

A Review on Study of Mumbai – Nagpur Expressway.

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Submitted: 05-05-2022

Revised: 10-05-2022

Accepted: 13-05-2022

ABSTRACT: This research paper is about to Study of expressways and their information related to construction and management of expressways . One of them is Mumbai-Pune Expressway and another one is Samruddhi Expressway (Mumbai to Nagpur). To improve the communication and connectivity between these important cities of Maharashtra State, a high speed expressway is planned. In this two project Mumbai- pune Expressway is already completed and opened to use . In the case of Samruddhi mahamarg project work still in progress between Nagpur and Mumbai . The development of the expressway will improve the development of backward regions of Marathwada & Vidarbha in Maharashtra State. The project will have multiple benefits including reduction in the travel time between Nagpur, Wardha and Amravati, reduction in environmental emissions due to smooth movement of vehicles,improvement of the economic status of the village people in the project area, giving boost to existing infrastructure and industrial developments and increasing the in-country value by providing local employments and supporting national economy. This Research paper mainly focus on economical , ecological and construction factors of Samruddhi highway (Nagpur-Mumbai). And find out the requirement for completion and also benefits of the project .

I. INTRODUCTION

Transportation in the India is an important part of the nation's economy. Development of infrastructure within the country has progressed at a rapid pace, and today there is a wide variety of modes of transport by land, water and air. The State of Maharashtra is situated in the Western part of India. The state has a transportation network consisting of railways, roadways and airways, which form the lifeline for the economic and social activities of the state. Road transport is a dominant mode in the State for the transport of goods and for

the movement of passengers. Mumbai is the capital of Maharashtra, and Nagpur is the second capital and is the third largest city in Maharashtra after Mumbai and Pune. Presently three routes are available between Mumbai and Nagpur. Currently, the travel time between these two major cities is about 14 hours. There are many industries at Buti Bori, Thane and Aurangabad along the existing highway.

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To improve the communication and connectivity between these cities, a high speed expressway is planned between Nagpur and Mumbai. The development of the expressway will improve the development of backward regions of Marathwada & Vidarbha in Maharashtra State.

Maharashtra State Road Development Corporation Ltd (MSRDC) is a corporation fully owned by the Government of Maharashtra. MSRDC is mainly involved in development of roads, bridges and other major infrastructure projects including land, flyover projects, toll collection rights and works under construction which vested with the State Government and were under the control of the Public Works Department but have been subsequently transferred to MSRDC. MSRDC is primarily engaged in providing strategic and integrated infrastructure services within Maharashtra State.

National highways are grade roads that connect every major city of the nation while expressways are highways with six to eight lane controlled access road network with modern technologies. Expressways facilitate transportation from one corner of the state to the other cheaper

and faster, improving trade and business, decreasing traffic congestion and pollution and generating economy.

Proposed Route of Samruddhi Expressway (Mumbai- Nagpur)



II. LITERATURE REVIEW

A) Tejas Jitendra Chordiya¹, Sahil Manoj Bramhecha²

Few international and domestic research papers are reviewed for social cost benefit analysis. Pienaar in 2014 in his study concluded that how the cost benefit analysis when accompanied by social evaluation of a road construction project could achieve more equitable distribution in a developing country like India. Therefore, cost benefit analysis should be accompanied with the appropriate use of social evaluation by weights calculated for specific expenditure collection. This in turn is harnessed towards apportioning probable economic activities and returns to lower-income communities. On the similar lines, a study was carried out in Sri Lanka Transportation Engineering Department, which evaluated the economic benefits and corresponding costs of the proposed Central Expressway in Sri Lanka. From the economic cost benefit analysis, the Central Expressway project is practicable. The project will result in improved mobility to the central and northern parts of the nation. Economic analysis indicators like benefit to cost ratio (B/C ratio) and economic internal rate of return (EIRR) values, initial sections of the ways are having high economic viability, the benefits will go on decreasing, as the expressway will get expanded beyond higher populated area.

B) Fernandez et al.(2000)

The use of an Integrated Landscape Ecological Approach on the evaluation of the

impact of a proposed highway over a high sensitive habitat of the highly endangered Iberian Lynx (*Lynx pardina*) is described. This method prevents the occurrence of common errors in the decision making process by allowing an increased knowledge of the ecological constraints of the project. paper describes how, within an Environmental Impact Assessment (EIA) Process of a highway running through a highly sensitive ecological area, the Integrated Landscape Ecological Analysis (ILA) produces an evaluation and prediction of the target species ecology, allowing a comparative evaluation of alternatives without the bias of prejudgments over —less negative! alternatives. The project objective of the EIA process considers the construction, in the short term (2000–2001), of a highway between Lisbon (the capital) and Algarve (the southern part of Portugal). paper considers the EIA of the projected highway section crossing the chain of mountains that separate the Algarve from the rest of the country and should be located approximately 50 km eastward from the present main access road that, together with the railway, follows a valley through a natural geological fault.

III. OBJECTIVE OF PAPER

To study the Construction work of Expressway in perspective of construction management.

To study the economic feasibility of the expressway To analysis benefits of construction of expressway project.(Mumbai-Nagpur)

IV. DESCRIPTION OF PROJECT:

The expressway will provide connectivity across regions and will be the gateway to national and international markets through Jawaharlal Nehru Port Trust (JNPT) in Mumbai and the Multi-modal International Hub Airport at Nagpur (MIHAN). New towns that are proposed along the expressway will act as centres of development by providing production, trade, and commercial. The aim of the Hindu Hrudaysamrat Balasaheb Thackeray Maharashtra SamruddhiMahamarg is to create connectivity to the last mile with best public transport facilities for quick and easy movement of people and goods. The expressway will enable a large population to have easy access to major centers in Maharashtra for a wide range of self-employment and wage employment opportunities, business, trade, education, health care and other necessary services.

Salient Features

Length of Hindu HrudaysamratBalasaheb Thackeray Maharashtra SamruddhiMahamarg	701 km
Hindu HrudaysamratBalasaheb Thackeray Maharashtra SamruddhiMahamarg route	Nagpur to Mumbai
Number of districts the mahamarg passes through	10
Number of talukas connected	26
Number of villages connected by the expressway	392
Number of proposed KrushiSamruddhi Nagar	19

Land required for the project (Expressway + KrushiSamruddhiNagar)	24,255 acres (9,900 Ha) approximately
Total Project Cost	Rs. 55,000 crores approximately
Proposed Project Completion date	2022

Key Statistics

	Acres	Hectares
For the KrushiSamruddhi Nagar	24,500	10,000
For the Expressway	24,255	9,900
Amenities and facilities along the mahamarg	355	145

Total land requirement	49,110	20,045
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Land Acquisition

Distance of the Districts HQ Towns From the Expressway

Wardha	0 km
Jalna	0 km
Aurangabad	0 km
Nashik	0 km
Palghar	0 km
Thane	0 km
Washim	22 km
Amravati	26 km
Yavatmal	42 km
Akola	47 km
Hingoli	70 km
Buldhana	75 km
Ahmednagar	87 km
Parbhani	102 km
Chandrapur	125 km
Beed	130km
Dhule	160km
Nanded	190 km
Jalgaon	190 km

Special Features:

1)According to Maharashtra Samruddhi Mahamarg project website, the Mumbai-Nagpur super communication expressway will bring down the Mumbai and Nagpur journey time to 8 hours; Mumbai to Aurangabad to 4 hours and Aurangabad to Nagpur to 4 hours.

2)The Mumbai-Nagpur super communication expressway will pass through 10 districts. These are; Thane, Nashik, Ahmednagar, Jalna, Aurangabad, Buldana, Washim, Amravati, Wardha and Nagpur. Not only will the super expressway connect Nagpur to Mumbai, but it will also provide direct connectivity to country's largest container

port – JNPT.

3)Having a width of 120 m with a central median of 22.5 m, the expressway will follow the international standards of design. It will include 8 lanes, 4 lanes on each side. Also, a provision has been made in the center of the expressway, in case there is a need to increase lanes on either side.

4)The highway will include over 50 flyovers, over 24 interchanges, more than 5 tunnels, more than 400 vehicular and over 300 pedestrian underpasses at strategic locations.

5)The highway project has been envisioned as a "Zero Fatality Mahamarg". Additionally, it will be provided with CCTV surveillance feature as well as

free telephone booths at every 5 km in order to allow reporting in case of any emergency.

6) Other features of the expressway include; tunnel lighting, bridge beautification, extensive landscaping, improved street lighting, rain water harvesting and digital signage.

7) The Mumbai-Nagpur super communication expressway will also have the facility to be runway for fighter jets and aircraft in war-like situations and emergencies.

8) The entry and exit of the Mumbai-Nagpur super communication expressway will be managed via toll which will be charged on the basis of the distance travelled. The toll collection is expected to be automated.

9) Service roads on both sides will be connected with underpasses. The utility Mahamarg along the proposed expressway will have gas pipelines, electricity lines, OFC cables etc.

10) The Maharashtra Samruddhi Mahamarg project, which is being implemented by MSRDC, aims at providing an impetus to the overall development of the state's rural areas by attracting domestic as well as foreign investments. The Mumbai-Nagpur super communication expressway project, linking JNPT in Mumbai and MIHAN in Nagpur, will include a feeder network, connecting fourteen neighbouring districts to this highway.

V. BENEFITS:

Hindu Hrudaysamrat Balasaheb Thackeray Maharashtra Samruddhi Mahamarg will link the state of Maharashtra to the Delhi-Mumbai Industrial Corridor (DMIC) and the Western Dedicated Freight Corridor. Parts of Maharashtra will have direct connectivity to these Corridors and JNPT, the country's largest container port. This, in turn, will enhance the EXIM trade of the state.

The expressway and its feeder network will promote overall tourist development connecting various tourist locations like Shirdi, Verul, Lonar, Ajanta, etc.

The mahamarg will boost the economic activity in the developing parts of Vidarbha and Marathwada. KrushiSamruddhi Nagar and agro-based industries that will be set up around the mahamarg to will provide self employment and other employment opportunities as well as help in improving agricultural incomes. Non-farm based employment opportunities will be created in rural areas. This, in turn, will help decrease inequality and poverty within the state. It is estimated that around 20,000 to 25,000 people will get employment from each **Krushi Samruddhi Nagar**.

Landowners voluntarily participating in the project by giving consents of their land for land pooling, will be given back developed land equivalent to 30% in exchange of their total land pooled for the KrushiSamruddhi Nagar and 25% for the land pooled for the expressway. In these Krushi-Samruddhi Nagar, they will have access to better amenities in terms of parks, playgrounds, open spaces, water, roads, power, etc.

Landowners will receive Rs 30,000 per acre for rain fed, Rs. 45,000 per acre for seasonal irrigated and Rs 60,000 per acre for irrigated as crop compensation for a period of 10 years.

This will be increased 10% every year to take into account inflation. One person from the landowner's family will be eligible for free vocational training. At the end of 10 years, if the landowner wishes to but is unable to sell the developed plot in the open market, the state government has given a guarantee to buy back the allotted plot for a value determined on the date of signing the agreement as per the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 with simple interest of 9% per annum for a period of 10 years.

VI. CONCLUSION

This expressway will be very beneficial, it will improve economy, it helps to development to all sectors of maharashtra.

Three ongoing projects — PoCRA, SMART and MagNet — along with Samruddhi Mahamarg will bring about economic development in areas that the expressway is passing through in the next seven years, stated Maharashtra State Warehousing Corporation chief. He was speaking at a webinar organized by The Free Press Journal and Maharashtra State Road Development Corporation (MSRDC) on The Changing Contours of Maharashtra – primarily through the Samruddhi Expressway.

The panelists for the session 'Agro-processing zones and value-adding agriculture' were Deepak Taware, CMD, Maharashtra State Warehousing Corporation (MSWC); Arun Raste, Executive Director, National Dairy Development Board (NDDB); and Sachin Sharma, GM and Head-Channel Operations, ITC.

Project on Climate Resilient Agriculture (PoCRA), State of Maharashtra Agriculture and Rural Transformation (SMART) and Maharashtra Agribusiness Network (MagNet) are the three projects that are underway in various underdeveloped regions of Maharashtra. "These projects (PoCRA, SMART and MagNet) coupled

with physical infrastructure of the roads will develop the areas around Samruddhi Mahamarg in the next five to seven years.” Anticipating the demand Samruddhi Mahamarg and upcoming 18 towns will generate, MSWC has acquired land in three locations — Vaijapur in Aurangabad, Sawargaon in Buldhana and Arvi in Wardha — close to the path of the Samruddhi Mahamarg.

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