



AFD AND INDIA

# Focus on Urban Transport



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**5 metro projects**  
financed  
since 2008

**EUR 1.1 billion**  
of funding  
in 10 years

**100%**  
of these projects have a  
positive impact on climate

A partner of India since 2008, AFD works in agreement with Indian authorities to promote green and inclusive growth. It operates through soft loans to the state and public enterprises, as well as technical assistance programs.

**Our goal: To contribute to an efficient and sustainable transport sector and help India achieve its trajectory towards a low carbon growth path.**

#WorldInCommon



# OUR ACTION IN India

## 1 *Transport: A priority area of intervention*

India's transport sector is large and diverse, catering to the needs of a steadily growing population.

Over the next thirty years, the number of urban dwellers is expected to double – reaching an estimated 800 million by 2050. Keeping this in mind, the development of quality, accessible, and low-carbon urban transport services is a current priority for the country.

With an average of 22 road vehicles per 1,000 inhabitants, the rate of motor vehicle ownership in India is still relatively low compared to other countries (for instance, China has a rate three times higher). However, the size of India's population makes this figure significant. Further, with car sales expected to double within the next decade, increased traffic congestion, deteriorating air quality and adverse impacts on economic productivity can be expected. Transport is already responsible for 20% of pollution in India's large metropolises.

It is therefore critical to strengthen public transport systems, which are currently inadequate in many cities, to curb the forecasted growth of motorized vehicles. Investments of as much as 500 billion USD will be required over the next ten years to improve the quality and reliability of public transport services.

Catalyzing public and private investments in the sector is necessary, but not sufficient. Key steps to be taken for public transport include: developing intermodal integration (particularly for feeder services), improving user experience on public transport, and revising tariff schemes – while guaranteeing sustainability of operations – to assure equitable access to public transport. For instance, in Delhi, a daily metro ticket may represent as much as 25% of a daily labourer's wages. Finally, encouraging urban planning policies, street design principles and transport services that cater to pedestrians and cyclists is critical, as walking and cycling remain the majority mode of travel in Indian cities today.

Currently, AFD's urban transport projects account for 56% of AFD's portfolio in India, with a total commitment of €1.1 billion financing for metros in the cities of Bangalore, Kochi, Nagpur, Pune and Surat.

## 2 *Supporting low-carbon mobility planning through MobiliseYourCity*

Ever since the launch of its activities in India in 2008, AFD has greatly prioritised supporting the government's Urban Transport policy to promote sustainable, low-carbon and accessible public transports.

In addition to financing metro projects through sovereign loans, AFD promotes French know-how through grants to foster technical cooperation programs, with a focus on promoting intermodality, improving urban transport governance, developing non-motorized transport modes, and exploring alternative financing mechanisms.

One such initiative is MobiliseYourCity, a worldwide program initiated by the French and German governments at the COP21 in Paris, and financed in India with support from the Asia Investment Facility of the European Union. MobiliseYourCity seeks to support governments in stepping up their involvement in favour of transformational actions towards more sustainable urban mobility. It does so by going beyond infrastructure development and tackling mobility issues as a whole. It supports local and national stakeholders in improving urban planning practices and policies to reduce GHG emissions related to urban transport. In India AFD is managing a €3.5 million grant from the European Union to implement the initiative in the three pilot cities of Nagpur, Ahmedabad and Kochi.

## 3 *Fostering exchange of experience and technical cooperation between France and India*

Since 2016, AFD has mobilized close to €2 million of grant funding from the French government for technical cooperation and knowledge exchange, in addition to its long-term loan financing of metro projects.

With its metro partners, and in line with the government's Metro Rail policy, AFD focuses on developing physical and tariff multi-modal integration, and promoting stronger integration of urban and transport planning, which makes use of Transit Oriented Development (TOD) policies and tools. For instance, a two-year technical partnership agreement with Kochi Metro Rail Limited (KMRL) has led to the promotion the innovative open-loop card – a metro card that can also be used as a bank debit card. This partnership also led to road and station redesign, in addition to upgrading public junctions to improve pedestrian access to the metro.

More recently, AFD is working with public authorities in Hyderabad, Puducherry, Nagpur and Pune to support feasibility studies and provide technical expertise for sustainable mobility planning. Funds for these Technical Assistance programs, mobilized through AFD's Fund for Technical Expertise and Experience Transfers (FEXTE), will support partner organizations identify priority urban mobility gaps, propose solutions based on global best practices, and implement tailored sustainable public transport solutions.

AFD-financed technical cooperation projects focus on three priorities:

- ▮ exploring alternative public transport solutions, particularly for intermediate cities, through mobility studies;
- ▮ developing e-mobility options through pilot studies;
- ▮ strengthening metro operations and maintenance practices.

## 4 *A new area of collaboration: supporting the modernization drive for India's railway stations*

Trains remain the main mode of long-distance transport in India. With nearly 115,000 kilometres of rails and 19,000 trains carrying 23 million commuters every day, the Indian rail network is one of the largest in the world. However, the technology and infrastructure behind it can be rather out of date. The Government of India has allocated €120 billion for investments in order to modernize its rail network over the period of 2017-2022. Around 10% (€13 billion) of these investments are earmarked for the modernization of 600 railway stations. In addition to being a part of transport infrastructure, train stations have an important urban footprint and can be a catalyst for urban renewal.

In 2018, AFD approved a technical cooperation program to support India's Railway Station Modernisation Program. This will be implemented by Indian Railway Stations Development Corporation (IRSDC) and the French SNCF Hubs & Connexions, with a specific focus on the elaboration of national station design and TOD guidelines, and two pilots, tentatively in Pune and Bangalore.

# OUR KEY FIGURES IN India



1.1

billion euros  
of commitments  
in 10 years



5 metro  
projects

6 technical  
cooperation projects

financed since 2008



	Bangalore Metro	Kochi Metro	Nagpur Metro	Pune Metro	Surat Metro
	72 km	25.7 km	38 km	33.2 km	40.3 km
	61 stations	22 stations	36 stations	30 stations	38 stations
	49 M€/km	30 M€/km	32 M€/km	45 M€/km	38.8 M€/km
	full corridors 2019	full corridors 2019	full corridors 2020	full corridors 2023	full corridors 2024
	AFD financing: 310 M€	AFD financing: 180 M€	AFD financing: 130 M€	AFD financing: 180 M€ (1st tranche)	AFD financing: 250 M€

# INDIA

## Helping Kochi sustainably restructure its urban mobility



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**AFD supports the city of Kochi in the construction of a light metro and the restructuring of its urban mobility. An innovation-driven project that greatly contributes to transforming Kochi into a Smart City.**

### BACKGROUND

Kochi is the economic capital of Kerala. As with other major Indian cities, rapid urban and economic growth has led to an exponential increase in the number of personal vehicles. This has resulted in congestion and air pollution. The existing public transport was also saturated.

To enhance the quality of life of Kochi's residents and further increase the city's economic appeal, the public company Kochi Metro Rail Limited (KMRL) was set up to build an elevated railway corridor connecting the major parts of the city.

AFD has supported the project since its inception, mainly through financing. It has also facilitated a technical cooperation between KMRL, the French NGO Codatu, and the French city of Lyon's transport authority, on topics related to sustainable mobility.

### DESCRIPTION

The first phase of the project led to the construction of a light metro with a 25.6 km-long viaduct route, including 22 stations. Today, 18 km are already operational.

In 2016, AFD provided a second funding for the extension of the network and its integration into the urban landscape through the development of open spaces, walkways and cycle-tracks.

In 2020, AFD and KMRL signed an agreement to fund the second phase of this project, focussing on facilitating the movement of pedestrians and cyclists around the metro stations, on arterial roads, as well as on junctions located on the metro corridors.

Kochi's network is unique in many ways, including how it has empowered women, the pace with which the project was implemented, as well as the cost savings, green initiatives and digital solutions it incorporates.

KMRL has worked continuously to seamlessly connect the metro to other modes of transport in the city, thereby completely transforming mobility in the city.

In the near future, users will be able to use a single ticket for their entire trip in the city, making their travelling even more efficient.

### IMPACTS

- By 2022, nearly 500,000 people are expected to use the metro every day.
- Kochi metro has hired an impressive 774 women. Of these, 600 women come from underprivileged communities.
- By opening up the growing economic centres, the economic attractiveness of the city will grow.

#### Country

India



#### Location

Kochi



#### Sectors

Infrastructures, Sustainable cities



#### Financing tool

Sovereign concessional loan



#### Amount financing

387M€

#### Funding duration

5 Years

#### Beneficiaries

Kochi Metro Rail Limited



#### Project start date

Phase I: 07/02/2014

Phase II: 05/02/2020



# INDIA

## Reducing urban greenhouse gas emissions through sustainable urban mobility planning



**AFD is working with three pilot cities in India to develop comprehensive urban mobility plans to reduce greenhouse gas emissions via a grant delegated by the EU's Asia Investment Facility.**

### BACKGROUND

With 1.2 billion inhabitants and 40 cities with a population of over one million inhabitants, India has become the third global source of greenhouse gas (GHG) emissions. Given the challenge of sustaining its rapid economic growth while dealing with the global threat of climate change, the Government of India released a National Action Plan on Climate Change (NAPCC) in 2008, outlining existing and future policies and programmes related to climate mitigation and adaptation. Among other challenges, this action plan addressed the need to incentivise the use of public transportation, notably through better urban planning and modal shift through long-term transport plans.

However, most cities do not have a long-term comprehensive urban transport strategy or proposals for specific projects are not integrated with other urban transport measures or land use patterns. This results in traffic congestion and air pollution in cities. For this reason, India has been investing heavily in urban transport infrastructure over the past few years and is looking to reduce its contribution to the global GHG emissions.

### DESCRIPTION

MobiliseYourCity (MYC) is part of an international initiative supported by the French and German governments launched at the 21st Conference of Parties (COP21) in December, 2015.

Based on a proposal made by AFD in 2015, the European Union agreed to provide funds of €3.5 million through the AFD to contribute to specific investments and technical assistance components within the MYC programme in India.

In India, MYC will support three pilot cities - Nagpur, Kochi and Ahmedabad - in their efforts to reduce their Green House Gas (GHG) emissions related to urban transport. To do this, the project will support these cities with the implementation of urban mobility plans at the local level. At the national level, this project will contribute to improvements to the nation's sustainable transport policy. A technical assistance component will support the three pilot cities as well as the Ministry of Housing and Urban Affairs with the planning and implementation of sustainable urban transport projects, strengthening institutional capacity around urban mobility planning and permitting learning and exchanges with other cities across India on best practices.

### IMPACTS

- Local bodies and politicians have an improved sense of ownership of their comprehensive urban mobility plans thanks to inclusive and participatory processes behind the creation of these plans.
- Urban local bodies have the capacity and skills to effectively implement and monitor their urban mobility plans and their impact.
- Urban transport policies include a reduction in GHG emissions as part of their climate change mitigation agenda.

#### Country

India



#### Location

Kochi, Nagpur, Ahmedabad



#### Sectors

Sustainable Mobility



#### Financing tool

EU Delegated grant to AFD



#### Amount financing

€ 3.5 million

#### Funding duration

2 Years

#### Beneficiaries

MoHUA,  
Ahmedabad Municipal Corporation,  
Nagpur Smart and Sustainable  
City Development Corporation Ltd  
and Kochi Municipal Corporation

#### Partner institutions

ADEME, CEREMA, CODATU, EBRD,  
GIZ, KFW, Wuppertal Institut



#### Project start date

October 2018



Co-funded by the  
European Union

# INDIA

## A metro to relieve congestion in the city and reduce carbon emissions in Bangalore



AFD is co-financing the metro in Bangalore. This project aims to ensure that urban mobility is accessible, safe and low-carbon.

### BACKGROUND

Bangalore is the third most populated city in India and the hub of the country's "new economy". It needs to address the challenge of rapid population and urban growth. The growing congestion on road networks and heavy air pollution have significant impacts on public health, urban productivity and economic attractiveness.

Bangalore Metro Rail Corporation (BMRC), the contracting authority, is in the form of a joint venture between the Indian Government and Government of Karnataka. It has a mandate to relieve congestion in the city and ensure that its development is cleaner, with lower greenhouse gas emissions, by building and implementing the metro project.

### DESCRIPTION

AFD has cofinanced phases I and II of the construction of the metro, for EUR 110m and EUR 200m, respectively. The objective is to improve urban mobility in Bangalore City.

Phase I of the Bangalore metro was launched by BMRC in 2008 and involved the construction of two metro lines with a north-south route (24 km) and east-west route (18 km), which have been partially operational since 2011. It included the construction of 40 stations. There is one station every km and the pricing policy is attractive in order to make the metro widely affordable. AFD's loan for phase I was allocated for the finalization of the infrastructure and equipment of these lines.

Phase II of the metro provides for the extension of the two existing lines in order to link up the city's essential economic areas, as well as the construction of two new lines. 400,000 additional passengers a day are expected as soon as they are commissioned. AFD's financing for phase II, allocated in 2014, is for the extension of the existing lines.

### IMPACTS

- ➔ The metro relieves congestion in the city and promotes development with lower greenhouse gas emissions
- ➔ Improvement in quality of life and reduction of travel times: from 2022, 1.4 million passengers/day will benefit from the metro
- ➔ Development of infrastructure and commercial facilities near the stations

#### Country

India



#### Location

Bangalore



#### Sectors

Sustainable cities, Infrastructures



#### Financing tool

Concessionnal sovereign loan



#### Amount financing

310M€

#### Funding duration

4 Years

#### Beneficiaries

Bangalore Metro Rail Corporation



#### Project start date

14/02/2013

# INDIA

## Promoting sustainable low-carbon mobility in Nagpur



**AFD is supporting the sustainable urban mobility policy of Nagpur. It involves the construction of a light metro, which will meet the new needs generated by the city's economic growth. This will result in a safe, efficient, affordable and low-carbon transport system.**

### BACKGROUND

Nagpur is one of the most dynamic cities in Maharashtra. The city is the State's winter capital and today has 2.5 million inhabitants. It was selected as a Smart City in September 2016.

An ambitious economic development project, MIHAN, is being implemented in the south of the city with the objective of creating a "special economic zone" near the airport to boost the local economy.

The public transport system currently only covers 10% of travel. While the city has managed to control traffic problems up until now, economic development will lead to an increase in traffic jams and pollution.

Consequently, it is necessary to set up a safe, efficient, affordable and low-carbon transport system to support the economic and sustainable development of the city.

### DESCRIPTION

The Nagpur Metro Rail Corporation Limited (NMRC) was set up in 2015 in the form of a joint venture between the government of India and government of Maharashtra. The aim is to build two light metro lines in Nagpur, on the east-west and north-south routes. NMRC has since become MAHA-METRO and is responsible for the development of all metro projects in the State of Maharashtra.

AFD is co-financing the construction of 38 km of overhead metro lines and 36 overhead stations. The metro will eventually link up and serve economic, commercial, university and residential areas.

In addition, the City of Nagpur is benefiting from technical assistance via the MobiliseYourCity program financed by AFD with funds delegated by the European Union. The project will focus on the measurement of climate impacts related to urban mobility.

### IMPACTS

- ➔ Easier mobility and high-quality service for residents: the metro will carry 352,000 passengers a day
- ➔ Contribution to the city's attractiveness and support for economic development by connecting the main business areas
- ➔ Reduction in local pollution and carbon emissions
- ➔ Promotion of integrated urban development

#### Country

India



#### Location

Nagpur



#### Sectors

Sustainable cities, Infrastructures



#### Financing tool

Concessionnal sovereign loan



#### Amount financing

130M€

#### Funding duration

5 Years

#### Beneficiaries

MAHA-METRO



#### Project start date

17/11/2016



Co-funded by the  
European Union

AFD is an inclusive public financial institution and the main actor in France's development policy. It makes commitments to projects that genuinely improve the everyday lives of people, in developing and emerging countries and in the French overseas territories.

AFD works in many sectors – energy, health, biodiversity, water, digital technologies, training – and supports the transition to a safer, more equitable and more sustainable world: a world in common. Its action is fully in line with the Sustainable Development Goals (SDGs).

Through its network of 85 agencies, AFD operates in 109 countries and is currently supporting over 3,500 development projects. In 2017, it earmarked EUR 10.4bn to finance these projects.

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