CHAPTER - 6

URBAN TRANSPORTATION

Transportation is the heart of urban lives and the urban field, because only the transport connects and breaks the correlations between field and hearts. In other words this is the area of overlap between the two fields, which are closely related for many reasons\(^1\). Transport attempts a significant role in the location, growth, rank-size and functional differentiation of cities. In fact, it penetrates every facet of urban centres so much so that all the aspects of urban bodies can be easily prospected only by the transport-arteries. Besides this, transport plays a major role in urban-land-use and counts as one of the important functions\(^2\). The contribution of transportation can be seen into two heads, viz., (a) the transport plays an important role in the location, growth; rank-size and morphology of the urban centres and (b) it's patterns in various towns and morphology in the area under study.

Cities are well developed at focal or destinating points of transportation\(^3\). They
are concerned with the nodal points which possess the great attraction for the development of urban life. Nodality is disclosed as a converging point where existing routes meet out. These points have long-life, but not rather than the routes. Because trade leaves its old routes and the life blood of towns is discirculated and declined time to time and region to region.

The region furnishes well with the old and new, declined and flourishing towns. Among them Jhansi and Mauanipur on the one hand and Banda, Rajapur and Talbehat, on the other, may be cited as typical examples. Such urban centres declare the positive and negative impact of changing patterns of transport-system.

JHANSI:

Jhansi, one of the few walled cities of the State, is the biggest, eldest town of the region. Owing to its historical importance and physical relationship, it has endowed the favourable situation with focal nodality.

The town Jhansi lies on the road leading from Kanpur to Sagar about 1280 Kms from Calcutta, 1203 Kms from Bombay and 288 Kms from Lucknow. In the sixteenth century the site where Jhansi
is located was known as Balwant Nagar. It was only a small village till 1742 A.D. and after that wards Jhansi came into being of town\(^5\). Due to its reflective situation Jhansi was the trading and main distributing centre of the things for the other sections of the district as well as the region\(^6\). The development of town was banned during the first freedom struggle of 1857 and on April 4, 1858 it was occupied by the troops of the British which were stationed at Jhansi, was notified as a military cantonment in 1884. The city experienced a unique position in economic momentum and famed as a great emporium centre. Jhansi held the potential nodality, due to the advent of Central Railway in the middle of the 19th Century. The two National Highways (25 and 26 numbers) and other metalled roads converging at this town lead to Agra, Kanpur, Sagar, Shivpuri, Mauwanipur etc. So, its nodality was further more strengthened. It is also clear that the growth of any town is closely concerned with the growing steps of increasing nodality.

**BANDA:**

Banda an another example of a developing town with increasing nodality apart from the Original condition of the site and situation.
The town closely lies on the road from Fatehpur to Nowgong about 216 Kms from Lucknow. Other metalled roads lead to Allahabad in the east, Sagar in the south, Kanpur in the north-west, Panna in the south-west and Hamirpur in the north-west. It lies on the Banda-Kanpur and Manikpur-Jhansi lines of the Central Railway. In Mughal period it was a mere village but it grew up rapidly in prominence under the Britishers in the 19th century when they made it the headquarter of the eastern part of the region. It has remained an important trading, collecting and distributing Centre of the agricultural articles due to its central location. It covers a small area of 3.29 Sq.Kms and its view from the Bamdeo hill is picturesque.

The town gradually developed and a number of new localities grew up till the freedom struggle of 1857.

The main roads are metalled but streets and lanes are dusty, dirty and crude in nature.

Before the construction of the Jhansi-Manikpur section of the Indian Midland Railway
the trade of the town ran chiefly north and south; and to a lesser degree towards the east. Two important lines of communication, one from Nowgong, and the other from Kalinjar converged at Banda. The town developed as a great centre of cotton, gram, oil-seeds, mahua flowers, ghee, hides and bones, stones, fire-wood, bamboos and cattle. it also imported wheat, rice, salt, sugar, drugs and general merchandise.

The town has also a flourishing market for the sale of non-agricultural goods like cloth and general merchandise. The trade by rail was supplemented by the large road borne traffic, especially to the north, where traders from Bindki and other doab-town purchased local produces. Now the town has a unique nodality, because the metalled roads converge at this town from all sides.

MAURANIPUR:

Mauranipur is an another typical example of more developing town because of its favourable nodality. It lies at a distance of 63 kms from Jhansi city on the Jhansi-Nowgong road. By the road, it is well connected with Gursarai in the north, Tikamgarh in the south and Mahoba in the
east. Mau & Ranipur is one of the twin towns of Uttar Pradesh. Till the latter part of the eighteenth century the town was a small village. About 1816 it was plundered by the Pindaries and again suffered during the upheaval of 1857 at the hands of the Orchha troops and recalcitrant bands from Hamirpur. It was at that time the largest town in the district. It was constituted a municipality in combination with Ranipur in 1869 and in 1912 Ranipur was separated but the town has continued to be called Mau Ranipur. From beginning it was famous for trade and commerce. During the reign of Raghunath Rao Hari, Subedar of Jhansi, the merchants of Chhatarpur fled to Mau. Jains form an important community in the town, and are mostly traders. Mau is a large trading centre and its merchants and bankers are said to have had correspondents in Amraoti, Mirzapur, Nagpur, Indore, Farrukhabad, Hathras, Kalpi and Kanpur.7

The town Mau Ranipur was largest emporium during the reign of Britishers8. The second world war sustained its commerce and industries so the town was accelerated towards the cottage-industries.
It has a unique geographical situation. The river Sukhai flows between Mau and Ranipur towns. The well known railway station of Mauranipuries under the Jhansi-Manikpur section of the Central Railway. It is entirely dependent on the means of transport for its industry and commerce. It is virtually a industrial town and noted for the manufacture of Khadi, footwear, baskets and agricultural implements and has a considerable trade in agricultural produces, the imports being chiefly rice, sugar, salt, piece-goods and tobacco.

**RAJAPUR:**

Rajapur furnishes a unique example in the region, which is located on the right bank of Yamuna about 88 kms. away from Banda and 32 kms from Chitrakutdham, Karwi. In march of time the importance of converging routes decreased. The place was once one of the largest commercial markets of Bundelkhand specially for cotton and stone. A considerable volume of trade and traffic continued to find its way to doab by the overland routes and by boats to Allahabad, Mirzapur and Patna. Boats taking the pouring produce, chiefly consisting of transit goods such as grains other than wheat, oil and oil-seeds,
ghee, hides and bones, fire-wood, Mahua-flowr, cattle and timber was led to Allahabad, Mirzapur and returned with the goods chiefly of wheat, rice, salt and unrefined sugar. But the importance of water-transport declined considerably by the development of land transport. The modern highways have challenged the supremacy of that trade which till then had been caried by boats. Now the town has been facing hard to reshuffle its functional structure in the light of new transport arteries.

TALBEHAT :

Out of the numerous towns of the region, the town Talbehat maintains a typical example of flourishing set-up. It is located on the Jhansi-Sagar National Highway, away 49 Kms. from south of Jhansi and 40 kms from the Lalitpur in the Bundelkhand upland. Traditionally, this place was known as Jiriakhera and Talbehat situated on the lake, near the hill which be established by the Chandelas. It developed as the place famous for many cottage industries, such as basket-making, tanning, shoe-making and the manufacture of Persian Wheels. It is also known for its iron foundries. The development of the town during the struggle period of 1857, was breaked and the transportation
disturbed in a great extent. Now the town is well connected by the Central Railway with Jhansi in the north and Lalitpur in south as well as by road with Matatila in the north-west, Nathhikhera in the east and Jakhaura in the south-west. This railway line has revolutionised the whole trade and traffic pattern of the town. The cement, salt, iron, scrap, diesel oil etc. are the important commodities which are imported from Satna and Bombay and Tendu-leaes, timber, grams etc. are exported to Agra, Gwalior, Bina, New Delhi respectively. In brief the Talbehat is urged as for its developing steps.

Abstractly, in the origin and growth of the urban organism the transport plies a much and more contribution for its live long. In other words, the process of making urban-growth, concentration, centralisation or deconcentration or decentralisation is totally depends for operating on the transport channels. And now transportation with its all development has the intermixed relation to the urban activity patterns. For this relation Rannells stressed that both are cause and both effect\textsuperscript{10}. From time to time various concepts and theories came into being that give due emphasis on the role of transportation in every process of urban growth. Mr.
Hurd\textsuperscript{11} (1911) has pointed out the two typed growth viz. central and axial, the former takes place in the central place of the city while latter into outlying areas along transport-arteries. Burgess\textsuperscript{12} (1923) represented the concentric zone theory and ranked the city into five classic zones viz. central business district (C.B.D.), transitional, independent working men's homes, residences and commuters. These zones have born with a radial expansion from the centre area of the city. In 1939, the 'Wedge Sector Theory' of Homer Hoyt\textsuperscript{13} came into light. This theory reveals that the general spatial structure of cities belongs the character of sectors taking the form of wedges, develop from the C.B.D. centre along transport-routes. In case of growth of cities Mr. Wehrwein\textsuperscript{14} (1942) introduced a distinct theory as discusses that the unsystematic growth of the cities results 'commercial slums' in the umland area caused by the urban land uses radiating for the centre of a city. Ullman\textsuperscript{15} and Harris presented the 'multiple - Nuclei - Theory' which reveals the fact that within the city the land-use pattern is focussed around various distinct centres. The nuclei centres of the cities are the result of the historical importance of that urban land and in affection they are strong.
From the above description it is evident that the growth of every town takes the steps along the transport arteries. If the improved route is singly connected, the growing pattern of town will be like linear, but in growing number of converging routes it will be different or some-what star-shapped. The growth with the vitality of any town totally depends not only on its internal resources but also on its capacity to survive the wide area surrounding it. Towns, not suddenly and themselves grow up but they are urged by countrysides to do, that must be performed in Central places. The towns in order exploit and utilize the urban land for their strength of by the means of transport. Truely, the category of existing modes of transportation determines the rank-size of towns. The hierarchy of towns adopts the growing number of converging or diverging routes. The rank-size of cities have been accounted in hierarchical order by bus services and the number of diverging routes by Green, Seven Godlund, Carruthurs, Ullman and others. The towns of Jhansi Division may also be classified in the same way. Jhansi, Banda, Mauranipur and Lalitpur etc. having greater number of diverging routes and greater amount
of traffic flow from all sides are the important towns of region. The transport system with the characteristics of topography greatly influence the morphology of the towns. The role of transport in functional variation of the city can be visualized through the lense of comparative study of distinct land use patterns with the degree of accessibility within the urban land in relation to the C.B.D. providing the central position in the city holding the higher accessibility with highest land-values. For the support, Jhansi city can be quoted in the region. Around its C.B.D. (Manik Chowk) maximum accessibility examined. Except this, the uses of land are competitively set around the centres to their ability because C.B.D. is ranked as the central place of the hierarchy of business.

Transport plays an important role in the internal structure of the towns. It is recognised that the transportation reflects not only the extent, size and character of the city, but it facilitates the constitution of the most important different land use and functional patterns and produces other functional categories around nuclei within urban area. The functional
study of urban complex incudes all those features of cultural setting which affect the most to the economic value of that city. Classification and mapping of land uses, building types, industry and commerce, density and occupational structure of the population and density of traffic flow on roads and also at nodal centres\textsuperscript{23}, communally form the frame of a city. All these factors which mould the morphology of the city should be considered that of circulation which is as the traffic of its roads and places as well as daily and hourly occurrence of activities\textsuperscript{24}.

THE URBAN TRANSPORT PATTERN AND PROBLEMS

So far as the nature and character of transport are concerned with several types of traffic pattern, have discussed by the scholars. It is, therefore, impossible to elaborate of all features of urban transport within the present scope of project, because the transport pattern varies from town to town and city to city.

For the convenience as well as the importance of urban field-study the Jhansi city is illustrated, chiefly in relation to its morphology and functions, to arrive at certain generalities.
JHANSI:

It is the oldest city of this region as well as the State which is situated in the west of the Bundelkhand Gneissic plateau (Lat. 25° 27' and Long. 78° 35' E).

ROAD PATTERN:

Having the great attraction of trade and commerce, freely passage of transportation and communication is uneven in the city. But having neat and cleaned, hard and stable surface and historic importance, this place represents the great view for Indian and the others. With the facilities of all types of service centres the people clustered to the spacious land of the city. There are many short and long routes within the city which tap and sap its economic development. The main regional roads pertaining to radial pattern, bounded by the successive spreads of the city are Jhansi-Kanpur, Jhansi-Gwalior, Jhansi-Shivpuri, Jhansi-Sagar and Jhansi-Mirzapur. Within the city the local roads are about 27, but the Khanderao-Gate-Manik Chowk-Subhash Ganj-Rani Mahal-Minerva road is the most congested which follows the two roads viz., Elite-Khanderao Gate and Chitra-Commissionary-Khanderao Gate Road respectively. These roads
are interested by several transverse and diagonal roads, the important among them being Elite-Bundelkhand Degree College, Elite-Allahabad Bank Crossing-Cantonment, Allahabad Bank-crossing-Station, Natraj-Ashok Hotel-Station and Sabji Mandi-Baragaon Gate Roads. The overall pattern of roads seems like radial and cobweb.

TRAFFIC FLOW:

There are four important nodal points lying on the eastern northern, north-west and western sides of periphery of the city named as Jhokanbag, Manik-Chowk, B.K.D. and the Chitra. Besides the above nodal centres Allahabad Bank crossing in the south and Jhansi station in the west are other nodes of relatively minor importance. The traffic flowing to and from those nodes converges at Elite and Kachehri crossing (Fig. 6.1A); the latter being important for mixed traffic through Jhokanbag crossing.

Within the city the most important routes for traffic flow are : (1) Khanderao Gate-Manik Chowk-Subhash Ganj-Rani Mahal-Minarva, (ii) Elite Kachehri - Jhokanbag-Bus Stand, (iii) Elite-Chitra-Sipari, (iv) Elite Bundelkhand

* Based on the departmental traffic surveying report on 12 hours.
Degree College-Polytechnique College, (v) Elite-Allahabad Bank-Jail, (vi) Elite-Khande Rao Gate, (vii) Kachehari crossing Sagar Gate and (viii) The Lakshmi-Datia Gate road. The peripheral Khande Rao - B.K.D.- Commissionary-Chitra road is also significant. The whole city covers the mixed category of traffic flow on overall roads. Automobiles such as two-seaters and taxies predominate within the city. It is surprising that the town as a whole furnishes with the lackness of Rickshaws, mainly because of uneaven surface. Jhansi Station, Sipri-Chowk-Bazar and Kanpur Bus Stand roads concentrate the trafic of Ekka-Tonga, Bullock carts especially. Bicycles minorly run only for lessened purpose.

From the above noted features of traffic it is indicated that the correlation between the nature of traffic and the separated functional areas is totally reflected by the significant role of transportation which unfolds the internal structure of the city; the essence of which is the geographical specialisation and the functional set up of urban community. The relation and importance of landuse patterns with high valued sites in terms of accessibility is well
noted by Mr. W.L. Garrison. He remarks- "The Central Business District provides the most central location in the city, a point of maximum accessibility with the highest land-values. Urban retail business are also to pay the highest rent for sites which possess accessibility to the largest segments of the urban region. They take possession of these sites and other land-uses are arranged around them according to their ability to bid competitively for the land. Thus an orderly pattern of land use results in which sites are occupied not merely by the activity which can pay most but also by the activity which can pay most but also by the activity which receives the greatest advantage in terms of accessibility. Considering this way the retail business centres forming the Manik Chowk Central Business District in the north of the city, lie on Bara Bazar-Gandhi Gar-Tapara, Kotwali, Motor Stand and Saiyar Gate Road, where Two-seaters and cycles predominate and every shop is accessible to these wheeled vehicles of highest flexibility, but near Manik chowk the traffic is braked due to narrow routes and highly traffic flow. The whole scale business centres as Subhash Ganj Ki Galla Mandi and Sabzi Mandi have arranged near Risala-Chungi Chauki
on Kanpur route, where exist the slow moving and heavy load carrying conveyances. Between the Manik Chowk C.B.D. Centre and Civil Line Administrative Zone the Saiyar Gate-Jhokanbag-Kachehari-Jail Road predominated. The Vaidyanath Ayurved Bhawan and Katai Mill, large industries have established on Jhansi-Gwalior Road which is the artery of intercity transport. Near Antia Tal the mini industrial belt on Khanderao Gate-B.K.D. - Chitra Road set-up well. The big blank patches near cantonment north of fort and along railway in Sipari are settled as Nai Basi where the narrow lanes are frequented. Beyond the Central Business District there are some sub-centres and neighbourhood groups located along traffic arteries, but rarely down the intersecting streets and business nucleations.

In brief, the overwhelming importance of Two-seaters and Taxies is limited to the intracity movements, and on the other hand Buses, Trucks and 'Others', play a greater role in maintaining the external-relations of the city.

**TRAFFIC DENSITY WITH TRANSPORT BOTTLENECKS**

The traffic density has been seen into
two views, viz., intercity and intracity density in relation to road-width on all important roads of the city. Taking the 300-400 vehicles, as the mean it is obvious that in general, the heart of the city around Elite has above average density. The Khanderao-Manik Chowk-Subhash Ganj-Rani Mahal-Minerva Road leads the highest traffic density of over 700 vehicles respectively. There are local disparities depending upon the combination of the two variables; the density and the width particularly the latter. Because, the narrow width, and especially a sudden construction of width in particular localities creates acute traffic problem accentuated by the co-existence of different kinds of traffic and carelessness of the communities. The inter-city traffic-density accentuates that the pressure of 558 vehicles is existed on Jhansi-Banda, 496 vehicles on Jhansi-Lalitpur, 379 vehicles on Jhansi-Gwalior, 285 vehicles on Jhansi-Kanpur and 190 vehicles on Jhansi-Shivpuri road.* The various functional zones of the city are dependent upon free and smooth flow of traffic. The traffic bottlenecks depicted in fig. 6.1 B are also the centres of particular attention. The Lakshmi-Datia Gate is the narrowest roads where the

* The data are based on the departmental Traffic Surveying Report on 12 hours.
traffic density of 300 vehicles is found. Similar conditions exist in the Shivpuri-Nandanpura, Sipari-Chamanganj, Nanakaganj- Arya Kanya Degree College and Saiyar Gate Roads. Taking the width of the Elite-Chitra road as the standard for the average traffic density, the Elite-Khanderao Gate, Elite Bundelkhand Degree College, Elite-Natraj-Station and Chitra-Commissionary roads can easily be counted in such zones.

TRANSPORT PROBLEMS

The town Jhansi having the unique characteristics and transport problems represents the general case of all the towns of region.

The road width, bottlenecks, insufficient foot-path, co-existence of traffic, lack of parking land and alertless mind of hawkers and vendors, unlawfully occupying parts of streets, traffic noise and atmospheric pollution are the factors which constantly produce a chance for road-accidents in the cities. It is evident that the increasing complexity of vehicles produces the problems being associated with the accumulation of all functions along an inter-regional road. The same road works in two faces one as a intercity
artery and the other as a venue of internal business activities resulting in over crowding of the streets that blocks up the free flow intercity traffic. The increasing vehicles in a complex add to this problem. The older forms of vehicles being displaced to lower order centres. With the existence of Two-seaters and Taxies the horse drawn carriages viz., Tonga, Ekka etc. started to be migrated from the city and take the refuge in countrysides or small centres.

Brightly, the town Jhansi has got a sufficiently wide and smooth National Highways along which its traffic flow mostly balanced. These roads bear the highest incidence of traffic in the region. In brief, the morphology and other site characteristics play a major role in determining the nature of transport problems of the towns.
REFERENCES

8. Ibid, 161.


