

Impact of Sustainable Growth and Development Through the Metro Project of Pune City in Maharashtra

Dr. Tejaswini V. Shende

M.Phil, PhD (Economics)

Abstract:

Maharashtra population in 2020 is estimated to be 122 Million (12.2 Crores), According to Unique Identification Aadhar India, updated Dec 2019, by end of year 2019 the projected population is 121,924,973, Its second populous state in India after Uttar Pradesh, 9% of the India's population live in Maharashtra. The population of Pune city in 2020 as per estimated figures is 7.41168 Million.

Good physical infrastructure not only helps in creation of jobs but ensures sustainable economic growth. The Government has taken various initiatives for having better infrastructure for transportation, energy & communication. Ensure access to affordable, reliable, sustainable & modern energy for all is one of the sustainable development goals.

The consumption of electricity by the industrial sector was highest (33.1 per cent), followed by agriculture (25.6 per cent) and domestic sector (23.8 per cent) in the State.

The investment on infrastructure sector helps in creating jobs both directly and indirectly resulting in overall economic and social development. There has been a substantial investment in infrastructure mostly on transportation, energy, communication, etc for sustainable growth. Providing access to safe, affordable, accessible & sustainable transport system for all and improving road safety is envisaged in Sustainable Development Goals (SDG). The modes of transportation include surface transport, air transport, water transport, etc. while postal services, wireless telephone, and internet services are the modes of personal communication and radio, television and newspaper are that of mass communication.

Pune city is known in the world map because of its educational, research and development institutions, IT Parks and automobiles industry in western Maharashtra.

Meaning: Metro Rail Project

An increased demand for transport infrastructure is felt due to increasing urbanisation. There is a need for a safe, reliable, efficient, affordable, commuter friendly and environmentally sustainable rapid public transport system for the metro regions. Higher capacity rail based mass transit system popularly called Metro, are rapidly being accepted across the country as a solution to the problem of urban transportation. Following the success of the other cities' metro, many cities have implemented or are planning for metro rail systems.

Pune metro rail

Metro Project Vision and Mission in Pune

"To create an energy efficient Metro Rail System of International standard to enhance the quality of life of the citizens of Pune, and it will be instrumental in the overall development of the city by making it more vibrant & attractive and utilize the full potential of 'Green Energy' in the form of Solar, Wind, etc."

Pune metro rail project consists of two corridors with total length of 31.25 km. The length of Chinchwad to Swargate corridor is 16.59 km length, of which 11.57 km is elevated stretch and 5.02 km underground stretch with 9 elevated and 5 underground stations, The Vanaj to Ramwadi corridor with length 14.66 km is totally elevated with 16 elevated stations. The total estimated **project cost of this project is 11,420 Crores**. This project is expected to be completed by November, 2021. The total land required for the project is 44.25 ha, of which government land is 31.57 ha. The physical and financial progress at the end of January, 2019 is 28 and 19 per cent respectively.

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Objective:

- To study sustainable growth and development through metro rail project in Pune city.
- To study how metro rail project contribute in economy and help in transportation of Pune citizen.
- To evaluate the metro rail, help to other sector.

Hypothesis:

- Commutation in Pune city will be changed through metro rail.
- Metro is going to be cheapest, fastest and safest way for commutation and Pune's standard of life shall improve.

Research Methodology:

Secondary data has been taken from internet, related books, etc.

Observation/Data:

In regards to Maharashtra from economic development view all sectors are important, in third sector or service sector for example transportation is very important because it connects to two other sectors like agricultural and industry sector as well as it connects to foreign country for import and export.

In India, especially in Maharashtra, state for population and area wise, industry wise and related to foreign country specially Mumbai is important. After Mumbai Pune city is growing very fast, it becomes metro city and for that 'metro Rail' is going to start. This project was started under **Maharashtra Metro Rail Corporation Limited (MAHA-METRO)**

Funding: The proposed funding mechanism for the development of metro project is as follows:

- Government of India – 20%
- Government of Maharashtra – 20%
- Local bodies (Pune Municipal Corporation and Pimpri-Chinchwad Municipal Corporation) – 10%
- Loan – 50%

The state government's share of 20% includes the expenses of acquiring land, including government land, at market price. PMRDA has submitted proposal to World Bank and Asian Infrastructure Investment Bank (AIIB) to seek loan of INR 63.25 billion from the government.

Project Started: Pune Metro project is inaugurated on 24 December 2016. Government of India approved the development of Phase-I of Pune Metro Rail Project which will cover a length of 31.25 km at the total completion cost of INR 114 billion (US\$ 1.7 billion).

MAHA-METRO a Special Purpose Vehicle (SPV), financial support to this project is 50:50 jointly owned by company of Government of India and Government of Maharashtra. The existing Nagpur Metro Rail Corporation Limited (NMRCL) which would be reconstituted into Maharashtra Metro Rail Corporation Limited (MAHA-METRO) for implementation of all metro projects including Pune Metro Rail Project Phase-1 in the State of Maharashtra outside Mumbai Metropolitan Region for the smooth implementation, execution and operations.

Project will be covered under the legal framework of the Metro Railways (Construction of Works) Act, 1978; the Metro Railways (Operation and Maintenance) Act, 2002; and the Railways Act, 1989, as amended from time to time.

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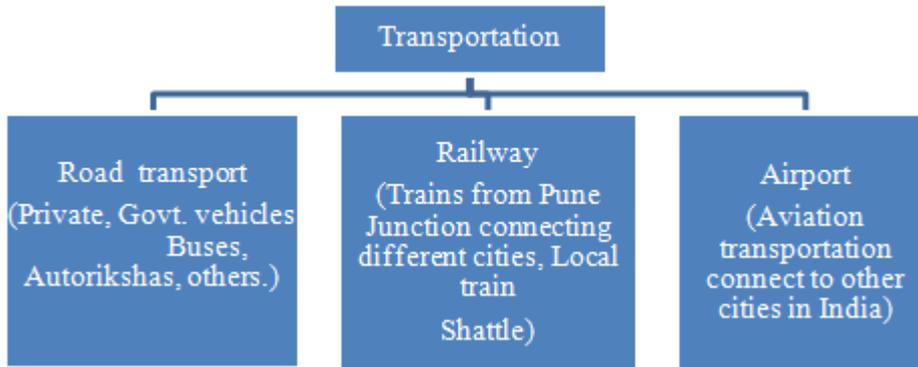
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Till March 31, 2018, the RTO has notched an increase of over 280,000 vehicles, with two-wheelers still enjoying the lion's share. This takes the figure of registered vehicles in the city to 36.27 lakh, from 33.37 lakh. Compared with 2017, the number of four-wheelers registered increased from 5.89 lakh to 6.45 lakh in 2018.

In percentage terms, the registration of four-wheelers in 2018 notched a growth of 9.57 per cent and two-wheelers by 8.24 per cent over 2017. In 2018, the highest growth of 25 per cent was seen in the taxi-cab segment with a total of 28,344 cabs registered against 22,696 in 2016-2017. Ajri attributed this growth to the increased acceptance of cabs as a mode of conveyance over self-owned or self-driven vehicles by the growing industrial, IT, educational sectors, and upcoming residential complexes in and around Pune, among others.



Sector Chart: - As above mention Metro Rail transport helps and coordinates with primary, Secondary and territory sectors like education, Medical etc.

In Agriculture sector-Swargate, Shaniwarwada (Mandai), Khadki Dapodi, Pimpri Chinchwad these are main vegetable markets. Also it is connecting industry area like Khadki Dapodi, Vanaj, Ramwadi, Katrajetc. and it helpful for students as it will connect to many colleges, many hospitals like nearby Swargate-Karveroad, Pune station, Khadki Dapodi etc. Metro is a fast transportation for that all.

The project is scheduled to be completed in five years from the date of start of work as per the Detailed Project Report (DPR). Pune city is the latest entrant to the list of city with Metro system. Pune is one of the emerging cities in India with a population of 5 million. The city is emerging as IT and automotive city.

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Benefit of Metro Rail:

1. Commuters will get diverted to Metro reducing the congestion on roads.
2. Will improve as traffic the no of vehicles on road will go down.
3. Will drastically reduce the congestion on road.
4. Very convenient as the mode is highly comfortable, reliable and timely
5. Provides a comfortable and distraction-free movement.
6. Will reduce the travel time by around 50%.
7. Will be much less as compared to cost of running individual vehicles.
8. Uses around only 1/5th of energy as compared to Road Transport

Its drawbacks-

While during construction phase of the metro project this had created massive traffic management issues. In most parts of the city there are increase in air and noise pollution. It also leads to traffic rule violations.

Conclusion:

However, metro project had created massive traffic management issues in most parts of the city and increase in pollution. Pune is hopeful that with the upcoming Metro, These will be less congestion around, less traffic and it will also save time within and outside the city. Traffic may experience some relief despite the growing number of vehicles being registered every year. And even those vehicles and four wheelers are not registered may be reducing the number of this. It has helped to become sustainable development. This types of growth and development is help to Pune and automatically effects on National income directly and indirectly.

Suggestion:

Pune is hopeful that with the upcoming Metro. These will be less congestion around, less traffic and it will also save time within and outside the city, Pune also concentrated nearby Pune area which help to (related Population, school colleges-education, medical facility, IT park, some kind of Industry area, Markets Malls etc.) distributed on that area.

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