India and Germany – together for a green future

India and Germany have been working for more than 60 years together on environment-friendly urban development projects. To further deepen this cooperation, in November 2019, the Ministry of Housing & Urban Affairs (MoHUA), Government of India and the German Federal Ministry for Economic Cooperation and Development (BMZ) signed a Joint Declaration of Intent on Green Urban Mobility Partnership (GUMP). Both countries agreed to collaborate more closely to transform urban transport systems through more efficient, people-centric and low carbon mobility solutions.

BMZ agreed to make available concessional loans in the volume of €1 billion through KfW Development Bank over a period of five years up to 2023. The utilisation of funds is envisaged to cover a wide range of sustainable urban mobility infrastructure improvement measures such as city bus transport systems, trams, water transport, cable cars, non-motorised transport, and multimodal integration. In addition, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) is providing technical cooperation to enhance the capacities of national, state and local institutions and decision-makers for designing sustainable, inclusive and smart solutions for easy and affordable mobility.

The implementation of this agreement is accompanied by a policy dialogue between the Indian and German sides to achieve effective international contributions to fighting climate change jointly.

"COVID-19 pandemic has obliged all stakeholders to look at public mobility in a different way, learnings would be useful in formulating the future roadmap for green mobility.

Mr. Durga Shanker Mishra
Secretary,
MoHUA

We aim to support India in providing sustainable and innovative solutions to cater the mobility needs of its tremendously fast growing urban population.

Prof. Dr. Claudia Warning
Director General, German Federal Ministry for Economic Cooperation and Development (BMZ)."
The Federal Ministry for Economic Cooperation and Development (BMZ) of Germany assists developing countries in making headway on climate change mitigation and dealing with the consequences of climate change. To that end, the Ministry works together with its partner countries across the world, helping to foster implementation of the Paris Agreement and the United Nations 2030 Agenda for Sustainable Development.

India has a key role to play in finding solutions for global challenges such as how to protect the climate or achieving the global development goals adopted in the 2030 Agenda. That is why India is one of Germany’s “global development partners” for international development cooperation. Priority areas of German-Indian development cooperation are renewable energy and energy efficiency, sustainable urban development, and environmental protection and resource conservation. The main focus of this cooperation is supporting programmes with a structural impact on climate change mitigation and adaptation. These programmes build on India’s own efforts and reform programmes. They demonstrate model solutions and leave the participating partners qualified to carry on with, or extend, the projects on their own.

**ABOUT BMZ**

As a development agency in the field of international cooperation for sustainable development, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is dedicated to shaping a future worth living in. GIZ provides the technical assistance with international and national experts to help reshape the city infrastructure and policies on several government levels.

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH has been working jointly with partners in India for sustainable economic, ecological, and social development.

**ABOUT Kfw**

KFW Development Bank is responsible for implementing the Financial Cooperation in India on behalf of the German Government. Being one of the world’s leading promotion banks with decades of experience, it works on behalf of the Federal Government and the federal states of Germany to improve economic, social and ecological living conditions at home and abroad.

The KFW office in New Delhi is KFW’s largest office worldwide, and KFW undertakes an annual commitment of around € 1 billion every year, with its focal areas covering the energy sector, sustainable urban development, mobility, and natural resource management. One primary focus of the Indo-German financial cooperation is the mainstreaming mobility transition in India. Urban Mobility alone, being one of the most important components of Sustainable Urban Development, has a KFW portfolio of € 1.33 billion under implementation. Climate Friendly Urban Mobility programmes from 2013-2018, alone committed € 970 million, currently supporting ongoing mobility projects in Kerala, Maharashtra and Tamil Nadu and preparing future mobility initiatives pan-India.

*Multi-Modal Integration*
The goal is to carry additional 600,000 passengers and save around 2,900 tons of CO₂ each day.

Currently, the state-owned bus company Tamil Nadu State Transport Corporation (TNSTC) with its 8 STUs, transports around 18 million people daily with a fleet of more than 21,000 diesel buses. In a first step, about 2,213 aged and uneconomical diesel buses are to be replaced with modern, more energy-efficient models, using BS VI standards.

What is it about?
In India, motorization rate is growing five times faster than the population. Increasing economic prosperity in major cities, rapid population growth and high urbanization rates have lead to more and more private on road leading to increased congestion. As existing public transport systems and infrastructure cannot keep up with the increasing demand for mobility, people rely on private motorization with well-known negative consequences for the climate and human health. To counteract this development, the state of Tamil Nadu is setting an example in promoting safe and sustainable public transport with a comprehensive modernization and restructuring program for the bus sector.

With KfW’s concessional financing assistance under the Indo-German Development Cooperation, the state bus modernisation project focuses on modernising the bus fleet, digitalising the bus route planning and operations as well as promoting user-experience.

What is the current status?
The Project Implementation Unit (PIU) under Transport Development Finance Corporation (TDFC) has been established and coordinates consultant activities, integrates various stakeholders, prepares necessary decisions and initiates their implementation. Relevant decisions are taken by a steering committee, consisting of the management of the relevant stakeholders under the chairmanship of the Transport Secretary of Tamil Nadu.

Two consultant teams have been contracted since beginning of 2021, an Implementation Consultant, supporting TDFC/TNSTC with the implementation of the project and a consultant for the Accompanying Measure to facilitate respective training and capacity building.

First tenders for new Diesel Buses BS VI are expected to be published very shortly.
The Green Urban Mobility
Partnership Newsletter

Due to Kochi’s particular geography, inland waterways have traditionally played an important role in urban transport. Lack of investment in the deteriorating waterways mobility system whilst focus on road infrastructure and increased ownership of private vehicles have led to a vicious cycle wherein the ferry ridership has steeply declined and an unsustainable shift to road-based transport is being experienced. Hence, reviving the inland waterways for passenger movement through investments in modern ferries, jetties (boat stations) and last-mile connectivity around the jetty areas (e.g. electric feeders, bicycle sharing and walkways) is an important pillar of Kochi’s public transport strategy. Due emphasis on accessible infrastructure and safety provisions for women and differently-abled is critical.

The German Development Bank, KfW on a mandate from the Federal Ministry for Economic Cooperation and Development (BMZ) supports Kochi Metro Rail Ltd (KMRL) with implementing the Kochi Water Metro initiative by introducing a modern sustainable and integrated water transportation system until the end of 2022, which shall be a user-oriented and socially integrated ferry service.

The project envisages use of KfW financial assistance to bring in increased share of energy efficient ferries for the development and modernization of organized waterborne passenger transport in the backwaters of Kochi, Kerala.

Where do we stand today?

- The construction work for 11 jetties is underway – with Vytilla and Kakkanad nearing completion. Inauguration ceremony of the two terminals was held in February 2021 in the presence of the Chief Minister of Kerala Shri Pinarayi Vijayan, the German Ambassador to India Mr Walter J. Lindner and other dignitaries.
- Construction of 23 hybrid 100 passenger capacity boats has been commissioned. The first such boat successfully passed the “watering-in” in March and is currently under trials
- Other activities, like the construction of Floating Pontoons with Gangways, procurement and installation of Information and Information Technology Management System (ITMS) as well as Passenger Counting Systems are ongoing and will be successively completed shortly. It is planned to inaugurate the first ferry route still in 2021.

Ongoing trials of Kochi Water metro boat

Picture Courtesy: Kochi Metro Rail Limited

Climate Friendly Urban Mobility – Integrated Water Transport Kochi

Upon full implementation as opposed to roadways traffic are expected.

15 routes connecting
38 jetties across 10 islands
80,000 rides/day
and an average time saving of upto 30% as opposed to roadways traffic are expected.

At the same time, it is envisaged that through improved and modernized technology, a fuel usage reduction by around 41% will be achieved, leading to reduced carbon emissions.
The programme was launched during the 13th Urban Mobility India (UMI) Conference on 9th November 2020 by Secretary, MoHUA. It aims to enhance the capacities of in-service transport professionals at State/City level agencies. Adopting an experiential approach, the programme intends to sensitise participants to new emerging areas and sub-sectors in transport, their inter-relationships and role in achieving sustainability.

Topics covered as part of the active learning module: Urban Context and Sustainable Mobility, Equity and Gender, Planning for urban street and Active Mobility, Public Transport Planning, Gender Mainstreaming, Multi Modal Integration, Demand management - Parking, Intelligent Transportation System, Financing and Institutionalisation in Urban Transport, Institutional Integration.

Evolution of Public Bicycle Sharing Systems in India

More than 14 cities across India implemented PBS systems in the last four years, and many more are in the process of introducing them. While some are successful, others have struggled to sustain operations. The study collates experiences from five Indian cities (Bhopal, Bengaluru, Pune, Ranchi, and Mysuru) and international case studies and attempts to investigate the overall planning and policy framework.

The study captures the impact of distinct parameters such as business models, planning & design parameters, and system technology on the performance of the system. It brings out issues and challenges in operation of PBS, the key learnings across various fundamental parameters as well as the need for a regulatory framework to streamline the adoption of such systems in Indian cities.

Read more: https://bit.ly/3dRltl1
Top ten solutions were shortlisted from 100+ proposals received during the short listing stage. Out of which three winners and two proposals worth special mention have been selected by the distinguished Jury members.

**Winner 1**
Transit scheduling via prediction of transit crowding levels through machine learning

**Winner 2**
Increasing the efficiencies in bus routes through performance evaluation of operations, route design, and cost efficiency

**Special mention**
To improve safety, accessibility and the perception of safety through communication and outreach programmes, aimed at regaining the trust of the citizenry in the public transportation system and to increase ridership

**Winner 3**
A computer vision approach for rapid assessment and identification of bus stops that need safety and accessibility

**Special mention**
A dashboard that will optimise bus schedules by redeployment and reducing trip overlaps

The top 3 proposals will be provided contracts and will receive the opportunity to present their solutions to Smart Cities Mission, Ministry of Housing and Urban Affairs, Government of India.

Smart Move Compendium link: https://smartmove.niua.org/#/

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**Mr. Jyothilal**
IAS & Principal Secretary, Gov of Kerala

“Mobility is crucial for development, and where women are not respected there is no development. We need to ensure safer first & last mile connectivity for women commuters.”

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**Mr. Durga Shanker Mishra**
Secretary, Ministry of Housing and Urban Affairs

“Data Challenges such as Smart Move provide young academicians and professionals with an opportunity to address some of the pressing problems that commuters face on a daily basis.”

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For more information:

Create Framework for Mobility as a Service (MaaS) in Indian Cities

The study aims to explore opportunities for implementing MaaS in Indian cities and identify a structured approach towards developing a smart mobility ecosystem which is required for developing such a solution by leveraging the real value of mobility data.

All the learnings and outcomes from the study have been compiled and published on a web portal which would act as an open-source knowledge resource and ready reckoner toolkit for Indian cities planning to implement MaaS by integrating different transport modes. The toolkit consists of downloadable materials, expert video recordings and other related resources.

Explore the MaaS toolkit: https://www.maastoolkit.org/
Impact of COVID-19 globally and on Indian Cities: GIZ along with other partners collated survey findings from globally and India based policy makers, subject matter experts, researchers and professionals on likely changes in cities and mobility patterns as a result of COVID-19. The research included thoughts and opinions of the leaders and experts who provide strategic direction in managing cities and transport systems in India.

To establish passengers’ trust in public transport as a safe mobility choice post-COVID19, SMART-SUT prepared some useful Standard Operating Procedures (SoPs) for Bus Transport Services post-COVID19. The document provides strategies for essential mobility services post lockdown, maintain desirable social distancing between the passengers inside buses, at bus shelters/terminals and interchange, safety for the crew on-board, as well as at depot & terminals.

Capital Region Urban Transport (CRUT) and SMART-SUT conducted 80-hour virtual capacity-building workshops for the bus crew of Odisha State Road Transport Corporation and CRUT, covering vital topics like crew motivation, fuel-efficient driving, and better maintenance practices, and passenger-friendly approaches. GIZ also provided technical support to CRUT on crowd management post-lockdown, helping them prepare a phase-wise deployment, procure safety equipment, including air purifiers, disinfectant tunnels at bus depots, and COVIDCARE kits, along with installing physical separators in the entire fleet of Mo Bus.

In May 2021, Kochi Municipal Corporation, EJADCS, and GIZ jointly launched a fleet of auto ambulances operating 24/7 on COVID19 duty. The auto ambulances equipped with portable oxygen cans, pulse oximeters, & PPE kits, ferried COVID19 patients to the hospital, and also delivered medical equipment and other essentials to patients in home isolation. They fulfilled a total of 234 requests, including 79-night cases, spread over 4068 service kilometres.

To address the concerns over safe commute, the Kerala Motor Vehicles Department and GIZ launched a campaign on ‘Safe Use of Public Transport During COVID19’ by sensitising the public on best practices to be followed for safe travel. As a part of “break the chain” initiative, GIZ supported the Ernakulam Auto Drivers Cooperative Society (EJADCS) in installing physical separators and QR codes for cashless payment in autos to reduce the risk of transmission.

In Kochi & Coimbatore, SMART-SUT undertook sustained efforts to promote walking & cycling as safer alternatives for travel. These include creating safer pedestrian spaces, TU interventions, pop-up cycle tracks and heritage cycle routes.
The Green Urban Mobility Partnership Newsletter

Government of India and BMZ are happy to announce a new transport project “Promoting the transformation to sustainable and climate-friendly E-mobility” under the German Climate Technology Initiative (DKTI) project, commissioned by BMZ and to be implemented by partner Ministry of Heavy Industries and GIZ-India. The project timeframe is from July 2021 to June 2024 with a budget of € 4.8 Million.

The main goal of the project is to improve the conditions for creating a synergy between the transport and energy sectors in India. This will be achieved by developing e-mobility concepts for various electric vehicles, elaborating strategies for the supply of renewable energy to the vehicles, testing measures in one city, and training and capacity development of relevant transport and energy staff in key authorities. The project is in tandem with the € 1.3 billion Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME II) program of MoHI (Then MoHIP), which is a financial incentive scheme for the acquisition of electric vehicles.

The project is also tied to the National Electric Mobility Mission Plan 2020 (NEMMP), which aims at increasing the share of newly registered, battery-powered vehicles (cars, two- and three-wheelers, buses) to 30% by 2030. Aligning with the goal of sector coupling, the multidisciplinary project team consists of staff from the SMART-SUT transport project and the Nationally Determined Contributions-Transport Initiatives for Asia (NDC-TIA) India component project, which is part of the GIZ-India energy cluster.

Promoting the transformation to sustainable and climate-friendly e-mobility in India

Training Needs Assessment (TNA) of E-Buses in India

Training Needs Assessment (TNA) for E-Buses in India study identified training needs at Public Transport Authorities (PTAs) across E-Bus life cycle functions, activities, departments, and hierarchies. The study targeted PTAs and supply-side stakeholders (battery manufacturers, charger manufacturers, electricity distribution companies, training institutes, vehicle manufacturers, policy makers, private operators, etc.) to assess current skill sets and the knowledge level at PTAs. The study lays down the blueprint of a national level E-Bus training programme for PTAs in India. It presents a detailed structure and design of the Training Modules and Delivery Mechanisms. The study also provides a ready reckoner on organisation structure, staff numbers and job descriptions for 100% transition to a fleet of E-Buses.

Training Needs Assessment (TNA) of E-Buses in India

Contact person for GIZ
Mr. Juergen Baumann
Project Head - SMART-SUT (GIZ India)
juergen.baumann@giz.de

Contact person for KfW
Mr. Philipp Wyrsch
Head Sustainable Urban Development, KfW
philipp.wyrsch@kfw.de

Contact person for German Embassy:
Mr. Dirk Steffes-enn
Deputy Head of Economic Cooperation and Development
Embassy of the Federal Republic of Germany, New Delhi
wz-110newd.diplo.de

Contact person for MoHUA
Mr. Lalit Kumar
Under Secretary, Urban Transport-I
Ministry of Housing and Urban Affairs, Nirman Bhawan, Maulana Azad Road, New Delhi
kumar.lalit@nic.in

Contact person for MoHUA
Mr. Ravi Kumar
Ministry of Housing and Urban Affairs, Nirman Bhawan, Maulana Azad Road, New Delhi
ravi.kumar@nic.in

Contact person for KfW
Mr. Philipp Wyrsch
Head Sustainable Urban Development, KfW
philipp.wyrsch@kfw.de

Contact person for German Embassy:
Mr. Dirk Steffes-enn
Deputy Head of Economic Cooperation and Development
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Upcoming events

Mobilogue 7:
Mobility as a Service (MaaS)- Opportunities, Challenges and Way Forward for Indian Cities. (16 Dec, 2021)

Mobilogue 8:
Role of Open data in Urban Mobility. (4 Feb, 2022)

Mobilogue 9:
Bus Prioritisation (28 Feb, 2022)

Organised under the SMART-SUT MOBILOGUES

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Contact person for GIZ
Mr. Juergen Baumann
Project Head - SMART-SUT (GIZ India)
juergen.baumann@giz.de

Contact person for KfW
Mr. Philipp Wyrsch
Head Sustainable Urban Development, KfW
philipp.wyrsch@kfw.de

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Contact person for MoHUA
Mr. Ravi Kumar
Ministry of Housing and Urban Affairs, Nirman Bhawan, Maulana Azad Road, New Delhi
ravi.kumar@nic.in

Contact person for KfW
Mr. Philipp Wyrsch
Head Sustainable Urban Development, KfW
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Mr. Juergen Baumann
Project Head - SMART-SUT (GIZ India)
juergen.baumann@giz.de

Contact person for KfW
Mr. Philipp Wyrsch
Head Sustainable Urban Development, KfW
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kumar.lalit@nic.in

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Mr. Ravi Kumar
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