

Geographical Study & its Impact on Transportation System of Rajasthan: An Analysis

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Abstract:

Transport Geography is a sub-discipline of Geography concerning to movements of freight, people and information. It seeks to link spatial constraints and attributes with the origin, destination, extent, nature and purpose of movements. Transportation is of interest to geographers for two main reasons. First, transport infrastructures, terminals, equipments and networks occupy an important place in space and constitute the basis of a complex spatial system, and secondly, since Geography seeks to explain spatial relationships, networks are of specific interest because they are the main support of these interactions.

Key-Words: SWOT, CMP, MHP, RIDCOR.

Introduction:

Rajasthan is a vibrant, exotic state set against the vast backdrop of sand and desert. It has an unusual diversity in its entire form – people, customs, culture, music, dialects, cuisines and physiography. The state has not only survived with all its ethnicity, but also contributed in giving a heritage and cultural identity to India. Rajasthan today has embarked on a journey for growth and has emerged as an attractive destination, driving investments and growth in sync with the aspirations of over 50 million people.

Rajasthan, for a long time, has survived on its existing strengths of mineral resources, handicrafts and tourism. The SWOT (strength, weakness, opportunity and threat) analysis of the state indicates that it has not been an aggressive state for ‘development’.

In recent past, there has been an increasing concern about progress on basic long-term

development goals which have been slow and somewhat disjointed. There has not been a significant up-gradation in social and human development. Hence a long-term strategic thinking and management of the development is now called for. Efforts on very specific issues have been made in the past but an integrated approach could not be developed for drawing up a *Vision statement* for the state. The suggested Vision framework provides one such long-term strategic approach to sustainable development and management.

Road transport plays a vital role in the economic development of a nation and is the prime mode of transport in Rajasthan. It facilitates the movement of goods and passengers and promotes balanced socio-economic development across various regions of the state. It also plays an important role in socio-economic integration and development of the province. Road Transport is most significant in its share of passenger and freight transportation in comparison with other modes of transport primarily because of easy access, reliability and potential for extension of services to the remotest corners of the state.

Number of registered motor vehicles across Rajasthan in India from FY 2007-17 (in Millions)

FY 2017	14.90
FY 2016	13.63
FY 2015	12.38
FY 2014	11.13
FY 2013	10.07
FY 2012	8.99
FY 2011	7.99
FY 2010	7.19
FY 2009	6.49
FY 2008	5.9
FY 2007	5.34

Road Transport is also a significant employer. The production of Motor Vehicles and parts component of Road Transport accounts for employment of 1.3 million i.e. 8.7% of the Industrial Employment as per NSSO in 2016-17 and is ranked third in terms of employment offered, after Textiles and Apparel (18.1%) and Food processing (11.4%). Road transport (service component) provides direct employment in the form of drivers and conductors /cleaners, booking agents, loading and unloading operations, wayside facilities, etc. The total cumulative number of valid

driver licenses issued until 2016-17 were 183.3 million and incremental valid driver licenses issued during 2016-17 were 15.4 million. The total number of cumulative valid conductor licenses issued till 2016-17 were 4.1 million and the incremental valid conductor licenses issued during 2016-17 were 0.1 million. Sustained economic development and expansion of road network have led to rapid increase in the number of motorized vehicles in Rajasthan.

Urban transport includes all modes and ancillary infrastructure that facilitates mobility not only within the city limits but also for inter-city travel. The urban development process has a strong co-relation with the transport networks. Major transport lines are often used by urban planners to give direction to the growth of the city. The connecting nodes such as railway stations and bus terminals become the center of development and economic activity. Hence, urban transport is one of the most crucial determinant of the growth and economic viability of the city.

Traditionally, the infrastructure has been built around to facilitate the movement of private vehicles. Urban investments have neglected public transportation system for long. This approach has resulted in exponential increase of private cars and subsequent problems of congestion, pollution, road accidents, and exclusion of the poor.

Good urban transport systems reduce travel demand and travel time that increases the productivity of the citizens.

Affordable, accessible, and safe public transport enables participation of all sections of the society in economic activity making cities inclusive, thus enhancing prosperity.

Current situation in Rajasthan

Land Transport

The pathways and unmetalled roads have been used for transportation in India since ancient times. With the economic and technological development, metalled roads and railways were developed to move large volume of goods and people from one place to another. Ropeways,

cableways and pipelines were devised to cater to the demands of transporting specific goods under special circumstances.

Historically, urban centres in Rajasthan were fort towns where economic activity was restricted in a certain area known as walled city. With the influx of people, the towns expanded in a planned/unplanned manner. Most of the expansion was based on availability of land in the vicinity. This resulted in ad hoc urbanisation that did not address the travel needs of the people. The consequence of such development resulted in narrow lanes, reliance on private vehicles and unavailability of public transportation systems.

Three cities (Jaipur, Jodhpur, and Ajmer) have organised public transport systems. The share of public transport in Jaipur is 22%. This share is bound to increase with the introduction of metro in Jaipur.

Intermediate Public Transport (IPT) is the principal mode of transport in Rajasthan in small and medium towns. In large towns, IPT acts as feeder system to provide last mile connectivity. “**Alwar Vahini**” is an encouraging example, where IPT is organised by the administration.

As per Comprehensive Mobility Plans (CMPs), the share of NMT is 31% in Jaipur (2009), 45% in Jodhpur (2009) and 61% in Ajmer (2007). Due to lack of infrastructure facilities such as cycle lanes, footpaths for pedestrians, FoBs, road crossings, etc., the share of NMT is continuously falling over the years.

Amongst the Transport Vehicles, LMV (Goods) account for a share of 30.6%, LMV (Passengers) account for a share of 25.1%, Trucks account for a share of about 19.3%, Taxis account for a share of 12% & Buses account for a share of 5.9%. Amongst the Non transport Vehicles, Two Wheelers account for about 81% and Cars account for about 12.43%. Two-wheelers, which account for the largest segment of both registered vehicles (Transport and Non Transport) of 73.86% as well as of Non Transport of 81% in 2017 have grown at the fastest rate with a CAGR of 10.47% in the last 10 years followed by Cars which have grown @ 10.29%. This trend in vehicular composition can be said to be reflective of a preference for personalized

means of transport.

Emerging challenges

Inadequate road space in the cities: The planning process does not adequately take into account the integration of transport plan with the land development plan leading to unplanned and unregulated land use. This leads to lack of adequate road space in cities. The demand outstrips the supply manifold, which results in a situation of chaos. The trend is expected to with economic growth in the future.

Disproportionate increase of personalized vehicles: In the absence of efficient public transportation system, commuters are left with little option but to resort to personalized modes of transport, which has given rise to disproportionate increase in number of vehicles on our roads and subsequently other problems such as traffic congestion, parking shortage, pollution, road accidents, etc.

Urban planning: Neglect of the transportation plan in the land use planning is a major concern and root cause of transport problems in the city. Transportation systems are developed after uncontrolled urban sprawl has already taken place. Unplanned development has resulted in increased travel demand and consequent problems.

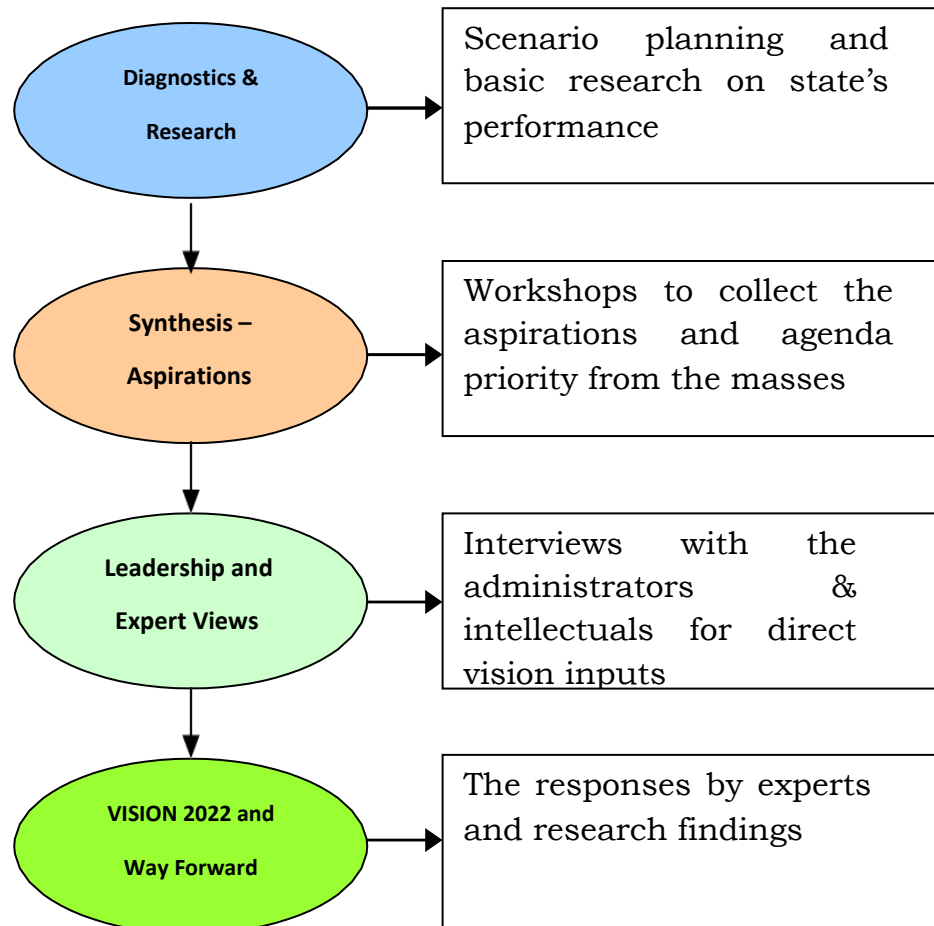
Institutions and governance: Traffic management and transportation is taken care by multiple organizations. The Transport Department, Traffic Police, Urban Development, and Housing Department. There is lack of coordination and single point of responsibility on issues related to urban transport. This results in shifting of responsibility and delay in execution of the projects.

Conceptual framework: Approach and methodology

The conceptual framework for developing this vision document is based on a multi-level approach. It emphasizes elements such as strategic long-term thinking, shared vision by common people, visionary leadership by the functional heads or thinkers of the state, scenario planning,

and state and national learning. The multi level interactions and the research support have made this vision document different from merely a forecasting or planning document. The economic infrastructure of any state includes the Airports, Railways, Roads, Power and Telecom. This study is showing detailed information regarding to economic infrastructure of Rajasthan.

(a) Roads: Rajasthan being located between landlocked Northern States and Western port States imposes additional burden on roads due to interstate movement of goods and passenger traffic. Long international boundary necessitates good quality road infrastructure in border areas. Road Tax, which is a major component, continues to be paid over and above the GST.



► Rajasthan has a total road length of 189034 km. in May, 2011. Out of these 5724 km. are national highway, 11615 km are state highway and 7340 km are major district roads. During the year 2000 the total length was 107436 km and in the year 2007-08 it was 141000 km.

► New roads are constructed to connect all villages in the state. Such construction is going on through different schemes like Missing Link Project (MLP) and Central Road Fund (CRF).

► For providing better & quick connectivity, over 1000 km of road stretches joining national highways are being upgraded into expressways under Mega Highway Project (MHP).

► For better development of road infrastructure in Rajasthan, Road Infrastructure Development Company Of Rajasthan Ltd. (RIDCOR) is an ambitious initiative of Government of Rajasthan. RIDCOR is a public limited company constituted as 50:50 joint initiatives of Government of Rajasthan and Infrastructure Leasing & Finance Services Ltd.

(b) Railways:

Indian railways network is one of the longest in the world. It facilitates the movement of both freight and passengers and contributes to the growth of economy. Mahatma Gandhi said, the Indian railways “*brought people of diverse cultures together to contribute to India’s freedom struggle.*” Indian Railway was introduced in 1853, when a line was constructed from Bombay to Thane covering a distance of 34 km. Indian Railways is the largest government undertaking in the country. The length of Indian Railways network is 64460 km. as on 31 March 2011. It’s very large size puts lots of pressure on a centralised railway management system.

► Rajasthan has a good railway network with a total length about 5911 km, out of which 3842.15 km (65%) is under broad gauge. During the year 2008 the total length of railways was 5683.01 km, out of which almost 3885.47 km (68.37%) was covered under broad gauge, 1,710.78 km (30.10%) under meter gauge and 86.76 km (1.53%) under narrow gauge.

► The national average of railway route length per 1000 sq. km. of geographical is 19.23 km. The same in Rajasthan is 17.05 km.

► One of the most important means that contributes significantly to the state's revenue collection and economy is the super-luxurious train- Palace on Wheels.

► Total country passenger earnings in 2017-18 were 48,643.14 crore. This was 2,362.68 crore (5.11%) higher than the earnings in 2016-17.

• Jaipur Metro Rail Project:

The State Government has established Jaipur Metro Rail Corporation in 2010 with the objective of providing easy and comfortable access to city transport in Jaipur city. Jaipur Metro project has been sanctioned with an investment of Rs. 9732 Crores. The length of corridor-I is 23.09 Kms. and corridor-II is 12.06 Kms. Construction works of stage-I is being taken up with the help of Delhi Metro Rail Cooperation. Work of Stage-II will be taken up in the Public Private Partnership Model. An expenditure of Rs.179 crore is likely to be incurred on the activities of the Corporation in 2010-11. An outlay of Rs. 200 crore is proposed for the Annual Plan 2011-12.

Air Transportation:

Air transport is the fastest means of movement from one place to the other. It has reduced distances by minimizing the travel time. It is very essential for a vast country like India, where distances are large and the terrain and climatic conditions are diverse.

Aviation:

Long distance domestic travel by air has also been growing at a very fast rate and it has already made inroads in the market share of the domestic long distance travel. Rajasthan has 7 airports including 1 International airport in Jaipur. The domestic traffic handled by the Jaipur airport increased from 3,38,763 in 2004-05 to 12,67,876 in 2009-10, the international traffic handled by Jaipur airport increased from 47,033 in 2004-05 to 2,55,704 in 2009-10. Total traffic increased from 3,85,796 in 2004-05 to 15,23,580 in 2009-10.

- ▶ Rajasthan has full-fledged airports at Jaipur, Bikaner, Kota, Jodhpur, Udaipur, and Jaisalmer. Jaipur has recently been designated as an international airport at Sanganer.
- ▶ Jaipur is a completely operational international airport with flights to Dubai, Sharjah, Bangkok and Singapore.
- ▶ Air cargo complex at Jaipur, Inland container depots at Jaipur, Bhilwara, Jodhpur and Bhiwadi which provide conducive environment for trade within and outside India.
- ▶ In addition, air strips / helipads exist at a number of locations. The number of passengers handled at Jaipur airport in Rajasthan has been on the rise. Regular air services connect Jaipur, Jodhpur, and Udaipur with Delhi & Mumbai.
- ▶ In 2003, Jaipur Airport was granted the ISO 9001:2000 certification for its Quality Management systems.

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