Chapter II

REVIEW OF LITERATURE
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Transport is an important constituent of infrastructure for economic growth. There are different modes of transport, viz. rail, road, water and air transport. These modes of transport are both competitive and complimentary to each other and hence, the problems are varied in nature. Each mode of transport provides wide scope for research study in selected areas. Although, tremendous amount of research work has been done in road transport system, the type of and nature of research works done on Indian railways do not cover distinctly the various aspects of railways transport.

The Indian Railway system consists by far the most, largest industry in the economy. In the magnitude of it’s capital and the number of its personnel, it is unsurpassed. As the national highway, it’s influence on all industrial and commercial activities is enormous.

The literature available on railway economics is meagre. The research on railway economics has not been keeping pace with the development of railway problems in India. There are many areas, which need to be seriously investigated.
Since, the present study focuses on industrial development and railway transport, an attempt has been made to cover related research work done on industrial development and transportation with particular reference to railway transport. For better comprehension, studies conducted abroad in related areas of transportation have also been reviewed. The research work and available literature on Indian railways reflect history of Indian Railways, freight rates and finance, planning and Rail-road co-ordination.

The history of Indian roadways is one of the branches of literature on Indian railways where, sufficient literary work has been done. Many books were written by the English authors during 19th century on Indian railways. Mr Horace Bell,¹ a consulting engineer to the government of India wrote a book on policy adopted in managing the railways in India in 1894. The book presents a complete picture of early development of the railways net-work in India right from the stages of consideration in the constructions.

George Huddleton², is another early writer, who presented the historical aspects of railways expansion in India, in the first part of his book "History of the East India Railways". It describes the progress of Indian railways right from the formation till 1906.

"History³ of Indian Railways" and "Indian Railways one hundred years" published by the Government of India, gives a complete narrative
picture of railways events in chronological order to provide information on what happened from year to year to the railway network.

Dr H. M. Jagtiani’s highlights the role that the state has to play in the development railways in his book, "The role of state in the provision railways" the book was written by the research scholar for higher degree in the University of London.

Chandrika Prasad Tiwari deals with the question of state vs company management, which has been occupying the public mind in India for more than generation in his book "The Indian Railways: Their Historical, economical and administrative aspects. He concludes that government administration is better than company administration and therefore railways must be brought under the control of the people.

N. B. Mehta, in his book "Indian Railways-Rates and Regulations investigates into the rate policy pursued by the railways in India, and the power of the government to control it. His conclusions are based on an exhaustive exercise of investigation, that the state had preponderant financial state in the railways and therefore, more rigorous policy of the state control should be initiated and calls for the institution Advisory Commission, the book is the outcome of Ph. D. thesis submitted to London School of Economics and Political Science.
S.C. Ghosh put efforts to highlight the correlation between the rates charged by the Indian railways to the trade in the conveyance of merchandise with the development of trade and resources of the country, in his treatise "India Railways and Trade".

K. C. Srinivasan in his work "The law and theory of Railway freight rates" presented a comprehensive history and interpretation of railway freight rates in India. He favoured a national rate policy, which would ensure the fixation of such rates, which would promote the natural and proper development of the country as a whole.

K. K. Saxena elaborated the major events since independence and enquired into the factors responsible for the success and failure of the Indian railways, in his book "Indian Railways: Problems and prospects".

S. K. Srivastava, in his book entitled "Economics of transport", deals with the significance of transportation in general, and covers various aspects of railway transportation in India. An attempt has been made to describe the historical development of railways in India, railway expenditure, competition, railways in foreign country, rates and fares in India, and the problems of Indian railways.

K. P. Bhatnagar in his book "Transport in modern India" deals with significance of transport, theories of railway rates and fares, Indian railways in 19th and 20th century administration of Indian railways. The
impact of railways on Indian economy and selected problems of railways in India.

"Transport Economics" written by J. K. Jain makes an attempt to discuss elaborately meaning and significance of transportation, development of Indian railways before and after 1950's, problems of railways in India, railway finance, administration and control of Indian railways and regulation of rates and fares.

"Rural Transport and Economic Development" by K. C. Tripathy makes an assessment of the relationship of transport development with the economic development in rural areas and comparative role which each mode of transport is required to play in the passenger and goods traffic in rural areas.

M. A. Rao's book "Indian Railways" gives birds eye view of the Indian Railways. The book highlights the importance of railways as a vast undertaking and mentions that millions of people directly or indirectly depend upon the railways for their livelihood.

K. V. Iyer in his book "Indian Railways gives main facts about Indian railways in a simple and lucid way for general readers.

S. K. Choudhary's book "Lectures on Transport" deals with the economic significance of different means of transport. It explains how
transportation influences the various tracts of society by carrying different ideas people and conquering the distances.

"Economics of Indian Rail transport" by J. Johnson describes the historical review of Indian railway developments through the years and their impact on the economic activities of the country.

M. O. Mathew explains elaborately the role played by the rail and road transports in India on the basis of available factual evidences and offers suggestions towards improving rail-road organisations in India in the direction of optimum working in his book "Rail-Road Transport in India".

Ramanujan outlined re-organisation of administrative development from 1924 when the railway budget was separated from general finance in two books "The functions of the Railways". The book focuses on the role of railways as public monopolies to serve the interest of public convenience and necessity.

"Transport co-ordination in India" by S. K. Guha, calls for the establishment of co-ordinating Authority to control the condition of competition making these as far as possible equal and equitable.

K. L. Kakar in his book "Transport costs – Rail and Road states that rail transportation proves to be cheaper than road transportation
beyond the distance of 300 kms, but unrestricted competition may impede the growth of rail – traffic.

Second India studies\textsuperscript{22} – transport by Madhoo Pawaskar makes an effort to visualise the quantitative as well as qualitative improvement needed in the major transport services in India in the year 2000.

"The impact of high way investment on development"\textsuperscript{23} written by George Wilson and Martin Klein, highlights the role of transportation in the process of economic development and its suitability for a disaggregate approach.

Charles Williams and Earnest Short\textsuperscript{24} in their book "Railways Roads and the public" high-lights the importance of railways and road transport in the development of industries.

"Transport in Industry"\textsuperscript{25} by H. P. Caul field attempts to meet the requirements of transport officers of an industrial concern to help them to control the movement of goods into and out of the factory.

Emery Troxel's book entitled "Economics of Transport\textsuperscript{26} describes the role of transport system as facilitating agent for integrating and maintaining the society.
Marvin Fair & William in their book "Economics of Transportation"\textsuperscript{27} suggest an ideal framework of objectives to evolve a proper policy for promoting a healthy transportation network.

Hutchinson\textsuperscript{28} conducted in depth study of transport strategic planning within a system framework.

"A Dream come True"\textsuperscript{29} written by Menka Shivadasani and Raju Kane narrates the story of triumph of technology over terrain transforming hundred year old dream into reality. The book describes vividly technical aspects of Konkan railway project and its role in the development of industries and tourism.

"A treatise on Konkan Railway"\textsuperscript{30} edited by S. V. Saleikar gives technical details of the project. Construction of bridges, tunnels, earthworks, land acquisition processes, project estimates, management of the funds have been elaborately described in the book.

Konkan - nama\textsuperscript{31} - A journey Across time by Mario Cabral describes Konkan region as one of the most vibrant regions of India. Endowed with abundant natural resources, picturesque natural beauty, the region has always been prosperous. The author hopes that Konkan Railway as an important means of transport in this area, would provide further impetus to the growth of tourism and industries.
"Perspectives on Indian Tourism" edited by Pushpinder S. Gill, gives out information relating to tourists' centres of India and investigates into the problems of tourism industry in India.

"Development of tourism in India" a book written by H. Lajipathi Rai, describe cultural heritage, natural vegetation, beaches, parks, monuments, sculptures providing good potential for the development of tourism in India.

Satyendra Singh Malik's book entitled "Ethical, legal and regulatory aspects of tourism business" deals with legal aspects of tourism.

"Tourism and Economic Development" by K.K. Sharma describes, tourism as a means to achieve economic development of a country, while economic development of a society leads to better tourism facilities, tourism itself leads to economic development.

Several studies including dissertations and doctoral thesis focused on the role of each means of transportation in national economy, road transportation in particular. But much research work needs to be done in the field of railway transportation. Generally, major surveys and investigations are conducted by the government of India or non-official organisation by constituting commissions. However, relevant research studies on the subject have been reviewed.
R. D. Tiwari\textsuperscript{36} in his dissertation "Railways in modern India" analysed the role of railways in modern economic system of India.

P. C Shejawajkar\textsuperscript{37} dealt with the historical development role and problems of railways in India in his Ph. D thesis "History and problems of railways in India".

K. R. Bharadwaj\textsuperscript{38} made a study of the techniques of railway transportation planning in thesis, "Techniques of transportation planning with particular reference to railways.

Ph. D. thesis of K. M. Chandavarkar\textsuperscript{39} on the "Techniques of transportation planning" deals with the theoretical problems in transport planning, e.g. interdependence of transport and economic development in general and growth of specific sector in particular.

Ramadham\textsuperscript{40} investigated into the rail-road policy, followed in India, in contrast with the public policies generally adopted in different countries, especially UK and USA. He came out with a suggestion to form a transport commission to take charge of transport policy formulations.

N. S. Srinivasan\textsuperscript{41} highlighted the significance of metropolitan rail transport.
M. O. Mathew analysed the complementary role of roadways and railways. He advocated the need for co-ordination between the two, through: i) taxation; ii) regulations; iii) unification and iv) nationalisation.

A historical and analytical study of railway routes and fares was made by Maheshchandra43.

Kailashchandra Mittal44 evaluated the railways freight policy in India since independence. The relationship between railway rates and air fares in India was studied by Mishra45.

A traffic forecast for highways was made by Prasad and Agarwal. They analysed the population growth, agricultural construction, industrial promotion, per capita income and total mileage of roads for forecasting the transport requirements.

Singh and Sundaram46 conducted a study on the problem of transport planning from the point of view of investment, keeping in view scarce resources.

A traffic forecast for highways was made by Prasad and Agarwal48. They analysed the population growth, agricultural construction, industrial promotion, per capita income and total mileage of roads for forecasting the transport requirements.
Several research studies have been made in the management of finance of the Indian railways. B. N. Asthana⁴⁹, R. C. Saxena⁵⁰, V. V. Ramanandhan⁵¹, J. P. Gupta⁵² and J. Pankajakshan⁵³ have conducted research study on financial aspects of Indian railways various conferences on transport sector have probed in the operational problems of Indian Railways.

Valaharajani⁵⁴ enquired into the efficiency commercial operations of the railways and made suggestions for further improvement.

Dissertation on Indian Railway finance by Ramanandham provides an intensive analytical framework to understand the pattern of costs, rates and profits in Indian Railways during the first half of the present century.

Doctoral thesis of Rajguru Agarkar on “Regional Transport Development”⁵⁶ suggests an integrated system of transport suitable to meet the future needs of Ratnagiri district of Maharashtra state. Study attempts to highlight the role of transport system in the economic development of Ratnagiri district.

Several committees were constituted from time to time to solve the problems of railways re-grouping. Several research studies and surveys have been conducted with regard to the industrial development of state, or a nation or even at the district level.
A doctoral thesis on "Industrial development of Sangli district"® by B. K. Khot makes an assessment of industrial development in Sangli district of Maharashtra state.

"Role of finance for the development of small-scale industries"®. Macro and Micro Dimensions" a thesis submitted for Ph. D by S. M. Gaonkar deals with the role of credit in developing the small-scale industries with special reference to Uttar Kannada district.

"The growth and prospects of small industries - A study of Belgaum district"® a doctoral thesis by H. Y. Kamble investigates into the problems and prospects of small-scale industries in Belgaum district.

Railways and industrial location-Part I® by V. V. Ramanadham and "Transportation and location of industries in India" by Thandani J. N. highlights the impact of railways over industrial location.

A doctoral thesis of J. S. Choudhari "A study of Commercial and economic aspects of tourism and hotel industry at Mahabaleshwar and Panchagani hill station"® investigates into the economic and commercial impact of tourism industry in Mahabaleshwar and Panchagani hill station.

"Growth and prospects of tourism in north Karnataka"® a doctoral thesis by R. G. Katoti makes an analytical study of the growth of tourism
industry in the north Karnataka region and the problems and prospects of tourism industry.

G. S. Hegde in his dissertation, highlighted the impact of Konkan railways on cultural status of the people of Dakshin Kannada.

Martin, Stein in his article “Regional impact of national transport system” throws light on the role of transport system in speeding up the process of socio-economic development of identified regions.

"Impacts of subsidies on cost of Urban Public transport" by John Pucher, describes how subsidy on cost of urban public transport influences movement of goods as well as passenger traffic.

E. Sreedharan in his article “Konkan Railway- A trend setter” describes the Konkan railway project as a trend setter, being the major infrastructure project that has been taken on build, operate and transfer (BOT) concept.

"Environmental impact and remedies on construction of a new railway line and Konkan railway experiences" by A. K. Somanathan, highlights commitments of Konkan Railways corporation on the preservation of Ecology through proper assessment of environmental impact and taking effective remedial measures to mitigate the adverse effects.
"The Indian Railways – an evolutionary perspective" by Bijoy Chand highlights evolutionary changes that the Indian railways passes through.

A. Lohani in his article "A saga of achievements and growth" throws light on the achievements of the Indian Railways after its inception.

"Indian Railways—the wheels of Progress" by Sandeep Silas describes railways as a means of civilisation and economic progress.

"What ails Indian Railways" by M. K. Bapat investigates into the problems of Indian Railways.

Y. G. Patwardhan in his article "Restructuring and reforms of Indian Railways" highlights need for restructuring Indian railways towards better service to the people.

G. K. Kanchan stresses the investment opportunities in rail transportation.

"Rail tourism or tourism by rail" by Ashwani Lohani and Tourism venture in the land of red river and blue hill by Vipin Nanda, highlights influence of Indian railways over tourism.
"Railways and economic development in princely state" A Case study of Gwalior railway 1899-1934 by R. C. Sharma and Aruna Awasthi bring out the impact of railways over economic development of the princely state.

"Socio-economic involvement of Railways network in Assam" A. P. Mahanta and R. Dekka Mahanta, reflect the role of railways in the Socio economic development of the region.

V. B. Singh in his paper "Principles of investment in transport and the Indian planning" remark that the development of transport industry is essential for transporting labour and commodities from their places of origin to the places of utilisation, and also for creating the pre-requisites of industrial growth. He advocates the formulation of transport policy by the state consistent with its declared aim of creating a socialist society.

R. K. Saggar in his article "Economic evaluation of transport project" examines the analytical frame - work for subjecting capital projects to economic evaluation and application of the criteria for alternative and mutually exclusive projects under different set of circumstances.

"Transport Investment Policy" written by K. Meenakshi Sundaram emphasises the importance of planning for transport facilities in accelerating the process of industrialisation and modernisation.
Amitabh Kundu in his paper "Effects of transport Rates on Industrial locations" studies the effects of the transport rates on general prices system and on industrial locations.

Dr. D. M. Nanjundappa, in paper "Pricing of Roads" put forth an idea of pricing of road services like other commodities for achieving efficient allocation and optional development of the road network as well as of road transport industry with particular reference to India.

"Transport subsidies for Dispersal of Industries" by S. M. Khot, calls for the urgent need for the location of industries in the vast tracts of industrially backward areas. Since, much of the costs of production are the matters of transport costs, appropriate transport subsidies may prove to be a desirable influence to bring about industrial dispersion.

"Indian Railway Finance" critical issues and emerging options by S. Sriraman, gives an insight into the financial administration and its emerging issues. "Glimpses on the Past" by Shyamal Bhushan Ghosh and "Indian Railways" – A profile since independence by V.K. Agarwal Shed adequate light on the railway performances, since independence.

"Indian Railways and Independence movement" by K.K. Khullar describes how Indian railway influenced the independence movement.
"Indian Railways — Meeting financial challenges" by V. Vijayalaxmi and "Raising resources for railway projects" by Anupam Rastogi, highlight the financial aspects of Indian railways.

"The first and foremost railway" by S. B. Ghosh, "Glorious 25 years by N. Rama Subramaniam, A harbinger of Progress" by Vipin Nanda, "The heart of Indian Railways" by D.K. Gupta, "India — A Railway paradise" by Anirban Das Gupta and "Indian Railway — An overview by R.K. Singh present significant role the Indian Railways played in transporting passengers as well as goods traffic over the years successfully.

"A Saga of 150 glorious years of Indian Railways" by R. R. Bhandari give an account of performance glory of the Indian Railways over 150 years.

Om Prakash's "Marching on the path of pace and development" highlights the development aspects of Indian railways.

"A symphony of Progress" by Shyam Kumar, "The sunrise railway" by R. R. Chaudhari, "Surging ahead" by R. R. Jaruhar, describe progress attained by Indian railways over the years.
"Indian Railways – origin and progress" by N.S. Sainath

"north eastern railway tradition of services and development" by Om Prakash

"Northern Railway harbinger of innovations" by R. K. Singh

"150 years of Indian Railways", miles to go by Arabindo Ghosh

"Railway: China and India where do we stand?" by Claude Arpe describe

the superiority of Indian railways transportation.

"A journey towards excellence" by R.R. Bhandari

"A journey towards the ever expanding frontier" by V. Anand

"Railways continued efforts in nation building" by S. P. Jain testimony of progress

by T. Stanley Babu throws light on the role of Indian railways over socio-

economic development of the country.

"Transport and Economic development" with special reference to

Indian Railways" by Bijoy Chand analyses the role of railways in

economic development of the country. He has attempted to analyse the

internalisation between transport and economic development.

Since, Raman’s "Impact of railways on Indian industries in 19th
century" highlight significant role played by the Indian Railways in the

industrial development of the country during 19th century.

"Success story of Konkan Railways" by Sreedharan E. describes

how Indian Engineers battled against all old to transform century old
dream into reality. It was a Herculean task to complete the project within a short period.

He further makes an effort to analyse the impact of Konkan railway project over the economy of state of Maharashtra in his article "Konkan Railways and its impact on the economy of Maharashtra"113.

Dr. Nilay Kumar Saha in his article "Analytical Survey of Indian Metro -Railway from 1995-2000"114 highlights the economic and social effects of Metro-rail project, one of the largest single projects, undertaken in Kolkata.
### Notes and Explanations:

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