

Kochi, India

Technical Assistance

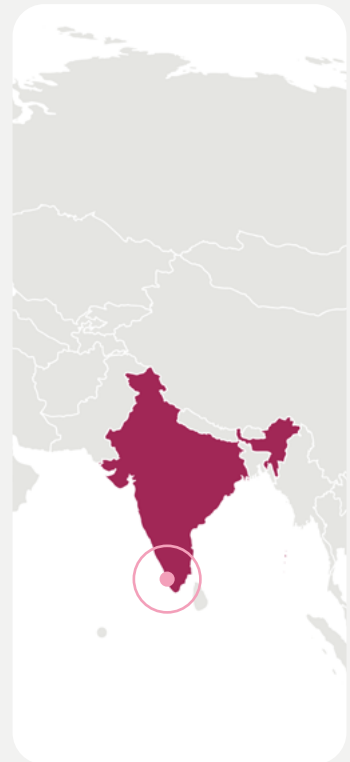
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Basic information

Urban area	→	632 km ²
Population	→	2,100,000 (2011)
Growth rate	→	1%
Coastal City		
GDP per capita	→	USD 2,800 (2017)

Modal share

Motorcycle	→	26%
Cars	→	10%
Public bus	→	42%
Cycling	→	3%
Walking	→	12%
Other motorised	→	7%
National GHG emissions per capita	→	2.41 (tCO ₂ eq)
Exposure to climate change	→	HIGH



Context

Kochi, one of the most important cities in South India, is also known as Kerala's commercial capital. Its influence extends far beyond the municipal corporation area of 95 km² and its 650,000 inhabitants. The city's mobility demand is rapidly increasing, with the latest estimates indicating that the metropolitan region accounts for almost two million passenger trips per day.¹

With AFD support, Kochi has undertaken major investments in urban mobility, notably through the construction of a light metro system and broader efforts to restructure the city's transport system. This innovation-driven project dramatically contributes to transforming Kochi into a Smart City.

In parallel, Kochi has launched several successful initiatives to support multimodal integration of the first phase of the metro. These include introducing an integrated smart card system, establishing an agreement with rickshaw associations, and integrating metro stations with walking and cycling infrastructure to improve first- and last-mile connectivity.

Kochi is served by two railway stations, namely Ernakulum North and Ernakulum South, with an estimated 65,000 passengers per day. The stations are connected via a 3.8 km corridor that links significant activity centres such as Ambedkar Stadium, Lissie Hospital, and the KSRTC Bus terminal and depot. Despite its strategic importance, connectivity along this corridor remains poor, with walking and auto-rickshaws (an intermediate mode of public transport) as the dominant modes. 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, including the allocation of space between modes and the prioritisation of pedestrians, public transport, and non-motorised transport. As a result, investments have been fragmented and largely limited to small-scale interventions, preventing the development of an integrated and high-quality multimodal corridor.

There has been renewed interest in enhancing mobility along the corridor by developing it as a green corridor, with improvements in connectivity, aesthetics, cleanliness, and security. This renewed focus has contributed to increased land values. The project further seeks to facilitate multimodal integration by improving accessibility to metro stations from designated activity centres. Emphasis is placed on pedestrians and non-motorised transport to create a walkable, safe, environmentally sustainable, and inclusive urban environment.

However, several challenges persist. First, the Comprehensive Mobility Plan (CMP) lacks sufficient stakeholder buy-in and fails to address climate impacts adequately. Second, metro ridership and revenues remain below expectations, likely due to uncompetitive fares and overlapping service with city buses. Finally, comprehensive data on urban mobility patterns remain scarce, hindering effective planning and decision-making.

Support from the Partnership

Technical Assistance: Improve the existing city mobility plan, support a pre-feasibility study for a priority pilot project and build an urban mobility observatory

Funded by: European Union (EU), Asia Investment Facility (AIF)

Funding amount: ≈ EUR 700,000

Implemented by: Agence Française de Développement (AFD) through the MobiliseYourCity India Project, supported by WRI for project management and coordination

Local counterpart: City of Kochi

Supported activities:

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

The Urban Mobility Observatory was finalised in 2023. It showcases the data collected during the technical assistance period, providing an overview of transport-related information in Kochi. A set of 20 indicators has been defined and is presented through graphs and maps on an interactive website.²

¹ According to Comprehensive Mobility Plan (CMP, 2017) https://www.kochimetro.org/wp-content/uploads/2015/01/RFP_CMP_dt_17.01.15.pdf

² The Kochi Urban Mobility Observatory can be accessed via the following link: <https://transitec.oslandia.io/sump/mobility-indicators/kochi>

Status of project implementation

Project start: 2018 Q4

NUMP adoption date: 2023 Q4

Completed outputs:

- Mobilise Days
- North-South rail corridor mobility improvement plan
- Eight capacity-building sessions
- Establishment of the urban mobility observatory
- Launch and implementation of the Green Mobility Corridor
- Bus Route Rationalisation Study

North-South rail corridor mobility improvement plan

- Presentation of the phases:
- Study phases:
 - Field research, desk research, data gathering, and interviews
 - Urban and mobility diagnosis
 - Definition of the objectives
- Implementation phases:
 - Development of the action plan
 - Evaluation of the plan
- Data used:
 - Review of existing studies and planning documents
 - Collect qualitative and quantitative data
- Stakeholder engagement:
 - Identification and mapping of key stakeholders

Insights from practice: key pilot project takeaways

Moving along an active railway: an uncomfortable and dangerous route

The corridor selected for mobility improvement is the shortest connection (2.5 km) between the Ernakulam North and Ernakulam South railway stations. Poor accessibility, uneven paths, and inadequate night lighting characterise the continuous runs of poor along this corridor and the area.

Despite poor walkability, a corridor with high pedestrian volumes

Despite these conditions, four mobility surveys conducted in February 2020, as part of the study's diagnostic phase, indicated that nearly 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 navigate complex and congested routes parallel to the corridor, transporting 8,000 people
- 400 cyclists utilising parts of the corridor that are accessible to them

A clear need for improved urban management

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



Source: Suez

Recommendations

The plan for the Green Mobility Corridor: 4 recommendations to ensure safe and comfortable movement along the railway

Based on the analysis of the current conditions and survey 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

Design principles

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 3-4.5 m pathways to ensure safe passage for cyclists and pedestrians within the existing right-of-way. As part of the aim to improve user security, the installation of fences and hedges to separate the railway tracks was included in the plan. An illumination concept will further ensure safe, appealing use at night and can contribute to the corridor's beautification. Integrating existing trees into the new design is planned to enhance further the attractiveness and comfort of walking and cycling on the route.



Source: Suez

Expected benefits and improvements

The estimated user frequency of the corridor and the associated benefits in terms of emission reduction and increases 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.

Results and perspectives for scaling

Cost estimation

In this preliminary stage of the project, implementation costs were estimated at 250 million INR (approximately 3.31 million US\$), excluding land acquisition.

Steps Already Taken

The Mobility Improvement study suggests the project could be implemented in the short term, and the municipality has already taken initial steps. The project was reviewed and updated by the Kochi Municipal Corporation's technical department, and a preliminary land ownership assessment was conducted to assess feasibility. Despite delays due to the COVID-19 pandemic and the change in municipal government, the Municipal Council has presented and approved the project report, initiating the Detailed Project Report process for further implementation.

Green Mobility Corridor: Advancing Toward Implementation

The North-South Green Mobility Corridor project, initially supported through the MobiliseYourCity pre-feasibility study, has progressed beyond concept:

- The Municipal Council has approved the project report, enabling the start of the Detailed Project Report (DPR) process.
- The technical departments of the Kochi Municipal Corporation reviewed and updated the initial concept to refine the design, feasibility, and land ownership considerations.
- Implementation planning is ongoing after delays caused by COVID-19 and municipal government changes.

Associated expected impacts (from the study):

- +50% increase in pedestrians and cyclists,
- 84 tCO₂/year emissions reduction,
- Improved safety (eliminating walking on railway tracks),
- Better connectivity between major transport nodes and activity centres

Urban Mobility Observatory: Finalised and Operational

The Urban Mobility Observatory for Kochi was completed in 2023 and continues to function as a local mobility data hub. It displays 20 mobility indicators online through maps and graphs.

The observatory supports:

- Monitoring of the new CMP
- Data-driven decision-making
- Feeding data back to the national level

Advancements in Multimodal Integration (2024-2025)

Continuing AFD Support:

- AFD continues to support multimodal integration through its loan to Kochi Metro Rail Limited (KMRL).
- Bus Network Restructuring

An additional 27 million from AFD has been allocated to procure buses to support the restructured bus network.

Collaboration continues with the city to optimise bus routes in line with MobiliseYourCity's rationalisation study.

Expansion of the Metropolitan Mobility Network (2024-2025)

MobiliseYourCity does not directly finance these developments, but they build on planning foundations created by the technical assistance:

- Water Metro: Expansion completed, adding four additional terminals to strengthen multimodal connectivity.
- Kochi Metro: Progress continues on Metro Phase III, supporting east-west movement and last-mile integration.
- Light Tram System: The government is reviewing the feasibility of a light tram, indicating continued interest in diversifying mass transit.
- Hub Redevelopment: Strategic mobility hubs such as Vyttila are being redeveloped to improve intermodal connectivity.

Institutional Strengthening

- Eight capacity-building sessions completed.
- A dedicated mobility observatory unit has been established within Urban Local Bodies.
- A toolkit for preparing Comprehensive Mobility Plans (CMPs) has been developed and adopted.
- CMP monitoring processes and data transfer mechanisms have been institutionalised.

Last updated December 2025