CHAPTER - I

1.1 Introduction

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1.1 Introduction

Transport system is broadly considered as the artery and nerves covering the entire economy of the country. A well-developed transport system always helps in the movement of men and materials from one place to another.\(^1\) In India we have a multi-tier transport system, i.e., Railways, Roadways, Waterways, Airways, Pipelines, Ropeways etc. With the help of such a huge network of transport system different regions of the entire country (economy) remain well connected. Economic, administrative, social, cultural, political and all other activities of the country depend largely upon its transport system.\(^2\)

Transport is a fundamental component of all modern economics. It is a vital stage in many productive activities both in terms of bringing together factors of production and in the distribution of products to markets. It provides a wide range of employment opportunities, access to social and recreational activities. Specialized sectors like tourism depend on transport. Transport does not refer only to mobility. Accessibility is also implied in transport. Accessibility to new untapped areas is crucial to economic development.

In a vast country like India an efficient transport system is the pre-requisite for attaining a higher (sound), level of economic development. The observation in the Fifth Plan document, candid and relevant is revealing that, "the transport system provides the essential infrastructure for the development of the country. While the demand for expansion of transport generally derives from the needs of the other sectors of the economy, to an extent, the transport sector also acts as a leading factor in stimulating socio-economic development."\(^3\) Development programmes of the economy largely depend on an efficient, well-organized and expanded system of transport and communication.\(^4\) Therefore, for the development of any region certain infrastructure has to be developed and some much-needed facilities (bare minimum) should be injected. ‘Transport’ undoubtedly is an indispensable part of the developmental infrastructure in this modern age. This is in congruence with the views of economists Fair and Williams according to whom “Important developments in civilizations have taken place only where the transportation systems have been harnessed for this greater impact”.
The transport system helps to broaden the market for goods and by doing so it makes possible large-scale production through division of labour. It is also essential for the movement of raw materials, fuel, machinery etc., to the places of production. The more extensive and continuous the production in any branch of activity, the greater will be the need for transport facilities. Transport development helps to open up remote regions and resources for production. Regions may have abundant agricultural, forest and mineral resources but they cannot be developed if they continue to be remote and inaccessible. By linking the backward regions with the relatively more advanced, transport development helps in the better and fuller utilization of resources. Thus, expansion of transport facilities, in turn, helps industrialization directly. The demand for locomotives, motor vehicles, ships etc. leads to the start of industries, which specialize in the production of these goods. Expansion of transport is thus of fundamental importance for a developing country like India. Therefore, it clearly expounds that if agriculture and industry are regarded as the skeleton of the body of the Indian economy, transport and communications constitute its nerves, which help in the circulation of men and materials.  

Since the dawn of the industrialization in the world, movement of men and material have gained ever increasing momentum. The increase in the production of goods as a result of industrial revolution compelled the people to look for new markets and prospective customers beyond their territorial limits for the consumption of the produce. With this movement also began various other outings such as for colonization, studies and various exchanges. With the development of transportation the dependence of a particular place on another place started to increase thereby making these places come closer leading to a cultural fusion and generating new philosophies regarding regionalism and nationalism, ruralism and urbanism, and individualism and socialism.

The role, played by Railways in librating and liberating the motherland is the convincing proof of the above stated. It fuelled new thoughts and injected more energy to the skeleton of the society. The struggle for freedom, the ultimate and won battle, coerced the Indian to think of India as a nation rather than mere petty regions.
The interdependence of regions led to co-operation at various levels and in various fields. Thus, it gave rise to a complex world economy where many organs had to function as a unit but the bottlenecks in the form of distance, time, natural and geographical barriers etc. had to be overcome by evolution of suitable means of transportation. The impact of transportation can be felt in all spheres from politics to economics and culture to education and even communications.

The evolution of transportation has its own history. It starts from the time when man used to carry home whatever he could gather for food. He later on used animals for these tedious jobs and we can find references of huge caravans of upto 60,000 camels in old Arab history. The invention of raft and the wheel by the early man evolved himself as the master conqueror of both water and land and his desire for pace made him invent carts, bicycles, engines, motors and he also gave wings to his thoughts with aircrafts and rockets as the result. Even a journey to outer space is neither a dream nor a taboo now.

The growth of transportation has fuelled economic development round the globe. It can appropriately be summed up in the words of the great neo-classical economist Marshall that "Modern civilization is the child of modern means of transport."

In the context of the modern world, transportation assumes a still greater significance. It is predominantly responsible for making the produce reach the consumers that too round the globe and at competitive prices. With large-scale production of goods under a single roof, it is necessary to transport it to places where it is in demand. The efficient use of natural resources for a better life has to be tapped with proper transportation of the by-products obtained from these sources. The problem of equal distribution is necessarily addressed by efficient and fast and competent means of transport. It is a great contributor to the stabilization and equality of prices as competitors from world over can transport their products to the place of demand giving a distinct advantage to the customer and mainly one, that is to choose from.

Shri S. N. Sharma, author of the book *History of the Great Indian Peninsular Railway (1870-1900)* has found evidence wherein he states that the cost of salt in
the last quarter of the 19th century doubled with every 150 Km farther from the production centres of Gujrut till Railways came to the rescue which ensured supply of salt to every corner of the Indian land mass at almost the same prices everywhere.

The quantity of goods consumed also increases by this effect. The mobility of labour adds the advantage of industries being shifted to outskirts and to places where raw material is in abundance and labour is scanty. The inspirations for an industry are raw materials, labour, capital and market. These, when co-ordinated by transportation lead to localization of industries, an important phenomenon for industrial growth. Agriculture and industry draw heavily from transport. It may thus be concluded that the economic significance of the transport underlines the modern developments – social, cultural, political and others.

Transportation is no small task. Organizing and physically moving goods requires considerable resources. An efficient transport system uses a minimum of resources. Labour, capital and material inputs such a fuel, tyres, roads, railway tracks, ports etc are devoted to transport tasks. The crux of an efficient transport system lies in reliably shifting goods at the lowest possible costs to society.

The following points as taken from the World Bank’s report on transport (infrastructure) in India clearly depicts the purpose of this study and also underlines the need for this study as Bundelkhand region is one of the most economically backward regions of the country and transportation of the modern era has not been able to show its much renowned impact.

1. India faces an enormous challenge in reducing poverty, with more people living on less than a dollar a day than any other country in the world. It is widely accepted that faster economic growth is essential for India to accelerate poverty reduction.  
2. Progress over the last decade has been good. Beginning in 1991, India’s economic reforms have triggered an unprecedented growth of GDP by 6-6.5 percent a year over the last ten years and is targetted for a 7.4% percent growth in the coming decade. But India’s transport system - especially surface transport - has serious deficiencies; its services are, by international standards highly inefficient. With the sector being so central to the effective operation of the economy, poor transport has become a major drag on economic growth.  
3. How can India improve its transport services and infrastructure to facilitate faster economic growth and reduce poverty? Within India, infrastructure capacity constraints are widely acclaimed to be the main reason for the poor services of much of the main transport system. But the problem is more complicated.
Primarily this impact can be analyzed on the basis of its **social**, **economic** and **political** significance.

**Social significance:**
1. Raising the standard of living of the people affected.
2. Knitting of the social and cultural fibers into the new yarn of civilization.
3. Growth of trade and the well-known social impacts thereupon.
4. Abolition of the social barriers of distinction like caste, creed and colour.
5. Equitable distribution of population and evolution of urban centres.
7. Reduction in crime.

**Economic significance:**
1. Promotion of economic production.
2. Evolution of 'specialization' according to the theory of comparative costs.
3. Promoting large-scale production.
4. Optimum usage of natural resources.
5. Equitable distribution of produce.
7. Consumption of various products on choice.
8. Mobility of labour.
10. Opening up remote and inaccessible regions.
11. Localization of industries.
12. Urban growth and development.
13. Profitable agriculture.

**Political significance:**
1. Guarding the borders of the nation.
2. Initiating political awakening, which is a harbinger of growth and development and ensures the securing of the rights.
3. Ensuring internal peace law and order.
4. Increase in the Government's collection in the form of fares & various taxes.
5. Helps to bring forth national unity.
6. Ensuring efficient administration.
7. Negative impact on communalism.

It is worth mentioning that just like sociology, economics & politics are interdependent in their effects upon the civilization so is also the effect of transportation upon the social, economic and political aspects of the country. From the above points it is clear that the purpose of this study is to highlight the present role of the transport system in the development of the backward regions with special reference to the Bundelkhand, which is rated very low on the
economic development index. Bundelkhand as a region exists in two parts. The UP part of Bundelkhand and the MP part of Bundelkhand but in both the cases whether the Bundelkhand of UP or MP the neglect and under-development are of the same level. Bundelkhand region of both the states have suffered a loss which cannot be given in terms of quantity but can be understood with heart bleeding pain due to the absence of proper transport facilities which has thus tolled on the social, economic & political development of Bundelkhand. Railways as a means of transport has its socio-economic effects on the development of this region and despite Railway lines been laid for more than century the region but lacks development. The study also aims to explore the role of Railways through Railroad cooperation with the sole intention to provide total transport solutions (infrastructure) and ensure economic and thereby social development to an agreeable / respectable Human Development Index level.

It is distinctively noteworthy that Railways have left an indelible mark in the economic scenario of any region where it had been laid as far as development of a region is concerned. Specially, in a developing country like India, where, Railways have proved to be the peoples choice for the transportation and being yard stick of development of the region and is thus directly proportional to Railway network penetration in that Region. Regions, which have not had the privilege of being served by the Railways, somehow, have failed to catch pace with development.

This clearly reflects in the under-development of the otherwise resourcefully affluent “Central Heartland of India”, the Bundelkhand region which spreads across 70000 square kilometers of this ‘still to develop’ Indian land -mass. Though it is much more in area than Punjab or Haryana or Himachal Pradesh but ranks at the bottom of the Human Development Index.

Candidly speaking, Bundelkhand Region as such does not have its existence in polity or on the political map of India, except for the fact, that, it had been the Kingdom of the ancient Kings of Central India. But as on date it does not have the privilege of being a state of the Indian Union and on the other hand comprises of 07 major and complete districts of Uttar Pradesh viz. Jhansi, Lalitpur, Mahoba, Banda, Hamirpur, Jalaun and Chitrakoot districts and 06 of Madhya Pradesh viz.
Panna, Chattarpur, Tikamgarh, Datia, Sagar and Damoh (total 13 districts), besides partial areas of certain surrounding districts of Madhya Pradesh.

All though the few major districts as scantily served by the Railways (that too because of it falling on the main North-South route via Central India) but the penetration required for growth and development is lacking. Coupled with this is the poor spate of the so-called ‘Complementary’ Road transportation which may not even be called ‘Perennial’ in some regions. As far as Air transportation is concerned in Bundelkhand the only airport is at Khajuraho, which is a tourist destination and is reserved for the same with flights from nearby Agra, Varanasi and Bhopal cities alone. Inland water ways establishments are as good as ‘Zero’ because despite of being privileged with 11 rivers in this region, when even drinking water and water for irrigation are hunted for, then, needless to mention conveyance.

The web of 11 national / state highways and 17000 kilometers of roads complimented with several state highways in Bundelkhand severely lack to provide total transport solution, unlike Kerala state where during the course of time road transportation has developed, and developed the state, so much that today it is the lifeline of Kerala state and Railway transportation is resorted to only for movement out of the state to far off states and on the other hand water ways which had upon one time been the highways still do partake a good credit of growth brought about. Same is the case with Andhra Pradesh and to some extent with Tamil Nadu and Karnataka states also. With lots of room for improvement and still to energise the economy as isolated regions on date do exist in a majority with the nearest tarred (metalled) road being more than 15 miles far. Though in case of pipelines for transportation of crude oil, it has been pioneered for the first time in Bina a tehsil in Sagar district where a project is under implementation for setting up a refinery to cater to the needs of the region, with direct pipe lines from the middle-east country making entry from the sea to the Indian land mass from Gujrat state.
References


2. Ibid.


7. Ibid.

8. Ibid.
1.2 Schematic pattern of the study

The study will progress in four main chapters and will include the study of impact of transportation based on the exploration on following lines.

- Area of landmass and physical features (resources).
- Study of the population, development and the various socio-economic aspects thereof.
- Political divisions and status.
- Agriculture.
- Industries.
- Tourism.
- Penetration, conditions and prospects of Railways and its development.
- Penetration, conditions and prospects of other supplementary transportation.
- Impact of hypothesis and 'what if' analysis.

Chapter two discusses the data collected from the various sources about the area under the study i.e. Bundelkhand in its historical and current status on the various maps of the country. This chapter depicts transportation scenario in Bundelkhand. In general, role of the Railways, its history and current developments and the latest what is happening in the world of Railway transportation will also be discussed. The chapter also defines the role played by Railways in the socio-economic development of Bundelkhand region.

In the third chapter, Railway Pentagon of development-1 (P-1) is proposed in detail and the importance and viability of the P-1 is studied on the above-mentioned lines. It concludes with the analysis of impact and the importance of P-1 in the socio-economic development of the Bundelkhand regions served.

In congruence with the third chapter, Railway Pentagon of development-2 (P-2) is proposed in detail in chapter four. The importance and viability of the P-2 is studied on the above-mentioned lines. It concludes with the analysis of impact and importance of P-2 in the socio-economic development of the Bundelkhand region served.
Chapter five is the most important chapter as it studies the impact of Railway transportation over the existing, would be and should be Railway links / routes on the development of the region in question as a whole. P-1 & P-2 are superimposed on the map of Bundelkhand as pentagons of development and its impact will be studied upon the social, economic & socio-economic development of Bundelkhand region served by P-1 & P-2. As Augburn does a good summing-up by stating that "Transport is infact yardstick for measuring the economic, social and commercial development and unites the entire world into one quintessential organized unit", so does this study through the use of computer-aided analysis leads the way through in the establishment of the hypothesis and thereby concluding in favour of the hypothesis.
1.3 Laying/sketching/proposing the Railway pentagons of developments

It is proposed that there will be chain reaction up on the completion of the Railway Pentagons mentioned below in the developmental cycle of this region. Even though the impact cannot be studied in a single lifetime. But examples of the past clearly shows that the changes on the face of the landscape are very rapid and none can deny that there would be development even though we do not have a tangible scale to measure such a positive impact. These pentagons are two in numbers and are as follows along with existing, proposed and should be proposed lines.

<table>
<thead>
<tr>
<th>Rail Pentagon of Development - I</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SN</strong></td>
<td><strong>Railway line from → to</strong></td>
</tr>
<tr>
<td>1</td>
<td>Lalitpur to Panna via Tikamgarh, Chhatarpur &amp; Khajuraho</td>
</tr>
<tr>
<td>2</td>
<td>Panna to Damoh</td>
</tr>
<tr>
<td>3</td>
<td>Damoh to Sagar</td>
</tr>
<tr>
<td>4</td>
<td>Sagar to Bina</td>
</tr>
<tr>
<td>5</td>
<td>Bina to Lalitpur</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rail Pentagon of Development - II</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>SN</strong></td>
<td><strong>Railway line from → to</strong></td>
</tr>
<tr>
<td>1</td>
<td>Lalitpur to Khajuraho via Tikamgarh &amp; Chhatarpur</td>
</tr>
<tr>
<td>2</td>
<td>Khajuraho to Banda (Khairar) via Mahoba</td>
</tr>
<tr>
<td>(i)</td>
<td>Khajuraho to Mahoba</td>
</tr>
<tr>
<td>(ii)</td>
<td>Mahoba to Banda (Khairar)</td>
</tr>
<tr>
<td>3</td>
<td>Banda (Khairar) - Kanpur via Hamirpur</td>
</tr>
<tr>
<td>4</td>
<td>Kanpur to Jhansi via Jalaun</td>
</tr>
<tr>
<td>5</td>
<td>Jhansi to Lalitpur</td>
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</tbody>
</table>

For the first time the district headquarters of Tikamgarh, Chhatarpur & Panna will be coming on the Railway map of the country. With this all the districts of Bundelkhand under the study will be having railheads. Tikamgarh, Chhatarpur & Panna districts are very rich in resources, but in absence of railway lines and railheads at district headquarters, the development process has not bloomed to the full and a very high loss has already been caused. This will help the Bundelkhand region cursed with poverty & backwardness and all the problems, which come gratis with these to catch the train leading to the positive development destination. This will have a chain reaction in the development process and the development will be manifolds like the nuclear chain reaction, which keeps on emitting the much required energy & resource for growth and development.
Honestly speaking, many of the impacts of such a very crucial development process cannot be even thought off. This can be explained with the help of an example that no brain had ever computed the potentials of development of information technology or that such a heavy amount of employment would be generated on account of computerization but it is very clear on date and the boom is being experienced still and will continue in the years to come. Coupled with the developments and researches in the field of information technology, then came in a concept of convergence & I.C.E combination, that is to say information, communication and education / entertainment on the same bandwidth. No body in the seventies had ever thought of such terms and technologies and their so vital amalgamation into one.

The above-tabulated pentagons have been diagramatically depicted in dark lines on the map of Bundelkhand alongside and broadly consists of three types of Railway lines. These are termed as the Existing lines, Would Be Lines, and Should be Lines. Meaning thereby that this includes those lines, which already exist on the face of the land, there are lines, which are on anvil and the projects are under implementation and the should be line is the line which should be proposed in view of the accelerated effect on the development of this region. This should be line is very crucial as the full impact of the on anvil Railway line can only be seen if the should be line is proposed, sanctioned and implemented without which the projected impacts will be reduced.

Even if a railway line is passing in the region but if trains don't stop on the station then the impact of the line is minimal or if the timings of the trains do not suit commuter needs then the Railways services will not be used or if there are no sidings on the business centers, then development of import and export is still not possible. The impact is also reduced very much if proper supplementary road / road transportation is not available from the station. So we see that there are lots of factors, which influence the development of a region and not merely the laying of the Railway lines. Similarly, without the should-be-proposed line i.e. the Panna-Damoh line, it is like studying the impact of a waterway, which is not perennial. Another important fact is that with Kanpur in the vicinity of Bundelkhand Region being developed into an “Special Economic Zone” and is also called rightly as the “Manchester of India” for many a reasons. There is lot/
of potential for the Bundelkhand region to progress if at all vicinity to such an SEZ would be made use of.

Therefore, this study is very important and in due course of the study perhaps towards its completion prospects of many new Railway links / lines have been discussed which will become very essential in the very near future because in the changed social-economic scenario all calculations will have to be re-done by transport economics. For example the Singrauli-Lalitpur project (part of which Satna to Lalitpur will be laid in Bundelkhand) will have to connect Lalitpur to Ashoknagar in near future because all trains to Lalitpur have to go to Gujrat through Ashoknagar via Bina. But one thing, which can be agreed to without any reserves, is that economic development of this region is in fact the need for the hour.

The development of this region is less highlighted or talked about. All the districts (the major and complete) i.e. Jhansi, Lalitpur, Mahoba, Banda, Hamirpur, Jalaun and Chitrakoot districts (U.P.) and Panna, Chattarpur, Tikamgarh, Datia, Sagar and Damoh (M.P.) do have but a very insufficient interconnection either through road or through Railways. This is of paramount importance as far as the provision of developmental infrastructure is concerned. The study aims to explore the existing levels of development and the possibilities of future enhancements and the impact of this on the economy of the region thereupon.

These need to be well connected with the Railways and if done so fast track development is sure to be witnessed. Proper utilization of immeasurable resources, which can fall back on the nervous system of Railways for transportation to anywhere, can do wonders in the economic development of this region, thus, also providing revenue as well as employment (unemployment being one socio-economic impact of under development). Another avenue being the intimate reciprocative development of the consumer regions and vice versa.

The permanency of the laid down Rail-network proves it to be most cost-effective and most valuable transport means, which is the harbinger of the prosperity of the region but all this has to be done in a proper planned way.
1.4 Research Methodology

The subject of ‘Statistical Methods’ is a very interesting subject the importance of this subject in any economic study is non-parel. The reason being the tremendous powers it has to turn false into truth and vice versa but if used for the a good purpose such a subject can work wonders in elucidating certain aspects which may not even be thought fit to study otherwise.

The same is in this case the mere participation of the Bundelkhand region population wise in the country is 1.54% and area wise is 2.16% of land mass (data of major and complete districts only). This itself is the reason why this region should be developed and be at par with others, leave alone for a moment the means and modes for the development.

All the above was to state that the research methodology involved work upon data collected and then to analyze it in such a way that it uses the scientific statistical methods to prove the propounded hypothesis. The methods involved for sure needs to be scientific as then alone can the actual picture be elucidated and the till now existing complexion be hopefully reversed.

This study will be based on the secondary data. Regarding this data, information will be collected from the official records of the organization involved viz. the Railways and the other transport organizations of the region eg. from annual reports, journals, reviews, various reports of the government and non-governmental organizations working over developmental issues in the region. Various journals, magazines such as economic reviews and surveys made by experts regarding the topic will be used. Published and un-published research work both in the regions falling in the states of MP and UP of the Bundelkhand will also be of importance. Other sources of information include seminars and conferences on developmental issues of the region, which will prove to be an important source of information. Comparative study of other regions facing similar situation and having more or less the same ranking on development index will also be taken into consideration.
Statistical tools and techniques will be used in data analysis. The sources of data are many and varied. They are in the form of published text i.e. Books on the region, studies on the regions, reports of the various sources about the region and otherwise eg. Census Report for 2001 etc.

The study will mainly involve secondary data which is to be collected from all available known sources for example libraries, currently published data in newspapers, news updates on internet and personal interviews on people already involved in some or the kind for the development of the region besides the many studies conducted on this region.

A very important part of the study involves the Railways for which data is collected at various levels i.e. published data at divisional and head quarters level as well as specific data from the Railway stations and their counterparts i.e. the customers eg. the factories, and projects which the Railways serve in this region. A suitable questionnaire for the purpose is vital for collecting refined data. Another tool is undoubtedly the personal computer which does the calculations and predicts results of ‘What if analysis’ also.