

Kochi, India

Partner city

Status of the project: Completed technical assistance



Basic Information

Urban area: 632 km²

Population: 2,100,000 (2011) | Growth rate: 1%

GDP per capita: USD 2,800 (2017)

GHG emissions per capita: 1.7 tons (India, 2014)

Modal share:

Motorcycle: 26%

Cars: 10%

Public bus: 42%

Cycling: 3%

Walking: 12%

Other motorised: 7%

National GHG emissions per capita: 2.41 (tCO₂eq)

Coastal City

Context

Kochi, one of the most important cities in South India is also known as the commercial capital of Kerala. Its influence extends far beyond the municipal corporation area of 95 km² and its 650,000 inhabitants. The demands for mobility in the city is rapidly increasing, with the latest estimates indicating that the metropolitan region accounts for almost two million passenger trips per day (CMP, 2017).

AFD has supported the city of Kochi in constructing a light metro and restructuring its urban mobility - an innovation-driven project that greatly contributes to transforming Kochi into a Smart City.

Kochi has initiated various successful initiatives for the multimodal integration of the first phase of the metro under development. The city has introduced an integrated smart card system, established an agreement with rickshaw associations, and integrated metro stations with walking and cycling infrastructure.

The city has two railway stations, namely Ernakulum North and Ernakulum South, with an estimated daily passenger volume of 65,000. The stations are connected via a 3.8 km corridor that links major activity centers, such as Ambedkar Stadium, Lissie Hospital, and the KSRTC Bus terminal & depot. However, connectivity remains poor, and the primary modes of transport are walking and autorickshaw (intermediate public transport). Despite ongoing efforts, the urban local authority has struggled to improve connectivity between the two stations due to a lack of a suitable design and clarity on optimal movement patterns.

In the recent years, there has been a renewed interest in improving mobility along the corridor. The city aims to develop it as a green corridor, improving connectivity, aesthetics, cleanliness, and security, thus increasing land value throughout.

The objective is also to facilitate multi-modal integration by improving the accessibility to metro stations from identified activity centers. The project's specific goal is to promote mobility focusing on pedestrians and non-motorised modes to create a more walkable, safe, environmentally friendly, and humane city.

However, several challenges persist: lack of stakeholder buy-in for the Comprehensive Mobility Plan (CMP), failure to consider climate impacts in the CMP, disappointing metro ridership and revenues (probably due to inappropriate fares and competition with city buses), and insufficient data availability on urban mobility.

Support from the Partnership

Technical assistance: Improve the existing city mobility plan and support a pre-feasibility study for priority a pilot project

Funded by: EU Asia Investment Facility (AIF)

Funding amount: Approx. EUR 700,000

Implemented by: AFD through the MobiliseYourCity India Project, supported by WRI for project management and coordination

Local counterpart: City of Kochi

Supported activities:

1. Development of a toolkit for the preparation of sustainable and tailored Comprehensive Mobility Plans (CMPs), including the definition of monitoring indicators
2. Capacity-building for Municipal Corporations and Unified Metropolitan Transport Authorities to
 - » i. Implement the toolkit within their cities
 - » ii. Develop strategies for low carbon transport in collaboration with city stakeholders
 - » iii. Ensure the monitoring of strategy implementation through data collection
 - » iv. Facilitate the transfer of data to the national level;
3. Preparation of CMP improvements with city stakeholders, including conducting a bus route rationalisation study in Kochi
4. Conducting a pre- feasibility study for a priority pilot project: the North-South Green Mobility corridor in Kochi
5. Establishment of a dedicated unit within Urban Local Bodies to collect data and oversee the progress of CMP implementation, functioning as a "mobility observatory."

Status of the SUMP process

Project start: 2018 Q4

Expected project completion: 2023 Q4

Completed outputs:

- Mobilise Days
- Establishment of the urban mobility observatory
- North- South rail corridor mobility improvement plan
- Eight capacity building sessions
- Bus Route rationalisation study

Insight from practice

How Kochi aims to transfer the walking experience of more than 10,000 users along the Green Mobility Corridor

Moving along an active railway - an uncomfortable and dangerous route

The corridor selected for mobility improvement serves as the shortest connection (2.5 km in length) between the Ernakulam North and Ernakulam South railway stations. No continuous road exists along this corridor, and the area is characterised by difficult accessibility, uneven paths, and inadequate lighting at night. Despite these conditions, four mobility surveys conducted in February 2020 as part of the diagnosis phase of the study indicated that almost 15,000 people travel along the corridor every day. This includes:

- 10,000 pedestrians who either walk along or on the tracks due to the difficult walking conditions (60%) or cross the tracks (40%)
- 3,000 autorickshaw passengers navigating complex and congested routes parallel to the corridor, transporting 8,000 people
- 400 cyclists utilising parts of the corridor that are accessible to them

The diagnosis of the current situation along the corridor indicated the necessity to improve the connectivity between the railway stations and with the city centre and the surrounding areas as part of the integration of the area into Kochi's urban space. The current unsafe and uninviting conditions further accentuated the need for improved urban management.

Ensuring safe and comfortable movement along the railway - design and planning principles of the Green Mobility corridor

Based on the analysis of the current conditions and surveys results of current corridor users, the plan for the Green Mobility corridor consists of four main components:

- The development of a green corridor adapted to non-motorised transport (mainly focused on pedestrians and cyclists)
- The development of e-rickshaw services on a separate line to provide a fast and environmentally friendly alternative to the current autorickshaws
- Development of hubs and connections to the city centre at core intersections like the KSRTC Bus Terminal to foster intermodal connections and create public spaces
- Development of social and commercial activities to increase the corridor's appeal

The design principles for the proposed project primarily focused on increasing the amenity and accessibility of the area for non-motorised transport modes by levelling the ground and developing pathways of 3 - 4.5 m to ensure safe passage for cyclists and pedestrians within the existing right of way. As part of the aim to increase the security of users, the installation of fences and hedges to separate the railway tracks, was included in the plan. An illumination concept will further ensure safe and appealing use during the night and can also contribute to the beautification of the corridor. Efforts to integrate existing trees into the new design are planned to further enhance the attractiveness and comfort of walking and cycling on the route.

On the pathways towards implementation

In this preliminary stage of the project, implementation costs were estimated at 250 million INR, approximately 3.31 million USD, excluding land acquisition. The estimated user frequency of the corridor and the associated benefits in terms of emission reduction and increase in social and economic activities include:

- A 50% increase in pedestrians and cyclists (including transfer from autorickshaws, motorcycles and car users)
- Emission reduction potential of 84 tons of CO₂/year based on a transfer of 2,400 vehicle-km/day to green modes on the corridor
- Considerable improvements in safety (prevent people from walking on the railway tracks)
- Attractive public space for the 30,000 people who live, work or study around the corridor

The Mobility Improvement study suggests that the project could be implemented in the short term, and initial steps have already been taken by the municipality in this regard. The project was reviewed and updated by the technical department of the Kochi Municipal Corporation, and a preliminary assessment of land ownership was conducted to elaborate on feasibility. Despite delays due to the Covid-19 pandemic and change of municipal government, the project report has been presented and approved by the Municipal Council to commence the Detailed Project Report process for further implementation

Highlights of the past year

Three cities in India have set up an Urban Mobility Observatory

The completion of the Technical Assistance in Kochi was the main highlight of 2023. Additionally, the finalisation of the Urban Mobility Observatories in three cities in India: Ahmedabad, Nagpur and Kochi, was another major highlight. This Observatory showcases the data collected during the technical assistance period, providing an overview of transport-related information for each city. A set of 20 indicators has been defined and is presented through graphs and maps on an interactive website. The Kochi Urban Mobility Observatory can be accessed via the following link: <http://transitec.oslandia.io/sump/mobility-indicators/kochi>.

Due to the limited availability of new or aggregated data, the factsheet has only marginally been updated in 2024.