KfW Development Bank

Project Information

Transport – India

New elevated railway for Nagpur

Rapid urbanisation is pushing existing infrastructure to its limits in the Indian city of Nagpur too. This is particularly true when it comes to traffic, which is becoming increasingly congested, resulting in noise and poor air quality. The city is expanding its public transport network and also relying on rail to redirect the growing traffic flows both sustainably and efficiently. Public transport to date covers only a fraction of mobility capacity in Nagpur. But this is now about to change. The city is forging ahead with the construction of new metro lines, some of which are elevated railways, in order to expand the public transport network quickly and using the available space. KfW Development Bank is supporting the construction of the elevated railway, parts of which are scheduled to go into operation in 2019.

Context

With a population of 2.4 million, Nagpur is an important economic and cultural centre in the state of Maharashtra. Geographically speaking, the city is located in the centre of India and serves as an important traffic hub. Local public transport accounts for less than 10% of the city's current traffic mix; the global average is 30-35%. Most journeys, around three quarters, are made with private vehicles, particularly two-wheelers. Economic growth and urbanisation are rapidly increasing the rate of motorisation by 7% per year.

This situation has several negative effects: traffic jams, poor air quality and noise are part of everyday life on the streets of Nagpur – as is the case in many cities in India. Against this background, the city is seeking to provide eco-friendly mobility solutions that make it possible to shift away from individual transport towards more public transport.

Project approach

The aim is for urban mobility in Nagpur to become cleaner and more efficient in the future by constructing a metro system with a length of just below 42 km. A total of 40 stations and 2 depots for train maintenance will be built along two corridors (north-south and east-west).

Investments are also being made in the infrastructure for non-motorised transport (footpaths and cycle paths, bike sharing) around the stations. Electric buses aim to improve the feeder system so that the future metro is connected to other modes of transport and a user-

Project name	Metro Nagpur
Commissioned by	Federal Ministry for Economic Cooperation and Development (BMZ)
Country/Region	India
Lead executing agency	Indian central government

Elevated railway in Nagpur. Source: KfW photo archive, photographer: Davin Meckel

friendly, integrated public transport system is created. For the year 2021, one year after the planned complete launch of operations, 380,000 passengers a day are expected. This figure is expected to rise to 560,000 by 2041.

To implement the project, the Indian government, together with the government of the state of Maharashtra, founded a special-purpose company, the Maharashtra Metro Rail Corporation (Maha Metro for short).
Maha Metro is also responsible for other metro projects in Maharashtra (e.g. in Pune). The construction work in Nagpur began in 2015, Maha Metro expects the project to be completed by the end of 2019. With around 67% of construction completed, the project was largely on schedule by mid-2018. One of the reasons for this was the use of an innovative, digital project management platform (Building Information Modeling – BIM).

In addition to the direct positive impact of the metro system on reducing traffic congestion, Maha Metro encourages many other green and innovative elements that further enhance the sustainability of the project: stations are being planned and built using sustainable, highly energy-efficient specifications; 65% of the Metro's electricity is generated from solar energy on the roofs of metro stations. 100% of wastewater is being recycled using innovative processes. Rainwater is being collected and used; trees that have to be cut down for construction are being reforested elsewhere.

With a promotional loan of EUR 500 million, KfW Development Bank is providing partial financing for the project on behalf of the German Federal Government. The total costs amount to around EUR 1.2 billion. The French Agence Française de Développement (AFD) is providing a further EUR 130 million, with the remaining funds coming from the Indian central government and the Maharashtra government.

Impact

By shifting urban traffic from road to rail, annual carbon savings of around 67,000 tonnes are expected. Less road traffic also means less particulate matter and nitrogen oxide levels. This will have positive health effects for the inhabitants of the city by reducing illnesses and deaths caused by air pollution. At the same time, the number of deaths caused directly by road traffic accidents is lowered. Less time spent in traffic jams also increases the city's economic productivity. Maha Metro also estimates that the project will create around 1,700 jobs.

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