Relevence of Jaipur Metro in Present Perspective

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Introduction

From the earliest times people have exchanged and traded goods far and wide and from various parts of the world this has been possible only due to developed network of transports. The developed of transportation network had great effect on the mobility of the people as well as of goods. This has changed the map if the world and made it more accessible and approachable. It is the means of bringing together human being and the things they consume. It functions as the lifeline of spatial economy at all territorial levels-global, national, regional and local. As well knit and coordinated system of transport plays an important role in the sustained economic growth of the economy.

The transportation network in an urban center not only serves and connects various parts rather it is a part of the city and occupies considerable portion in land use pattern. With the rapid increase in size of population existing urban transportation of Jaipur city is not able to accommodate the increasing population and result in multitude of problems in form of road accidents, traffic congestion air and noise pollution etc.

Study Area

Jaipur city is located at an altitude of 431 m (above MSL) and at 26.92°N latitude & 75.82°E longitude. The geographical area of the city is 326 sq. kms. The city is bound by Sikar and Alwar districts on north, by Tonk, Ajmer and Sawai Madhopur districts on south, by Nagaur, Sikar, Ajmer districts on west and Dausa District In East.

Selection And Scope Of This Topic

The Selection and scope of the article is very clear because high density of vehicle on roads and many time loss in travelling problem which the peoples of city are suffering. The basic necessity of city life is transportation and unfortunately, scarcity of it's in the city. The present paper attempts to cover the states of transportation of Jaipur city and suggests strategy and Acton plan for its solution.

Objectives

To analysis the source of available transportation for city area.

1. To study the population growth, density and demand of transportation.
2. Magnitude of transport accessibility.
3. To know better transportation system.
4. To modeling the future transport accessibility in the study area.

Hypotheses:

1. Transportation problems increase due to population growth.
2. Growth of vehicles increases transportation problems.

3. Solution of this transportation problem is Metro rail.

Methodology

The article is a combined analysis of primary, secondary data and personal visit in the area. Primary data are collected from observation of natural setting, field experiment, and personal interaction with the people. Secondary data has been collected from different government and non government organization.

Location of Jaipur City in Rajasthan State

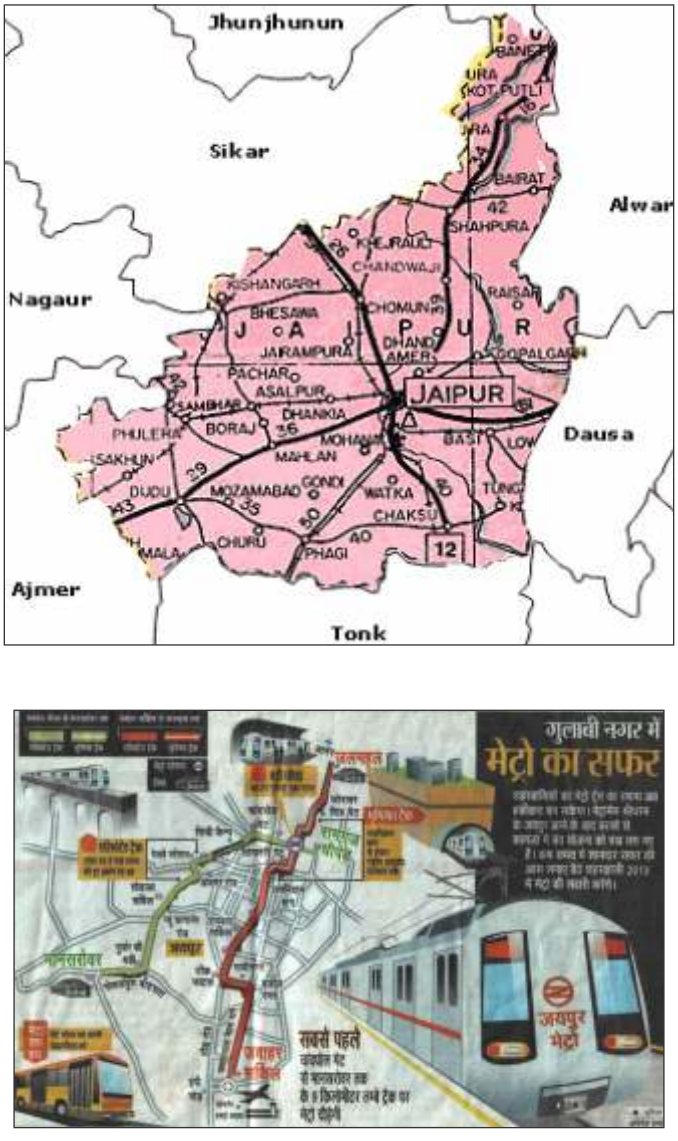

Fig. 1 Location Map of the Study area

Demographic Profile

Since 1961 the study area's an average rate of growth of around 4.45%. The estimated population figures of study area for the base year **2010**, and the horizon years are given in Table.

Table 1
Estimated Population in Area of Study (lakh)

Region	2010	2011	2021	2031
Jaipur City	34.40	36.02	54.19	81.00

The total population of the study area in 2011 was 3,073,350. The decadal growth in Jaipur city is more than 100% in the past 3 decades. The decade wise population growth of Jaipur is given as Table 2.

Table 2
Decade wise population of Jaipur

S.No.	Year	Population	Percent rate of growth (%)
1	1951	304380	-
2	1961	410376	3.0
3	1971	636768	4.5
4	1981	1015160	4.8
5	1991	1518235	4.1
6	2001	2324319	4.4
7	2011	3,073,350	-

Need For Metro

Rapid industrialization and intense commercial developments in the past decades have resulted in steep rise in travel demand, putting Jaipur's transport infrastructure to stress. With the projected increase in the city's population, strengthening and augmenting the existing transport infrastructure has assumed urgency.

The present public transport system available for the city is not properly organized and is inadequate in terms of frequency & comfort. Jaipur City, with its present population of 4.45million and employment of 15.55 lakh has a travel demand of 36 lakh passenger trips every day with 3.6 lakh trips performed during peak hour. With growing population and mega development plans coming up for the Port City, the travel demand is expected to grow steeply. With the growing economy and inadequate public transport services, the passengers shall shift to private modes, which is already evident from the high vehicle ownership trends in the region. This would not only aggravate the congestion on streets but also increase the

pollution. Hence, it is essential to plan and provide for a Light to medium Metro System in Jaipur.

Public Transport System is an efficient user of space and energy, with reduced level of air and noise pollution. As the population of a city grows, share of public transport, road or rail-based, should increase. For a city with population of 1.0 million, the share of public transport should be about 40% - 45%. The percentage share of public transport should progressively increase with further growth in the city population, reaching a value of about 75% when the population of the city touches 5 million marks.

Possible options for a public mass transit system are:-

I. City Buses;

ii. Bus Rapid Transit Systems;

iii. A Metro System (light or medium).

The city already has a bus system operated and maintained by Rajasthan Roadways and private operators. This is totally inadequate for the needs of the city. The Government is also contemplating to introduce Bus Rapid Transit Systems on certain selected routes. BRT has its own limitations and constraints. For one thing, the capacity of a BRT system can at best be only 10000 to 12000 PHPDT (Peak Hour Peak Direction Trips) and that of a tramway system about 8000 to 10000 PHPDT. The BRT takes away two lanes of the road for dedicated use pushing rest of the road vehicles crowded into the remaining road space. Therefore, unless the road widths are more than three lanes in each direction, BRT is not feasible and even then the non-bus riders will be put to tremendous inconvenience. In Delhi BRT has been a total failure. In the case of a Metro

Advantages Of A Metro System

Metro systems are superior to other modes because they provide higher carrying capacity, faster, smoother and safer travel, occupy less space, are non-polluting and energy-efficient. To summaries, a Metro system:

I. Requires 1/5th energy per passenger km compared to road-based system.

ii. Causes no air pollution in the city.

iii. Causes lesser noise level.

iv. Occupies no road space if underground and only about 2 meters width of the road if elevated.

v. Carries same amount of traffic as 5 lanes of bus traffic or 12 lanes of private motor cars (eithway), if it is a light capacity system.

vi. Is more reliable, comfortable and safer than road based system.

vii. Reduces journey time by anything between 50% and 75% depending on road conditions

Conclusion:

Urban transportation in Jaipur is under developed and suffers from lack planning. Demand for urban transports is increasing day by day. There is an urgent need to develop strategies both short and long term which will reduces the incapacitation of the network and provide healthy environment for dwellers.

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