serve the society in an optimal manner. Congestion of transportation system with or without adequate demand will jeopardize the very objective of providing quality service to the users.

ROAD TRANSPORT' BACKGROUND

The history of Indian roads can be traced back since long ago. In olden times, mainly the kings or ruler especially for the purpose of war constructed roads. The promotion of trade and a desire to maintain law and order in the country were the goals of most of the Indian rulers, for this purpose a good system of roads were constructed before the Mughals Period the excavations at Mohenjodaro in Sindh and Harappa in Punjab, have revealed that in these cities which existed in 3500 B.C and 2500 B.C respectively, had the good road system with streets and have proper drainage system.

Trading centers were few, which explains the absence of reference to roads in the earliest religions literature of India. "Kautilya's Arthshastra" written near about 3000 B.C. recorded that in Mauryanage, that the Chariot roads, royal roads and the roads leads to country parts and pasture grounds were 24 feet in width, roads leading to military station burial grounds and villages were 7^{1/2} feet wide and roads for minor quadrupeds and main were 3 feet in width.

In the thirteenth century the emperor of Delhi faced both internal and external threat, from the northwest a serious challenge form the Mongols while internally form the Rajputs. To meet the Mongols challenges the emperor built a series of well garrisoned forts and outposts along the route to the northwestern

frontiers. Internally, powerful Rajput chiefs were crushed and peace restored on the highways. New roads were linked with old to facilitate the transfer of revenue collections. These new routes played a significant role in connecting the emperors garrison towns with open market in the provinces such as Lahore, Delhi and Awadh.

The Afghans, who retained their commercial interests after the establishment of Delhi Sultanate, founded several towns in Punjab and elsewhere in the country. New routes were established to link them, while old ones were repaired. The road system was protected so as to encourage Afghan immigrants to travel and settle in these towns. The administrative measures of Babar during the period (1525-30) were the beginning he was well aware of political importance of communications and had particularly to ensure the regular flow of re-enforcements from Kabul. Thus, soon after the conquest he measured his conquered territory from Kabul to Agra.

Humayun (1530-1540 and 1555-56) had insufficient opportunity to show his ability as a administrator. Shershah (1540-1545) the founder of Suri dynasty and a uniquely foresighted ruler reorganized the country's entire administrative systems. He spent most of his time in Bihar and Bengal, so he was very much aware of their problems remote from Delhi, Bengal was a land of innumerable ravines, nullahs, river and bad roads where Sher Shah constructed the Grand Trunk Road from Altock to Delhi and later on extended it to Sonargaon which become its eastern terminus.

The safety of the road over the Khaybar pass to Kandhar was threatened by the activities of marauding Afghan tribesmen, so a strong force was deported at all important junctions on the road, while local tribal chiefs were required to maintain the roads. The policy of making such men responsible for the maintenance, repair and safety of roads seems to have succeeded, greatly easing the movement of caravans and travelers. Thus, the traveling became easier and safe and communications between different parts of the country become quicker and more efficient. The road network in eastern India presented problems, though Sher Shah had brought about some improvement in the roads of Bihar and Bengal. However, from Agra to Patna via Banaras the land route was busy, Jahangir built a road linkage between these towns and peter, Mundy which used it during the rainy season, encountered some difficulties but completed his journey. Aurangabad also linked Agra with their provincial capitals. But the construction of bridges, canals, inn and postal chowkis indicates that the roads were not only cleared but also extensively kept up. Under Firoz Shah Tughlaq alone hundred of buildings for public use were constructed on the main highways and roads. This naturally would not have been possible without an effective road network.

Before the commencement of the British Rule, roadways in the modern sense, as used were practically absent. Road development was confined to the urban areas only till 1839 and there after it was decided to link Calcutta with Delhi by constructing good metalloid roads. During the Mughal regime the necessity to maintain ripped path or route to provide security to life and property was recognized. At the time the major routes used by caravans to carry traders and goods were form Mirzapur to the South (known as great Deccan Road) from Agra to Ajmer and Allahabad to Jabalpur. The roads were generally guarded at intervals by posts (Chaukis) for safe journey and between chaukis the tracks were marked out by stones, pillars or avenues of trees for identification of routes.

ROADS DEVELOPMENT DURING BRITISH EMPIRE

In the early periods of British Regime, the improvement of roads was undertaken mainly with a view to facilitate postal communication. The main roads were at that time under the administrative control of Military Boards was abolished and the public works department was organized in all the provinces of India. There was a well planned system of roads and organization in control but it took some time even for the British to inaugurate their scheme of road building. A Mac George says, "it is not easy to account for this extreme backwardness even after the advent of British rule. Beyond 20 miles from Calcutta, the roads

communicating with the principal station of the upper provinces were in no better state than in the times of the Mughals”.

CONTRIBUTION OF TRANSPORT IN ECONOMIC WELL BEING

Among the various modes of Transportation, road transport occupies a dominant place. Besides providing a vital link between centers of production and markets in economic sectors such as agriculture, industry, mining and tourism. Roads play a significant role in generating employment and facilitating the movement of people. Transportation touches many fringes of the economy. Transportation provides legs to the various economic activities and makes the whole economy mechanism mobile. The link between transport infrastructure and economic development is like giving water to tree. The key factor, which largely influences the economic growth process, is clearly the transport infrastructure. According to the world development report 2002, infrastructure capacity grows in concert with economic output; one percent increase in the stock of infrastructure is associated with a one percent increase in Gross Domestic Product (GDP) across the country. India is a country where most of the people by and large reside in the rural area and depend mostly on agricultural activities. In order to get remunerative price to their produces, they have to transport the produces to the marketing area. The close interdependence of the means of transport and economic life is obvious. According to Prof. Marshall, in economics “mankind in its ordinary business of life, the profound influence of modern transportation techniques on our everyday lives” makes an interesting study. The characteristics of our modern everyday existence specialization of production, cheap consumer goods, the fast movement of life and close interdependence between individuals, groups and nations are brought about mostly by modern means of transportation. It is almost inconceivable to think of our every day life without the modern fast, efficient and cheap transportation.²¹

CENTRAL FUNDING

The traditional approach has been to fund construction and maintenance of roads from the central budget while the state highways is funded form the state budget. The Twelfth plan (2012-2017) laid emphasis on co-ordinated and balanced development of road network in the country. During this period, the Government also embarked on a massive national Highways development Programme (NHDP) that has made substantial process. During the Tenth Plan (2002-2007), Road Development is considered an integral part of the total transport system of the country with emphasis on strengthening three functional groups, the Primary System (national highways and expressways), secondary system (State highways and major district roads) and rural roads. During the plan the completion of the NHDP as well as removal of deficiency in the existing National Highway Network are envisaged for faster movement and safer travel over long distances and also to give a boost to the economy

ALTERNATIVE SOURCES

In view of the huge financial requirement and limited budgetary resources, government decided to explore alternative sources of funds for highways development. Road projects are now commercialized with the involvement of private sector under the Build Operate and Transfer (BOT) format to facilitate participation of private parties in designing, building and operating road projects, several policy initiatives have been announced, including declaring road sector an industry to facilitate commercial borrowing and National Highways Act has been amended to permit levy of toll by the private entrepreneurs. Government has decided to acquire land for road construction and give it free to the private sector. Since a lot of time was being spent in obtaining environmental clearance for road projects, government has decided that such clearance will not be required in case of widening of existing highways.

To encourage private sector, National Highways Authority of India (NHAI) has been permitted to provide capital grant for highway projects up to 40 percent of the cost of the Build operate and Transfer (BOT) projects. The Authority has also been permitted to participate in equity of up to 30 percent in Build operate and Transfer (BOT) projects of a company promoted with the help of private or public sector. Other

incentives include; automatic approval for foreign investment up to 74 percent, provision for toll revision every three years linked to Wholesale Price Index (WPI), 5 year tax holiday and 30 percent tax concession for 5 years in a block of 10 Years to be preferred within a period of 20 years and (ECB) allowed up to 30 percent of the project cost. Following these initiatives, a number of projects, mostly bypasses, bridges and road over bridges have been awarded on Build operate and Transfer (BOT) basis to the private sector for construction. Several other categories of projects have been identified for private sector participation. These are widening of two-lane National Highways to four-lane (4,000 km) and express ways (1,000 km).

MODEL CONCESSION AGREEMENT

Since privatisation is a new experience for both the government and the private sector, there is a need to put in place the policy, regulatory and legal framework to address the concerns and expectations of both the parties so that it provides business opportunities to the private sector while contributing to the socio-economic development of the country. Therefore, it was felt that a model concession agreement document has to be put in place which will govern the rights and obligations of the government and the private entrepreneur for successful implementation of a Build operate and Transfer (BOT) project. After consultations with lender financial institutions, road developers and policy farmers, a standard document is being finalized. While all out efforts are on to encourage private participation, government has also decided to step up funding from the budgetary sources to give a boost to road construction. A beginning has already been made in this respect.

INVOLVEMENT OF PRIVATE SECTOR PARTICIPATION

Projects relating to bypasses, bridges, and road over bridges and four laning of existing sections of National Highways, which on the basis of traffic density are financially viable and bankable, are proposed to be taken up through private sector participation. Eleven projects (six bypasses, two road over bridge, eight bridges in Maharashtra, Rajasthan, Gujarat and Andhra Pradesh involving an investment of about Rs 580 crore have already been taken up under Build operate and Transfer (BOT) scheme. Four laning of the four major corridors (viable sections) is also proposed to be taken up under Build operate and Transfer (BOT) scheme. Since National Highways Authority of India (NHAI) has already been permitted to invest in equity of a company promoted in collaboration with private or public sector, or to provide financial support or loans/grants, the projects which are not found viable on the basis of traffic density, will be considered with equity participation or by providing financial support loans by National Highways Authority of India (NHAI). In addition, several other projects pertaining to bypasses and bridges are proposed under the scheme through state governments. On the whole, it is expected that an investment of about Rs.1000 crore would be available under privatization programme for roads other than those with National Highways Authority of India (NHAI).

DIFFERENT MEASURES

In addition a dedicated fund is to be created for development of National Highways by making necessary legislative changes and proper institutional arrangement should be made for managing the funds and executing the projects. The most suitable form of institutional arrangement would be creation of a Road Board, which would also include interface with the road users. Other measures like development of contracting industry by assisting them to purchase modern machinery, encouraging consultancy services to upgrade and provide financial assistance and providing separate rolling funds for advance land acquisition to the extent of Rs.1000 crore per year are also to be initiated. (Some researcher of scientific fantasies to imagine a world, "which one fine and unfortunate morning finds itself without modern transport"). Mills would close down due to non-availability of raw materials down from distant places, organized markets would collapse due to non-availability of goods from distant mills, the whole system of modern Management

would fall and with it would crash our entire system of modern time. Life would disintegrate into the primitive and feudal stages of inefficiency and scarcity.²⁴

POLITICAL STRUCTURAL ASPECTS OF TRANSPORT

The political significance of transport is two fold; firstly, it promotes national integrity. A country possessing vast area and population can be held together only by an effective system of transport. In making different regions of a country economically interdependent, transport plays an important role in making national unity. The cheap and fast transport make for multiplication of contact and tends to produce unity of language and customs among the citizens of the country. Transportation is also a vital factor, which determines the size of political states. It has been quoted in a book entitled "Economics of Transport" that improved transportation was a major factor leading to the break-up of the Greek city states. It rendered obsolete the small state founded upon the single city and its environs. At the same time it created conditions favouring larger and more effective political units". The advent of mechanical transportation in the nineteenth century, with its increased economy adequacy and speed leads to the formation and maintenance of the great empires of the European nations.

The second significant political effect of efficient transport system is the strengthening of national defense. Transport system is the means through which the entire resources of a country can be mobilized and directed towards military ends. The insistent demands of war production cannot be met without an efficient transport system, which can handle the greatly increased movement of personnel and materials during wartime. The importance of transportation for strategic purpose was recognized long ago. Military and imperialistic consideration were doubtless uppermost in the construction of the Roman Roads and similar motives have often played a large role in the promotion of transportation in the modern times. This was true of a number of famous railroads, the union pacific and other Transcontinental lines in United States of America U.S.A., the trans-Siberian Railway in Russia, the Cape-to-Cairo project in Africa and the Berlin-to-Baghdad Scheme in Germany.

DYNAMICS OF SOCIAL ASPECTS

Road transport has played a significant role by providing an essential communication linkage, mail and other means of communication. Railways or Airways facilities are not possible in all cities of every state because India is a developing country and 30 percent of populations are living under the poverty line. It is the only road facility, which is existed in almost all small and big cities thus; the road transport paves the way for the economic and social development.

Road transport has also influenced the living styles of the people. A very significant influence that is made by the road transport system on community in the integration of various cultures, customs and different ways of living. There are various goods and services, which are produced at one, place and are sent to other places mainly with the help of road transport. Road transport has become an important medium of exchange by carrying the persons form one place to another and by sending/ reaching the goods and services from one place to another, where the people need these. This facility has raised the standard of living of the people. Road transport has also become an important means by providing medical facilities to the sick and injured persons. It has also helped in remaining the barriers of distance for example India has also started a bus 'Dosti' form Delhi to Lahore (Pakistan) which has become very helpful for the Society Road transport has also helped in the social security of people because culprits or terrorists can be arrested by the police with the help of road transport.

Road transport has also a great significance to the people who are not in a position to pay for railways, airways and waterways because roads are the common men's means of transport. Roads are used by variety of traffic as pedestrians, bullock-carts, and camel carts etc. The roads are also used by the motor vehicles, while railways or shipways can be used only for a specific purpose by a definite type of vehicle in a

definite manner. So the roads usefulness is unlimited because they have alternative uses and they are useful not only for men but also for animals.

In modern times, the transport by road has become an important means to remove the sectioned feelings of the people because the people who makes journey are of different section, they travel in buses, cars or trucks without any feeling of religion or section. They exchange their views with each other and therefore, the feelings of communalism are reduced.

Numbers of students attend their schools or colleges daily to get the higher education. Researchers visit in different universities and other places for their research work. Various competition books, magazines and newspapers are reached each and every corner of the country by the means of transport. In the mode of transport, road transport has great importance in every city of every state of the nation. Education and knowledge and knowledge is also spreading in the educationally backward area the means of road transport. Society can survive without railways or airways but cannot survive without road transport. The good road system can link a small city to big and metropolitan city. Road transport has shown the importance in the sense that it provides internal security to the people and maintains law and order situation in the country. It also acts as providing justice to the people against the anti-social elements and violent activities in the country.

In 1927, a Committee, known as Jayakar Committee was appointed to examine and report on the issues relating to road. There was a steady increase in road traffic, which necessitated development of motor transport in India, and the need was felt for better roads, capable of withstanding movement of heavy motorized vehicles.

The major observations of the committee were:

- Various short comings in the road systems and programmes of the government.
- Absence of bridges and crossings over rivers in many parts of India. The motor transport was not satisfactorily established due to unabridged roads.
- The deterioration of the road surface was being aggravated by the operation of heavy motor vehicles.

RECOMMENDATIONS OF THE COMMITTEE

- (a) Government should develop road systems to meet the demand for an extended range of movement of passenger and cargo traffic.
- (b) Lying of fair-weather roads and to restrict the loads of the bullock carts.
- (c) The committee also pointed out the need for improving the subsidiary roads, which connect villages on special considerations and relief.
- (d) The committee also concluded that the development of road system was desirable for economic, social and political advancement of the rural population, on which the future of the nation depends.
- (e) As the expenditure for road development was passing beyond the capacity of provincial governments and local bodies and was becoming a subject of national importance. The committee recommended for a proper charge on central revenue. According to the recommendation Central Road Fund (CRF) was created by the central government.

Central Road Fund

Central Road Fund (CRF) was created in 1929 as a non lapsable fund for construction and maintenance of roads. Revenue in the Central Road Fund (CRF) comes from the proceeds of customs and excise duty levied on petrol at the rate of 3.5 paise per litre. The revenue accruing to this fund is allocated among different states in proportion to the sale of petrol in the respective states. A resolution was passed in Parliament in 1988 revising the scheme and stipulated that 5 percent of the basic price out of the duty on customs and

excise levied on motor spirit and diesel will accrue to the fund. This would substantially augment the Central Road Fund (CRF). This resolution is under active consideration of the government. In the meantime, a levy of one rupee has been imposed on every litre of petrol sold from the year 1999 budget which will make available a sum of Rs.790 crore per year. This money will go to the National Highways Authority of India (NHAI) for highway development.

NAGPUR PLAN

With the outbreak of World War II, the British government experienced the existing shortcomings of the road system. Intensive efforts were made to develop roads of military importance, financed largely from the defense service estimates. Defense requirements and the strategic importance of an efficient arterial road system during the emergency emphasized the need for this more than ever. In view of this the government of India convened a conference of provincial and state. Chief Engineers at Nagpur in December 1943, to consider the problem of post war road development program in India.

The government of India from April 1, 1947 accepted the recommendation of the conference and thus the government undertakes complete financial liability for development and maintenance of roads. Provisionally approved by them as suitable for inclusion in a system of National Highways. Accordingly National Highways Act was enacted on April 15, 1957. The Act empowers the Union government to declare any highway to be National Highways. The constitution also conferred the powers on the government of India to give directions to a state for the construction and maintenance of means of communication declared to be of national or military purpose.

Roads building and development has now become an integral part and essential for over all economic development in India. Before Independence, the road system in India grew around the four trunk roads connecting Khyber with Calcutta through Delhi, Calcutta with Madras, Madras with Mumbai and Mumbai with Delhi.

ROAD DEVELOPMENT DURING FIVE YEAR PLANS

First five year plan (1951-56) – The First Five year plan provided a sum of Rs.97.6 crores for road development programmes and it was later on revised to Rs.131.3 crores. During this period, 2600 kms of roads were surfaced and additional 72000 kms. Of unsurfaced roads were constructed during the first five year plan. The first five year plan's main objective was to balanced development of National Highways, state roads and inter-state roads and villages roads. Though the targets were ambitious. It could not be successfully implemented fully.

Second Five year plan (1956-61)– In the second five year plan emphasis were given on road transport while the first five year plan gave priority for development of roads in the agricultural sector. The second plan targeted towards rapid industrialization and gave emphasis on construction of roads in backward area. Special attention was, therefore, given for development of roads in the north eastern states. Jammu and Kashmir, Himachal Pradesh and Rajasthan massive construction of national highways took place during this plan period.

Third Five Year Plan (1961-66) – The development of roads in India was made in first two years plan on the basis of Nagpur plan. In 1961 the Nagpur plan have to be revised and a 20 years road development plan was made by a committee or chief engineer appointed by government of India. The 20-year road development plan committee submitted its report to the government of India in 1958. The government of India while formulating the third five-year plan took into account the recommendations of this committee. The board objectives of the new plan were that no village and agricultural area should remain more than 7 kms from a metal road.

The Committee decided to meet the increasing needs of motor transport. It was essential to develop village roads. It was estimated by the Committee that by the end of 1981, the Indian roads would be required

to carry annually about 2500 million tonnes of long distance goods traffic in addition to 500 million tonnes of feeder and local traffic in order to cope with this situation. The committee recommended increase of production in the automobile sector. The 20 year plan also proposed that at the end of the plan 403000 kms. of roads must be surfaced and 648000 kms. of subsurface roads.

Fourth Five Year Plan (1969-74) – In the fourth five year plan, a provision of Rs.418 crores was made for road development programme. It included improvement of existing national highways and construction of new national highways. The main objectives of the fourth five year plan were to complete the capital works initiated during the previous plan period and to construct the missing links in existing roads system. The actual sum spend during the plan period was Rs.126.94 crores. Special emphasis was given for construction of rural and village roads. The Central Government advised the state government during this plan period to allocate at least 25 percent of road transport budget towards the construction of village roads. Maintenance expenses of roads were provided outside the plan provision. During this period, the intensity of traffic increased tremendously and maintenance of roads assume special significance.³²

Fifth Five Year Plan (1974-79) –

- (i) Completion of on going capital works.
- (ii) Removal of missing links
- (iii) Development of rural roads under minimum needs programme.
- (iv) Construction of bypasses in congested cities and replacing railway level crossing with over bridges or under bridges. The sum allotted during this plan period was Rs.1397 crores but the actual amount spent was Rs. 1348 Crores.³³

Sixth Five Year Plan (1980-85) – The Sixth five-year plan took into account the quantum of traffic both passenger as well as freight traffic in 1980. Road traffic had increased tremendously so also the number of motor vehicles; the type of motor vehicles and the complexion of road traffic had changed drastically.

Seventh Five Year Plan (1985-90) – the seventh five-year plan had the following objectives:

1. Improvement of national highways and state highways.
2. Construction of roads in the village areas under the Minimum Needs Programme
3. Developing the road system so as to improve productivity under the road transport system.
4. Planning for a new generation of roads in high traffic density areas.
5. Using road construction programme as a means of generating programme.
6. Conservation of energy.

Eight Five Year Plan (1992-97)– The Seventh Plan completed its term on March 31, 1990, Hence the eight plan should have logically commenced from April 1, 1990. However, due to political uncertainties at the center and severe economic crisis in the country needing immediate attention, this schedule could not be kept and the eight plan was delayed by two years. It commenced on April 1,1992, the intervening two years between seventh and eight plans were years of plan holiday. In eight five-year plan, transport sector got only 12.9 percent of total resources. Considering the fact that transport bottlenecks has arrested development activity in the past, such a constraint on growth was very much real also during the eight plan.

Ninth Five Year Plan (1997-2002) – The Ninth Plan laid emphasis on a coordinated and balanced development of road network in the country.

Tenth Five Year Plan (2002-2007) – The tenth plan outlay for the central sector roads Programme to Rs. 59, 490 crore (which includes Rs. 500 crore for roads of inter-state and economic importance). The share of

internal and extra budgetary resources in financing the plan are estimated at Rs.24,700crore. The outlay envisaged for the roads and bridges in the Plan fo State/Union Territories is around Rs.50, 321 crore.

LATEST DEVELOPMENT

In the road sector huge investments are needed for constructing new roads, private entry into road maintenance, road construction and road transport operation is necessary to generate additional resources; the union government has already amended the National Highways act and declared the road sector as an industry. Private sector has been invited to finance, construct, maintain and collect toll taxes on highways and bridges projects. The government identified 27 roads projects consisting 9 each of expressways, bridges and bypasses. These involve a large investment of Rs.14213 crore. In addition to private investment additional budgetary support is also being obtained through loan assistance from international agencies. A budgetary allocation of Rs.200 crore has also been provided in 1996-97 in union budget to strengthen its capital base.

STATE SECTOR ROADS

Since the state highways and district and rural roads are under the responsibility of state governments, these are developed and maintained by various agencies in state and union territories. Roads are also being developed in rural areas under Pradhan Mantri Gram Sadak Yojna (PMGSY). The objective of the PMGSY is to link all villages with a population of more than 500 with all weather roads by the year 2007. The states are also assisted through financial assistance from the Central Road Fund for development of selected roads which are of inter state and economic importance⁴⁰.

INFRASTRUCTURAL INVESTMENT - 12th Plan (2012 - 2017)

1. Infrastructure Investment in India Strategies in the 12th Five Year Plan
2. Infrastructure Deficit Power 11.1% peaking deficit and 8.5% energy shortage (April 2011-March 2012); 23.97 % T&D losses (2010-11) and; absence of competition; and inadequate private investment Highways 75,430 Km of NH (1.83% of network, 40% of traffic): only 24% Four-lane; 50% Two-lane; and 26% Single-lane and Intermediate standard; State highways also suffer from prolonged neglect Ports Inadequate berths, rail / road connectivity and draft are constraints Airports Inadequate capacity: Runways, aircraft handling capacity, parking space & terminal buildings Railways Old technology; saturated routes: slow average speeds (freight: 22 kmph; passengers: 50 kmph); low payload to Tare ratio (2.6) 2
3. Inadequate investment in Infrastructure Investment in infrastructure was only 5% of GDP in 2002-07; mainly in the public sector; only 22% came from private capital Economic liberalisation of the 1990s led to GDP growth of 7-9%;not accompanied by similar rise in infrastructure spending Infrastructure deficit increased during 10th Plan (2002-07) owing to rapid growth of economy East Asian economies and China typically invested 9-10% of GDP in infrastructure Investment increased by 2.1 times in 11th Plan (2007-12); 7.2% of GDP; share of private investment rose to 38% . 3
4. Investment in Infrastructure: 11th Plan 135 125 XI Plan (2007-12): 115 Anticipated: US\$ 484 bn 105 X Plan (Rs. 19,35,058 cr.) Actual 95US\$ Billion 85 75 XI Plan Anticipated X Plan (2002-07): 65 Actual: US \$ 229 bn 55 (Rs. 9,16,176 cr.) 45 35 4 (US\$ 1 = Rs. 40 at 2006-07 Prices)
5. Investment in Infrastructure as % of GDP (10th and 11th Five Year Plans) 9.00 8.41 Private 8.00 Public 7.32 6.81 6.94 7.00 Total 6.26 6.00 5.61 5.10 5.00 4.77 4.76 4.69% of GDP 4.00 3.00 2.00 1.00 0.00 5 Provisional Figures for 2010-12
6. Growth of Private Investment (10th and 11th Five Year Plans) 2,50,000 2,00,000 1,50,000Rs. crore 1,00,000 50,000 - 6 Provisional Figures for 2010-12
7. Relative Share of Private Investment (10th and 11th Five Year Plans) 90 Public 80 Private 70 60Per cent Share 50 40 30 20 10 0 7 Provisional Figures for 2010-12

8. Share of Private Investment in different Sectors (11th Five Year Plan) 90 81 80 80 70 64 60 Per cent Share 49 50 40 30 20 20 10 5 0 Ports Telecom Airports Electricity Roads & Bridges Railways (incl. NCE).
9. Projected Investment in Infrastructure: 12th 18,00,000 Plan XII Plan: Projected: 55,74,692 cr. 14,00,000 XI Plan: Anticipated : Rs. 24,24,277 cr. 10,00,000 Rs. crore 6,00,000 XI Plan Anticipated 2,00,000 XII Plan Projected 2007-08 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15 2015-16 2016-17 2008-09 - 2,00,000.
10. Sector-wise Investment in Infrastructure: 12th Plan Share Sectors Rs. crore US \$ Billion (%) Electricity (incl. NCE) 1,820,292 350.1 32.7 Roads & Bridges 914,536 175.9 16.4 Telecommunications 943,899 181.5 16.9 Railways (incl. MRTS) 643,379 123.7 11.5 Irrigation (incl. Watershed) 504,371 97.0 9.0 Water Supply & Sanitation 255,319 49.1 4.6 Ports (including inland waterways) 197,781 38.0 3.5 Airports 87,714 16.9 1.6 Storage 148,933 28.6 2.7 Oil & Gas Pipelines 58,441 11.2 1.0 Grand Total 5,574,663 1072.1 100.0 10 US\$ 1 = Rs. 52 at nominal Prices
11. Investment by Centre, States & Private Sector (Billion US\$ at nominal prices, 1 US\$ = Rs. 52) (per cent share in brackets) 10th Plan 11th Plan 12th Plan (Actual) (Anticipated) (Projected) 3,52,504 8,56,717 16,01,061 Centre \$ 68 bn \$ 165 bn \$ 308 bn (42) (35) (29) 2,98,633 6,80,056 12,89,762 States \$ 57 bn \$ 131 bn \$ 248 bn (36) (28) (23) 1,86,023 8,87,504 26,83,840 Private \$ 36 bn \$ 171 bn \$ 516 bn (22) (37) (48) 8,37,159 24,24,277 55,74,663 Total \$ 161 bn \$ 466 bn \$ 1,072 bn 11

With a view to further augment flow of funds to the sector, the government announced several incentives for encouraging private sector participation in road development. Twenty six projects valued at around Rs. 42000 crore have already been taken up on build operate and transfer (BOT) basis. In addition, eight projects valued at Rs. 2400 crore have been awarded on annuity basis. Several other projects have also been identified for being taken up under BOT.

Road transportation is vital to both trade as well as manufacture. Trade enables need to be transported and even manufacture at a given location requires the trade of raw materials and components as well as the sending out of the finished product. Country with a poor road transportation network has no hope of being a success either as a trader or a manufacture. Further just as ants build anthills, human built towns and cities. From these colonies they obtain their needs by scouring a vast hinterland. This will not do for a country that wishes to be prosperous. Road transportation requires the primary attention of the state. It is woeful today, this affects our quality of life directly by forcing us to around into primary ridden cities while in realty this is a vast country and there could be enough space for all if only the space ways colonized by road transportation. Poor road transport makes trade and manufacturing difficult. It also makes life unsafe. If we do not pay attention on roads today we have to pay heavy price tomorrow. Private participation is also very necessary to follow competitive bidding and bench marketing for private investment in road projects bidding process should enable provision of service at minimum cost to users. And to avoid unnecessary delay, the government should first carry out a detailed techno-economic study of projects before inviting private parties.

Table 1.1
Length of Roads in India During (2006-2016)

ear	Total	Surfaced	Highways - Total	Highways - Surfaced	Urban Roads - Total	Urban Roads - Surfaced	Project Roads - Total	Project Roads - Surfaced
2006	2469524	1414547	1993858	1166209	252001	191797	223665	56541
2007	2499906	1451656	2025487	1200102	250295	190252	224124	61302
2008	2601957	1491359	2045370	1207578	297259	214951	259328	68830
2009	2669996	1526055	2107061	1238306	301310	218361	261625	69388
2010	2962463	1596451	2415941	1334875	286707	195277	259815	66299

2011	3014063	1637723	2459886	1370932	291991	200210	262186	66581
2012	3119923	1693500	2550838	1417409	300580	207052	268505	69039
2013	3174620	1745271	2600104	1458341	304327	212750	270189	74180
2014	3571509	2141301	2921091	1809644	373801	258279	276617	73378
2015	3682436	2243312	3001055	1889294	402448	279715	278933	74303
2016	3790344	2341479	3089966	1972740	411839	291894	288539	76845

National Highways

The total length of roads in India is 33,15,231 Km, out of which national highways has 1.75 percent, state highways 4.13 percent, major district roads 14.17 percent and village and other roads having 79.93 percent share.

The Uttar Pradesh State Road Transport Corporation (UPSRTC), Meerut region, has successfully achieved its target of earning Rs 243.43 crore for the financial year 2015-16, a year after registering a huge loss of Rs 1.60 crore. The target revenue was set in such a way that losses of last year were also covered.

Not only has the corporation crossed its target income, it has also registered a profit of Rs 55 lakh. Authorities have credited controlled expenses and better utilization of available buses as the reason for registering profits in 2015-16.

"We had a number of challenges this year. Not only did we have to cover losses from the year 2014-15, we also had to make profit. To ensure this, we controlled our expenses wherever we could and crossed our target by Rs55 lakh," said SK Banerjee, UPSRTC regional manager, Meerut.

While the load factor remained 70% in both 2014-15 and 2015-16, bus utilization increased from 296 buses to 315 buses per day. The expenses of the region were cut down mainly by reducing the number of buses, which were not of any use to the region. While number of UPSRTC buses decreased from 769 (2014-15) to 724 (2015-16), those on contractual basis were reduced from 340 (2014-15) to 336 (2015-16).

Meerut region has a total of five bus depots, which include Meerut, Sohrab Gate, Bhainsali, Baraut and Garh. The buses running include the ones maintained by the corporation and others which are hired.

While the income of UPSRTC Meerut region rose by Rs1 crore in the last two financial years - from Rs240 crores (2014-15) to Rs241 crores (2015-16), expenses reduced by Rs7.8 crore in this financial year, making it fall from Rs245.60 crores (2014-15) to Rs237.80 crores (2015-16).

"We ensured that maximum number of buses are utilized in the region and that was evident from the fact that we got an average of 19Km per day per bus in 2015-16 which was more than 2014-15," said Banerjee.

The year before registering massive losses, the region had registered a profit of Rs3.65 crore in 2013-14. The lack of uniform principles in calculating compensation for death and injuries to individuals has made the exercise a legal gamble before the courts and tribunals. While one judge may have the milk of human kindness flowing in his veins, the other may be a strict constructionist in law and out of touch with the rate of inflation.

This was evident last week, when the Supreme Court accepted the offer of the Swatantra Bharat Mills to pay a compensation of Rs 5.5 lakh to the widow of an employee who had committed suicide as he could not see his family starving. The court had earlier asked the unit to close down or shift outside the capital. In between, the worker seems to have been deprived of his wages.

The company had paid his widow Rs 30,000 as compensation for death under the Workmen's Compensation Act. However, the judges were not satisfied with that meager amount. They calculated the package by taking his monthly salary at Rs 2,000, that is Rs 24,000 per annum. Since he was 35 years at the time of death and

had 25 years to of service, they assessed the compensation at over Rs 6 lakh. At this point, the company agreed to pay Rs 5.5 lakh.

This showed, for one thing, that the method of calculating compensation under the Workmen's Compensation Act is extremely outdated and calls for a further legislative review. The amount of Rs 30,000 is hardly sufficient to recompense the family of five survivors for a lifetime.

On the other hand, the calculation of the judges went to the other extreme. They did not take into consideration the deductions allowable in such computations. The years of dependency should have been kept in mind and the chances of the children getting employment should have been considered. The exercise of assessing compensation would have been easy if there was a ready formula.

Unfortunately, the only formulae available are in the Workmans Compensation Act and the Motor Vehicles Act. While the first one is inadequate, the second has been ridiculed by the Supreme Court in its judgment last year in UPSRTC vs Trilok Chandra. Sections 163A, B and 165A of the Act provide for compensation according to Schedule II.

The Supreme Court stated, that the calculation of compensation and amount worked out in the schedule suffered from several defects. For instance, according to Item 1 for victims aged 15, the multiplier is 15 and the multiplicand is Rs 3,000. The total should be Rs 45,000 but the same is worked out at Rs 60,000. Similarly, in the second item, the multiplier is 16 with annual income at Rs 9,000. The total should be Rs 1.44 lakh, but it is shown as Rs 1.71 lakh.

To put it briefly, the table abounds in such mistakes. Neither the tribunal nor the courts can go by the ready reckoner. It can only be used as a guide. Besides, selection of the multiplier cannot in all cases be solely dependent on the age of the deceased. For instance, if the deceased, a bachelor, dies at 45 and his dependents are his parents, the age of parents would be relevant in choosing the multiplier.

The court also fixed the maximum multiplier at 18. This was done because it found that some courts and tribunals were using high multipliers. In the UPSRTC case, the tribunal applied 24 while the high court raised it to 34.

Even now, the amount arrived at could be so low as to make the litigation a frustrating exercise and mere waste. Earlier this year, the Supreme Court in Noorjahan vs Sultan Rajia gave Rs 92,000 for death in a road accident while only Rs 10,000 was to be paid by the insurance company. In another case last year, the court approved the amount of Rs 20,000 for death. In yet another it was Rs 1.57 lakh. Obviously, there is an urgent need to set parameters in this field.

CONCLUSION:

It is concluded that Indian roads can be traced back since long ago. In olden times, roads were constructed mainly by the kings or ruler especially for the purpose of war. The main roads and routes were well defined and adequately served the country's administrative, political and commercial needs. During British period the maintenance and construction of roads were under the supervision of Military Engineers and a number of trunk roads were constructed connecting important commercial and military centers. After independence due importance was given to road transport development keeping in view the economic development of the national. The first five-year plan provided, a sum of Rs. 131.3 crores for development programmes whereas the tenth plan outlay proposed for central sector roads is Rs. 59400 crore. Without any doubt one can say, some concrete development of road transport network have been taken place in past plans era but still there remains a lot to be accomplished in so far as the development of road transport on right lines is concerned. There are number of problems associated with the development of road transport in the country. Their solution with concerted efforts on the part of the transport operators, the government and other agencies is urgently called for.

REFERENCES

1. Srivastva S,K, “Economic of Transport”, published by S.Chand and company New Delhi, 1987
2. Patankar P.G., “Road Transport Passenger in India” published by Central institute of road transport; Pune -1983
3. Khan R.R. “ Transport Management” published by Himalaya publishing house, Bombay-1980
4. J.S. Atyanarayana, “ Cost structure of road Transport Industry” published by Transport journal: vol:XXI-3, MARCH 1971
5. Santosh Sharma “ Productivity in road transport – “A Study in innovative management associations of state road transport undertaking – Research Paper , New Delhi -1976
6. Mathew- M.O.” Rail and road transport in India –“ A Study in optimum size and organization” published by BOOK AGENCY, CULCUTTA, 1964
7. ILO/UNDP Project on STU in India –“ A study of performance ; problems and prospects , Pune 1982
8. Bagade M.V., Passenger tax and rational fare policy from STUs Journal of Transport Management Vol-12, 1988
9. Sudarshanam Padam; “ Bus Transport in India” published by Ajanta Publication, Delhi, 1999
10. Kulshrestha D.K. “ Transport Management in India” published by Mittal Publication, New Delhi 1994a
11. Kulkarni .P.V.;- “ Recruitment, Selection, and Placement in Road Transport” published by Journal of transport management Pune, 1989
12. T.A.S. VIJAYARAGHAVAN. “Strategic options for state road transport undertaking in India” in International journal for Public Sector MANAGEMENT-1995.
13. Majha singh “Road transport in India” Transport Planning and finance; Karnataka University. Dharwar 1973.
14. The Road Transport Taxation Enquiry Committee, Government Of India, 1967.
15. Study Group on Viable Units, Ministry of Shipping & Transport, Government Of India, 1968.
16. The National Transport Policy Committee, Planning Commission, Government Of India, 1980.
17. Report of the Planning Group on Road Transport, Planning Commission, Government Of India, 1987.
18. Harlan D. Platt., Principles of Corporate Renewal, University Of Michigan Press, USA, 2004.
19. Tripp Alker. H., Road Transport and Its Control, Adward Arnold Company, London,1938.
20. Kitchin I.D., Bus Operations, Hiffe and Sons, London, 1949.
21. Bonavia M.R., The Economics of Transport, James Nisbet & Company, Cambridge, 1954.
22. The Jaykar Committee, Government of India, 1927.
23. The Mitchell Kirkness Committee, Government Of India, 1932-33.