CHAPTER - 2

EVOLUTION OF TRANSPORT

Transport is the back-bone of national economy. It provides an essential feature of all modern economies.\textsuperscript{1} Any transportation net-work is a reflection of the contemporary spatial organization of economy, social conditions and political set-up\textsuperscript{2}. So transportation is an essence for the development of any region or country. Its past history cannot be ignored because it over influenced the development in the past. As the stages of the development of human-civilization marched, the transport systems got momentum. Godlund has aptly remarked, "it evolves gradually through the human history experiencing many stages-primary, diffusion condensation and saturation\textsuperscript{3}. The basic unit of movement is a trip and man travels from one place to another for a particular purpose. Hence, economy and transport run simultaneously holding the geographical, social and political possibilities. Mayer has stressed, "the basic process of economy is circulation and transport interaction projects in future in a chain reaction. That is why, a trial of one period may become a super highway in another\textsuperscript{4}. For this testimony, the example of Roman-pre-roads can be quoted.

Therefore, it is necessary that the systematic
analysis of existing transport network be constructed. Besides providing a dramatic insight into social change, is a necessary prelude to the study of existing transportation and formulation of the future pattern in a natural process of evolution\textsuperscript{5}.

The Bundelkhand region lies in the core area of the country. That is but natural that the main arteries of Indian commerce which criss-crossed the region. Politically it achieved the strategic position during the upheaval days of the nation. Due to the geographical location of the region it was known as the 'gate way of the South India' since 12 to 17 century A.D. It was easily accessible from Northern Gangetic plain to South Deccan plateau. The system of transport in this tract getting changed and turned in the course of time. Conveniently the evolution of transport in this part of the region was categorised into four periods - ancient, medieval, british and modern.

In fact, the historical records of transport not only reveal the socio-economic development and political set-up of the region, but also through the light on the distributional pattern of arteries, mode of carriage, nature and characteristics of traffic flow.
THE ANCIENT PERIOD

In Vedic period the inter-regional routes were introduced by the administrators to control the region. Jhansi, Orai, Banda, Kalinjar, Hamirpur, Kalpi and Lalitpur were the nodal centres and were linked with each other at that time. Kalinjar had acquired considerable importance as a place of pilgrimage even as early as the days of Mahabharat. There is very reason to believe that well laid roads must have passed through Kalinjar joining the central and eastern part of India. Being the cock-pit of the powers, the region controlled the land and Water routes both. Because, the region has been the 'battle-field' of many kings, so the movement and migration at the time of war took place from north-west to south-east.

The Aryan currents entered the land through the route of north-western part of the region. The Chedis (CHEDIS) one of the sixteenth Mahajan-padas of Northern India was extended between the Yamuna and Vindhyas⁶. The Chambal, Betwa and Ken are the main streams vitalising the life of towns as well as the rural masses. However, some land-routes are also mentioned in Valmiki Ramayan, which are as following : -
(1) Ayodhya to Valmiki Ashram.
(2) Ayodhya to Chitrakut (near karwi Banda).
(3) Ayodhya to Punchvati (near Bombay) via Chitrakut and further Lanka (Polan Narna, Ceylon). 8.

The region has been an important battle field for many invaders, therefore, many routes were adopted from the region at the time of war. For instance Pururavas Aila, founder of Lunar race was the ruler of Pratisthana (Jhusi near Allahabad), which extended from Eastern Rajasthan via Gangetic Doab to the Jhansi Region 9. Alongwith this kingdom the route was passed from east to west through the region. The several routes and towns were constructed by the Hindu emperors in the expansion of Buddhism religion. Besides this the roads were constructed and keenly well maintained in Maurya Period. The great highways such as Jhansi-Delhi, Jhansi-Kanpur, Jhansi-Sagar and Jhansi-Allahabad were the main routes during this time. Jhansi-Kanpur route linked with the Grand Trunk Road ran from Taxila on the north-western border to Pataliputra. Jhansi-Sagar National route in 600 B.C. ran from Rajgriha via Pratisthana (Allahabad) and Vidisa on the Ujjain and Mahishmati, probably passed through the Southern
part of the Jhansi. These roads in Gupta period continued to develop as it is evidenced by Chinese pilgrim Hiuen Tasang and Fahien (fig. 2.1 C). Hiuen Tasang visited the parts of the region in 641-42 AD. According to him this region was found for its fertility and its king was a Brahman who was a firm believer in Buddhism.

Mostly the routes of the region passed through the river-sides, connecting important towns and religious and pilgrimage centres. Although these routes were unmetalled and rivers unbridged yet great care was taken and principles thereof were followed by the emperors of that time.

During the war period the military required more space to move the means of carriages. As Kautilya has classified the different types of routes and their width in Arthshastra. The 'Rath roads' or chariot roads, royal or Rajmargas, feeding or Sthaniya roads shall each be 24 ft. in width. Roads connecting to military campus, cremation grounds and village were also of the same width (24 ft.), and roads covering the elephant forest shall be 12 ft. The roads as Chariot, measured $7\frac{1}{2}$ ft. cattle 4 aratnis ($7\frac{1}{2}$ ft.) and road for minor quadrupeds and men 2 aratnis.
The homogeneity of these rules, regularity, the width and the methods of construction is laid down in Sukraniti\textsuperscript{14}. Moreover, the relative advantage of trade routes have been discussed from the standpoint of contribution to the trade or commerce.

At that time mile-stone and sign-posts were fixed at regular intervals and to guide and guard, the route, Thal Niyamak (land pilots) were hired by traders.

History speaks that during the Maurya Dynasty transportational network contributed a lion's share role between the Bundelkhand and Magadh. The Jhansi-Kanpur, Jhansi-Delhi, Bhopal-Jhansi-Kalpi (meeting on to great Deccan Road)and JhansiAllahabad routes linked with Grand Trunk-line, which led to Pataliputra. There were mainly two means of transportation viz. land and water, but latter was the centre of great attention, being advantageous, easy and comfortably safed transport.

The river Yamuna was only a navigable channel. The river Betwa, Dhasan and Ken were, perhaps, not fit for navigation, that time. All important towns commanded the river-routes. Deogarh (Betwa), Kalpi (Yamuna). Hamirpur, Rajapur (Yamuna)
and Banda (Ken) were religious, historical and civilized river towns of that period, other important towns like Jhansi, Orai, Rath, Mahoba and Kalinjar etc. were linked with the land-routes.

After the down-fall of Gupta's, in 5th and 6th centuries the transportation interrupted, but about 600 A.D. when Harsha set-up his strong reign, it revived again. Roads were constructed for merchandise of the region.

After the death of harsha (647 A.D.) the region was handicapped and progress was rocked till seventh century. Therefore, semi-independent chieftains emerged i.e. Parivrajaka kings, Gonds etc. Due to the security, provided by such centres handicrafts and commerce achieved a glorious chance of growth. Thus various towns like Jhansi, Lalitpur, Deogarh, Orai, Rath and Mahoba emerged under the Rajput Pratihars. Bullock-carts, pack-animals (horses, camels, elephants, mules, asses etc.), boat palanquin were popular forms of land-transport. These were used by common people. But the 'Rath' (Chariot) was ranked as a carriage of honour.

Naturally, traffic was valuable enough to stand the cost of transport by horses and camels
overlong distances and difficult routes. The main export items were textile, spices etc. and import items iron, sold, salt, horses etc. Army and pilgrims were the source of passenger traffic.

In brief, it can be said that in the ancient period the transport was in worse condition and non-power driven traffic-flow predominated. Roads were unmetalled and widely used during war-period without any carefully attention, which was paid to them.

MEDIEVAL PERIOD

The region maintained its strategic position in the medieval period too. Due to its central position the routes were followed by Mughals, Marathas and Britishers mainly from the Gangetic plain to the Decan or from North to South and from Agra to Sagar and Allahabad via Jhansi.

During 1200-1389 many chieftains reigned over the region. In 1202, Qutb-ud-din-Aibak, ravaged the territory of Chandellas and attacked the fort of Kalinjar, placed it under the command of Hassan Arnal. During sharqi-kingdom (1389-1500) the Erich, Kalpi (Jalaun), Jhansi, Chanderi (Jhansi), Lalitpur, Hamirpur and Banda were linked with Jaunpur
by main routes. After this, Lodi dynasty appeared and chanced the growth of transport-network in the region. Sher-Shah Suri, the master builder of roads to conquer region, and for military and administrative reasons, he must have laid down a well planned network of roads during his short period of reign (1540-45). With the exception of Akbar the Great all the successors of the muslim dynasty ravaged the land through the important land-routes. But the invaders did not pay attention to the improvement of transport.

The main centres of the region were inter-linked either by rivers or by roads. Akbar realised the need for construction of roads. Besides repairing the roads, constructed by Sher Shah Suri and Humayun, he also constructed the important roads. As R.B. Singh remarks "realising the importance and usefulness of good transport system he took up the difficult and costly scheme of Inland Transport\(^{18}\). The river navigation played an important role of communication. For instance, Erich fort was besieged by the imperial forces of Akbar to capture Bir Singh Deo, but he managed to escape one night by way of Betwa\(^{19}\). The chief routes passing through the region were-
3. Jhansi-Sagar,
7. Banda-Fatehpur - Sagar and

Akbar made the traffic easy and safe during his travelling and halting programmes. He used to issue orders for the plantation of trees on both sides of road, and construction of wells and 'Sarais'. There were no bridged and all weather roads. Because the nation faced a network of bridle paths' upon which in dry season pack-animals used to travelling, passengers walked or were carried in palanquins. The region also became almost impassable by heavy-laden carts during the rainy and hot weathers and so the traffic was at a stand-still and reduced to small limits. The difficulty of terrain, robbers, dacoits and wild animals was avided at the cost of long curves.

In the region upto 1631, there was a lack of recognised route through Vindhyan tract,
because it was mountaineous and forested area. During Akbar's reign the pace of trade and commerce had increased and several towns were founded and industrialised in those days. Mauranipur (Jhansi), Lalitpur and Banda were connected with Agra, Kanpur, Allahabad and Bhopal (M.P.). In Jhansi textiles goods, weapons and agricultural implements were manufactured. Kustas (nomadic artisans) came to Jhansi from Gwalior State. They were patronised by the Maratha Colonel Sleeman who noticed that fine woolen carpets produced in Jhansi. Lalitpur, Mauranipur, Kalpi, Hamirpur and Banda were the famous trade-centres. The articles of trade were utensils, engravings on marble, ivory and silver, jewellery and ornaments, spices, fruits and other eatables.

After Akbar, the region was governed by many emperors or invaders i.e. Jahangir (1627), Shah Jahan (1934-35), Aurangzeb (1707), Chhatrasal (1731) and Peshwa Baji Rao and Bundelas etc. During these rulers the region did not get a bright chance to develop the transport, due to warfare and invadings.

MODERN PERIOD (1757 - 1947)

For the convenience modern period can be classified into two groups -
(A) The Transitional Period (1757 - 1857).
(B) The period of Transport Revolution (1857 - 1947).

(A) THE TRANSITIONAL PERIOD:

After the decade of Mughal and British empires several chieftains like Maratha (Madho Govind), Nawab (Shuja-ud-daulah) and Bundelas emerged in the region. They cared for fortification of towns and construction of roads under their dominion. Under Shuja-ud-daulah (the Navab Vizir who considered himself the legitimate master of Bundelkhand being Viceroy of Allahabad) the region did not get a bright occasion for transport development. After 1731 the Marathas ruled over the principality. Jhansi, existing since the days of Jehangir, developed after 1772 into a large town under the Marathas. W.W. Hunter, visited Jhansi in 1792 says, "It is frequented by caravans from the Deccan which go to Farrukhabad and other cities of doab". A considerable trade of textile of Chanderi and Bundela's weapons like bows, arrows and spears, both were the source of an affluent of wealth. Owing to the copious nature of trade and commerce centres, a complicated road-network came into being (fig. 2.2). In 1803 the entire region transferred to the East India Company. During this time, an effort was made to hold the land owners responsible for the unkeep of the roads passing through their estates, but it did not work. The roads were then
sought to be improved by imposition of a road cess and the formation of a road and ferry fund committee to administer the proceeds. The unmetalled roads were not extended more than rapid progress. The river Yamuna was only the easiest and most speedy route for trade and commerce. Although Lord William Bentick quelled the 'Thugs', yet roads were insecured and the company interested to lead to the quick development of river side marts like Kalpi, Hamirpur and Rajapur, on Yamuna-bank. Except Yamuna, there was no river, which could be navigated during the rains. The efforts of East India's bold policy of deepening and improving rivers, was a little In this time the region was suffering from disturbance and exploitation under the British Government. In 1838 Gangadhar Rao and Krishna Rao were recognised, as a ruler. In 1839, Military Boards were set-up, and after it, P.W.D. created to look-after the roads. An attention was paid for a construction of good and bridged metalled roads, suitable for wheeled vehicles. The principal road was Jhansi-Kanpur via Moth and Kalpi, connected with G.T. Road. Other established trade-routes from Jhansi were:

1) Jhansi to Sagar connecting with Great Deccan Road.
ii) Jhansi-Shivpuri.

iii) Jhansi-Delhi, and

iv) Jhansi-Mirzapur via Mahoba and Banda.

The nature of traffic was different within the Region. In the earliest days of British occupation Mauranipur was the largest trade emporium. Except Mauranipur, Jhansi and Lalitpur reached its zenith about 1840, when they attracted a large share of cotton goods, grains, pulses, oil-seeds and ghee commodities of trade from the south-east and north-west directions. The merchandises of different regions overlapped the region. The agents of trade came into the region from Mirzapur—the boats that in those days plied over the Jamuna returned to Rajapur, Kalpi—freighted with sugar, rice and cloth in exchange for the cotton and grain. Kalpi and Konch other prosperous trade-centres. The chief articles of trade were cotton and ghee exported by the river Yamuna to Allahabad, Mirzapur and Patna. The company took care of a cotton agency at Kalpi till 1930. The Jhansi-Kalpi trade-line was the prominent route because in 1854 the principal metalled road was Jhansi to Kanpur via Moth and Kalpi. The road was bridged throughout in length, and the nature of traffic was good. From the west large trade in
cotton is carried on, all of which is conveyed to Kalpi ............... in exchange for which, the carts etc. return laden with sugar, 'Kirana etc. From the west traffic in cement, sugar and iron etc. is huge.

(B) THE PERIOD OF TRANSPORT REVOLUTION (1857-1947).

It may be looked into two sub-divisions

(i) The period of Arterial Growth (1857-1925) and

(i) THE PERIOD OF ARTERIAL GROWTH (1857-1925).

This is the period of struggle, sacrifice and beginning of first was for the freedom of the nation. But the troops of British Government ravaged the region and suppressed it upto a great extent. In 1957 Maharani Lakshmi Bai took up the lead of the territory and faced the British Army. During this time the company thought to construct the metalled roads and railways for the suppression of rebellion. Because by this it was possible to contact easily from one place to another, without
delay. due to the development of roads the trade-routes changed and some of the commerce diverted to new highways. Small market centres which were detached from roads or rails lost their importance. In brief, the trade flew along the new arteries of roads and railways.

DEVELOPMENT OF RAILWAYS

U.P.Bundelkhand came into being in the railway map of India in the sixties of the 19th Century (fig. 2.2D). The first railway line was laid down in 1875, between Bargarh and Markundi named as Allahabad-Bombay main line. After it, Jhansi-Manikpur railway-line constructed during 1885-87. Jhansi was the important junction because the Great Indian Peninsula Railway also expanded its line from Itarsi to Kanpur and to Agra via Jhansi during the same period in order to facilitate quick communication between Northern India and Bombay. By the end of 1887 Jhansi was well connected with Kanpur (via Orai, Kalpi), Allahabad (Via Banda, Manikpur), Bombay (via Lalitpur) and Delhi (Via Karari) centres. During this period the agricultural tract of Malwa and hilly plateau land belonging to Vindhyan tract, were linked with each other. Only the northern parts of Hamirpur and Banda districts were apart from it. It was the bright luck that the region
was served by the broad gauge (5' 6"), throughout. The interconnected lines were constructed after 1925. Some of them are branch lines, constructed under the Indian Branch Railway Company, which later on was acquired by the State on January 31, 1889. On 5th November 1951, the Indian Government created the Central Railway Zone, and G.I.P.R. merged in this newly created Central Railway. Now only Central Railway is serving in the region.

Following are the factors which have affected the rail-growth in the region:

1) The British wanted to suppress the rebellion of 1857, therefore, they paid much attention to the construction of roads and railways for the quick movement of their military force.

2) The British wanted to exploit the regional resources for the industries in England. Therefore, they constructed parallel roads and railways.

3) For administrative convenience it was necessary to have a good accessibility within the region.
4) The natural hazards like droughts, floods and famines encouraged the road and railway development to mitigate their dangers timely and properly.

5) The plain areas of the region encouraged the transport system for the faster movement of their farm products.

**DEVELOPMENT OF ROADS**

It is a matter of great concern that the study of such a subject like road transport has remained much neglected in our country. In fact the life blood of a region flows through its arteries of roads. Road transport is one of the great material needs of a man. As Davis remarks:

One of the earliest problems of the man was how to move himself and his possessions. Even in the primitive people this problem existed as they had to go in search of prayer. In present, when the country is marching towards industrialization, roads are playing a very significant role.

The region has witnessed an organized and civilized life from very early times. For such a region the quick transportation is pre-requisite. As rail was extended, it was necessary to construct
feeder roads and demand for metalled roads soundly emerged. The old routes were superseded by the railways and rails influenced the region. But the railways helped the road-construction and developing the traffic to be carried. Besides, Military Boards and Public Works Departments, the Local Self Government also intended to improve local transport. In 1908 the roads were classed as provincial and local. But for the first time the roads were classified as below:

CLASS I METALLED:
(a) Bridged and drained throughout.
(b) Partially bridged and drained.

CLASS II UNMETALLED:
(a) Bridged and drained throughout.
(b) Partially bridged and drained.

CLASS III:
Banked and surfaced but not drained.

CLASS IV:
Banked but not surfaced, partially bridged and drained.

CLASS V:
Cleared and partially bridged and drained.
CLASS VI : Cleared only.

NATURE OF ROADS

Except the plain area, the rest part of the region is rich in stone and gravels. Therefore, the roads have been constructed with stones, gravels and pebbles. In the vast plain area the roads were constructed with stones and broken bricks, available everywhere.

Till the early years of the twentieth century roads in the region were generally stony and in places were impeded with rocks and boulders. The cost of building roads was maintained by the Public Works Department or District Board, or Country through which they pass. The roads became expensive in the region where, crossed by rivulets and streams, very few had bridged and culverts posing a serious problem for the traffic during the monsoon due to lack of necessary embankment and the inferior of the metalling. The emergence of roads has been depicted in Fig. 2.2.

The roads and railways together entirely changed the method of transportation by the year of 1925; because the pack animals were suppressed by wheeled auto vehicles throughout the region.
INLAND NAVIGATION

The regional drainage system is poor for navigation because of the shallow and rocky bed of rivers. Among the streams, the Yamuna is the only navigable river throughout the year. The Northern skirts of the river have a better opportunities to develop waterways. Beside the Yamuna the bed of Betwa is mostly of rocky nature having steepy banks and fordable at a few points. The Dhasan is bounded by a belt of ravines about two or three miles in breadth. The river Ken is also slightly important for Banda district.

In brief, these rivers are less useful for water transport specially for boating and steamer driving. Only a few places like Chilla, Augasi, Markh and Rajapur are the suitable places for steamer and boat transport. By the end of 19th century the construction of the railways and the development of road transport in the region have reduced the importance of insecureed and slow water traffic by rivers. The loading capacity of boats on the rivers is shown in fig. 1.3B.

(2) THE PERIOD OF REPURCUSSION (1925-1947).

Due to political upheaval the region was very disturbed and unsettled. The present rail
network contributed a lion's share for re-adjustment and improvements by 1925. During this period, owing to many causes like Second World War, economic depression of 1929-30 etc., the impact of rail was constantly interrupted. The railways were nationalised in 1924, and Acworth Committee's report suggested some attempts for a better development of railways. Automobiles also emerged by now, but the railways had a virtual monopoly. The road transport was dwarfed until the initiation of the Nagpur plan of 1943\textsuperscript{37} for road development.

As mentioned earlier, England was the main market for the raw materials resources of India. Therefore, for the speedy exploitation of Indian resources, the Britishers developed a railway network in India. The raw materials were exported and the furnished products were imported and sold in Indian markets at high rates. For this dual benefit the Britishers gave top priority for the development of rail reticule in the region.

In brief, the transportation, within the region denotes its changing pattern, availability and forces working underneath. The present transport
network is the legacy of the past. After 1947 the government paid much attention to develop a better transport network. An integrated programme of road development began since 1951 with the commencement of the First Five Year Plan\textsuperscript{38}.

The following lines describes some of the government efforts:

(i) The roads have now penetrated into the inaccessible areas to utilize the regional raw materials.

(ii) The most significant road reticule is formed by the inter-regional roads which run almost parallel to the railways.

(iii) The bridge corporation has constructed a lot of bridges over the regional streams to connect the nodal points and facilitate the motor vehicles. Therefore, straight roads appear to have more traffic flow than the circular roads.

(iv) In free India several roads such of State, District, Municipal Board, village and feeder roads are constructed for the movement
of men and goods.

(v) Although the waterways is insignificant but hydroelectric is generated by the Matatila multi-purpose project which has bright chance for electrification of railays.

In Conclusion, it may be said that the region, belonging an agrarian and backward economy, maintains a poor transport system. For its industrial as well as integrated development, a sound transport policy should be made so as the chronic diseases of transportation would be suppressed.
REFERENCES


2. Singh, R.B. : "Transport Geography of Uttar Pradesh"


6. The History and culture of the Indian People, Vol. 1, The Vedic Age, PP. 248, 250 ; Ray Chaudhuri, H.C., Political History of Ancient India, (Sixth ed.P. 129 Footnote).


13. 'Kautilya's Arthashastra' Translated by R.Shamasatry; P. 60.


20. Pant, D. "Commercial policy of Mughals, 1930, P. 54
21. Gregory
"Story of Roads, PP. 273-74.

22. Kadri, A.H.
"Routes and The Transport System of the Great Mughals,
Indian Geographical Journal,
Vol. 22, 1947, P. 86.


30. District Gazetteer, Mirzapur, 1911, P. 76.


34. Thorner, Deniel

