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Feasibility Analysis of Pune Metro from Ramwadi to Ranjangaon

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Abstract – The objective this project is to provide feasibility study of extension of PUNE metro rail in areas like Wagholi, Ranjangaon MIDC's etc. by carrying out demand analysis, traffic survey. This extension of Pune metro rail will boost the economic growth of remote areas. The increasing level of congestion of Pune-Nagar road coupled with high private vehicle usage. This Fast growing transportation in these areas has serious effect on public health as well as surrounded ecosystem due to the increased air as well as noise pollution. An ecologically sustainable urban transport system could be obtained by the appropriate mixture of road & rail transport. Implementation of such modern transport system of metro rail facility to industrial areas of Pune city is the ultimate aim of this project.

Keyword: Feasibility Study, Metro, Traffic Scenario, Transportation, Infrastructure.

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1. INTRODUCTION

Infrastructure plays a vital role to a nation's economic growth and it is considered to be the backbone on which the great living society is built. As considering only transportation, transport situation in most Indian metropolitan cities is rapidly spoiling because of increasing travelling demand and inadequate public transportation system in India. Keeping in mind the congestion and environmental problem and need for massive integrated network, rail based transit system is gaining popularity among the people.

Pune is the fast growing city and with the increasing population and development a plan for Pune Metro was proposed. Pune metro is metro rail based rapid transit system under construction to serve the city Pune with its estimated cost 114.20 billion. Planning for extension of metro rail is started due to the various industrial areas in the sub burden of Pune city. Being thickly populated area, Pune-Nagar road's traffic need cannot be me by road based system. When traffic intensity increases beyond this level, average speed of vehicles comes down journey time increase air pollution goes up and commuters are put to increased level of inconvenience public transport system is an efficient user of space and with reduced level of air and noise pollution. Thus when on a corridor, traffic, density during peak hours crosses this figures provision of rail based mass transport system should be considered.

2. REVIEW OF LITERATURE

Akshay M. Ramteke[1], Vishal Gajghate[2] (2015): This paper gives the brief idea about feasibility studies, the growing demand for public transport in cities has serious effects on urban ecosystems, especially due to the increased atmospheric pollution and changes in land use patterns. Implementation of such modern transport system of Metro Rail facility to NAGPUR city is the ultimate aim of this project a feasibility study is a multi-dimensional set of actions which aims to analyse and evaluate a project in order to determine if its construction is feasible. In some cases, a project is not profitable in economic terms; however, its feasibility is attributed to serve another purpose. [1]

Priyanka Chib (2014): Author of this paper states that is a pre-feasibility study conducted by carrying out household surveys and focusing on the short-comings of the Pune metro (India) to be faced in near future based on the available data and providing suggestions for the afore-mentioned problems. Construction, geological and the cost factors have also been considered in the paper. Late night usage of metro along with the frequency of the rails was asked for by the passengers with a concern

for the safety. Metro will be popular among the higher middle income group. [2]

S.M.Subhash[1], K.Chandrabose[2], Umamaheshwari[3], T.Maharajan[4] (2013): This research paper directs toward an ecologically sustainable urban transport system could be obtained by an appropriate mix of alternative modes of transport resulting in the use of environmentally friendly fuels and land use patterns. Transport, because of its pervasive nature, occupies a central position in the fabric of modern urbanized society. Metro provides multiple benefits: reduction in air pollution, time saving to passengers, reduction in accidents, reduction in traffic congestion and fuel savings. There are incremental benefits and costs to a number of economic agents: government, private transporters, passengers, general public and unskilled labour. [3]

W.N.Deukar[1], A.F.Shaikh[2] (2015): In this paper, authors critically Analyse both the decision making process behind approving the metro rail proposal and the metro rail proposal itself. In early 2010, Pune Municipal Corporation (PMC) approved a proposal to build a metro rail system in Pune based on a Detailed Project Report (DPR) prepared by the Delhi Metro Rail Corporation (DMRC) in 2009. The analysis also leads to broader questions regarding planning and governance of urban transport in the country. There is an urgent need to revisit all proposed metro rail projects and critically review them. [4]

Bharat.K.[1], Shishir K. Jain[2], Kottam Varun[3], Ramakrishna N.[4] (2015): The paper discuss about existing transportation modes – buses and trains – are already over-stretched and show the limits of mass transportation in such large cities; therefore, there is a need for developing Mass Rapid Transit Systems (MRTS) in them. The Hyderabad Metro Rail Project (HMRP) is one of the few MRTS projects undertaken in India with some of its own distinctions. It then attempts to make an economic analysis of the HMRP using the framework of "Cost Benefit Analysis (CBA)", which is widely used in the traditional project feasibility analysis to extend it to include socio-economic aspects of projects. The CBA of HMRP finds that the project is favourable on the numeracies measure of Cost-Benefit ratio. The Hyderabad Metro Rail Project (HMRP) is one of the few MRTS projects undertaken in India with some of its own distinctions. [5]

Mona Goal[1], Dr.R.K.Sharma[2] (2016): From this research assumption made is the metro railway network has almost covered the entire city and with continuous endeavours of expansion most of the neighbouring areas and suburbs will be covered by the metro railway. The best thing that has happened since the introduction of the Delhi metro is the reduction in the city's traffic and pollution level.

The creation of Delhi Metro has ushered in a new era in travel. With the opening of the first line in 2002, the metro has revolutionized the mass rapid transportation system of the capital. So much so, today one cannot imagine life in Delhi without Metro**.** [6]

3. CONCLUSION

Pune metro will add an extra charm to the historical city of Pune. One can commute with ease from one place to other, avoiding road traffic and reach desired destination on time. Pune metro will add a new direction to the transport system. For successful implementation of metro project, high costs are involved and the need to maintain on a fare structure within the affordable reach of ordinary citizen, metro projects are not ordinary financially viable. But considering the overwhelming economic gains to the society and fact that cities with such a great population. As Pune is fastest growing industrial city of the country will need expansion of metro network. The corridors proposed in phase 1 and 2 will require to be extended in the industrial areas.

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