SUSTAINABLE TRANSPORT AWARD

2026 STA Spotlight:

Kochi, India

Honorable Mention

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Context & Background



Kochi, India, is a historic port city located on the country's southeast coast and is an emerging commercial capital in the state of Keralam. Kochi spans several islands, creating disjointed mobility for many island residents, who often travel to the mainland for education, healthcare, and work. Before bridges and roads connected the islands in the 1990s, boats were the primary means of transport between the islands and the mainland.

Once modern road networks were built, people began traveling to the mainland primarily by private vehicle. As a result, these roadways have become increasingly congested and inefficient, worsening air quality and raising transport-related emissions. As water transport options deteriorated, a few privately run transport boats and outdated government-sponsored vessels became the only non-road-based transport options for residents. The water-based modes became insufficient to meet demand and often lacked adequate safety and accessibility features.

Recognizing the need for better public transport, Kochi launched the Kochi Water Metro Project (KWMP) in 2023 to provide more effective transport between the city's 10+ islands and the mainland. The Water Metro fleet of electric ferries now provides a convenient, affordable, time-efficient, and sustainable way to commute to and from the islands. This is India's first such water metro project and the first integrated water transport system of its size in Asia. The project integrates ferries into the existing urban mobility system by connecting ferry terminals to ground transportation, including bus stations, metro stations, and pedestrian and cycling pathways.

In 2026, Kochi received the Honorable Mention Sustainable Transport Award for the expansion of the sustainable, integrated Kochi Water Metro Project. In just a few years, the project has connected the city's island communities to the mainland, fostered socio-economic growth, improved livelihoods, and enhanced tourism prospects.

COVER IMAGE: Kochi Metro Rail Limited.
THIS PAGE: Kochi Metro Rail Limited.

Sustainable, Efficient, and Equitable Transport

Road transport from the islands to the mainland faces heavy traffic, and geographic limits restrict road expansion. Some islands are still inaccessible by road. The KWMP uses existing waterways to reduce traffic and reliance on inadequate road infrastructure, and to reach remote areas that roads cannot serve. The KWMP currently has 15 routes, connecting 38 terminals across 10 island communities and covering 76.2 kilometers. It has deployed 78 ferries so far. The Water Metro integrates into the existing transport system by using the same ticketing and fare platform as the mainland metro rail system and by locating terminals near bus and metro rail terminals.

By connecting the city's rail, bus, and ferry services, Kochi aims to encourage residents to use public transport instead of private vehicles, reducing noise and air pollution. Integrating the Water Metro into the existing transport system will allow for more equal social and economic participation and improve the quality of life for islanders. As Kochi's population continues to grow in the city's outer areas, using inland waterways for efficient public transport becomes increasingly important.

The Water Metro ferries are twin-hull aluminum catamaran vessels with state-of-the-art safety and navigation systems. The fleet comprises fully electric and hybrid-electric vessels, with the goal of using 100% renewable energy in the future. When fully electrified, the system is expected to reduce greenhouse gas emissions by at least 16,500 tons per year, aligning with India's goal of becoming carbon neutral by 2070. The ferries also use Lithium Titanate Batteries, which charge quickly and last about ten years.

Ferries are air-conditioned and feature panoramic windows and seating for 50 passengers, with standing room for others. Priority seating areas are designated for disabled and elderly passengers, and women who are pregnant or feeding. The entry/exit ramps on the terminal jetties enable easy access for wheelchairs and bicycles, making them inclusive for all passengers and emphasizing more multi-modal connections. A centralized operations control and command center monitors the vessels 24 hours a day, seven days a week, and can deploy emergency response boats to any part of the route within ten minutes. Each boat undergoes regular inspections to ensure compliance with international safety standards and is outfitted with life jackets for 110% of the passenger capacity.

Before



After



Improved ferry facilities focus on accessibility and integration with other modes of transportation.
SOURCE: Kochi Metro Rail Limited.

According to ITDP's Atlas of Sustainable City Transport (atlas.itdp.org), in 2025, 27% of people in the Kochi area lived within walking distance of a transport stop where a bus or train comes every ten minutes or sooner. The KWMP uses this transport infrastructure by connecting the Water Metro to the existing ground transport. The Keralam Government and Kochi Metro Rail Limited (KMRL) facilitated the project, supported by funding from Germany's KfW Development Bank.

The project originated in 2010 when the Kochi Municipal Corporation worked with Cities Development Initiative for Asia (CDIA) to complete a pre-feasibility study. KMRL built on the 2010 findings to produce a detailed project proposal report in 2015, which led to a funding partnership with KfW. The Kochi Water Metro now serves as a regional and global model for deploying successful water-based public transport. Following the Kochi Water Metro's success, India's Ministry of Ports, Shipping, and Waterways is working with KMRL to complete feasibility studies for potential water metro projects in 21 other urban areas across the country.





Previous and new ferry fleet.
SOURCE: Kochi Metro Rail Limited.





New ferry interior design accomodates passengers more comfortably.
SOURCE: Kochi Metro Rail Limited.



SOURCE: Kochi Metro Rail Limited.

Integrated Water Metro Project: By The Numbers

Increased Ridership

- More than 33,000 islanders are expected to benefit from the program.
- 5,000 to 6,000 passengers use the Water Metro every day.
- In the first two years of operation, the KWMP has served over 4.5 million riders.

Social Benefits

- The Water Metro has reduced travel times from the islands to the mainland by up to 78%. Trips from High Court to Fort Kochi take up to 90 minutes on the road, but only take 20 minutes on the Water Metro.
- The Water Metro is the least expensive mode of transportation from the islands to the mainland, on average, compared to taxis and even buses.
- The Water Metro has directly created nearly a thousand jobs in operations, maintenance, and management.

Environmental Benefits

- Boat operations have reduced CO2 emissions by 81.1 grams per passenger-kilometer.
- The modal shift to the Water Metro has reduced CO2 emissions by 103.0 grams per passenger-kilometer.
- Ferries avoid an average of 184 grams of CO_2 emissions per passenger per kilometer, compared to conventional road transport.
- 3.3 million INR (~USD 35,000) per year is dedicated to implementing a robust Environmental Monitoring Program to minimize impacts on water quality and local ecology.

Future Growth

Looking ahead, the Kochi Water Metro is expected to expand its network, strengthen connections with other modes of public transport, and improve the overall passenger experience. The system is currently planned to add terminals and routes to extend access to more parts of the city and its islands. Planned improvements include new and upgraded terminals, better pedestrian and cycling access, feeder services, and stronger integration with Kochi Metro and bus networks.

KMRL is also exploring a potential 7.5-kilometer Water Metro connection to the region's International Airport, which could provide a direct water-based link if studies confirm its feasibility. Future development will also aim to integrate the Water Metro more seamlessly into Kochi's public transport system through unified ticketing, better multimodal connections, and continued investment in clean electric mobility.

SOURCE: Kochi Metro Rail Limited.



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