

# Kochi, Kerala (India)

## ECOLOGISTICS PROJECT CITY PROFILE

### ABOUT THE CITY

Kochi, previously known as Cochin, is a major port city on the west coast of India by the Arabian Sea; it is part of the district of Ernakulam, in Kerala, and is thus often also called by the name of Ernakulam, which refers to the mainland part of the city. The city of Kochi, with its population of 0.6 million, is the most densely populated city in the state and is part of an extended metropolitan region with a population of 2.1 million, the largest urban agglomeration in Kerala. The civic body that governs the city is the Kochi Municipal Corporation (KMC), which was constituted in the year 1967, and the statutory bodies that oversee its development are the Greater Cochin Development Authority (GCDA) and the Goshree Islands Development Authority (GIDA).

Being a port city, many of the economic activities are linked with the port. Kochi is the gateway through which more than 80 percent of the hill products of the city are exported. Major industries like Fertilisers and Chemicals Travancore (FACT), Travancore Cochin Chemicals (TCC), Hindustan Machine Tools (HMT) and Apollo Tyres, are located in the Kochi Planning Area. During the year 2015-16, Kochi accounted for 12.7 percent of Kerala's GDP.



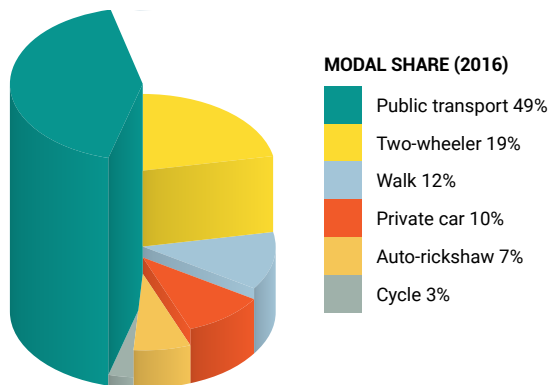
### City transport

#### PASSENGER

Kochi is historically a water-based city which has grown along its water network. The water network of the city consists of three national waterways and 14 inland waterways. Kochi had more than 60 active jetties and water routes including the passenger boats and ferry services. However, with the advancements in land transport, the city has slowly moved towards motorized land transport. This led to the step by step depletion of the water-based transport system. Currently, the

city of Kochi is experiencing increased dependency on private motor vehicles, leading to increased vehicular congestion and emissions. Various traffic and transportation studies conducted for Kochi indicate inadequate transport infrastructure and a high growth in the private vehicle share in the city and surrounding region.

In 2017, the Kochi urban area experienced 2,107,218 daily trips with a per capita, per day trip rate of 1.06, an average trip length of 10.8 km, and an average speed of 23 km/h. Personal motorized vehicles (two-wheelers and cars) constitute a phenomenal 79 percent of the total vehicles, whereas public transport vehicles (buses) constitute only 4 percent. That being said, this 4 percent of buses carry 49 percent of the trips.



#### Land area

City: 94.88 km<sup>2</sup>

Urban area: 330.02 km<sup>2</sup>

#### Population

City: 0.6 million inhabitants

Urban area: 2.1 million inhabitants

#### Population density

7,100 inhabitants/km<sup>2</sup>

#### Connectivity

Air, rail, water and road

#### Name of the Mayor

Smt. Soumini Jain

#### Economy

Trade and tourism

#### Main website (municipality)

[www.cochinmunicipalcorporation.kerala.gov.in](http://www.cochinmunicipalcorporation.kerala.gov.in)

#### FREIGHT

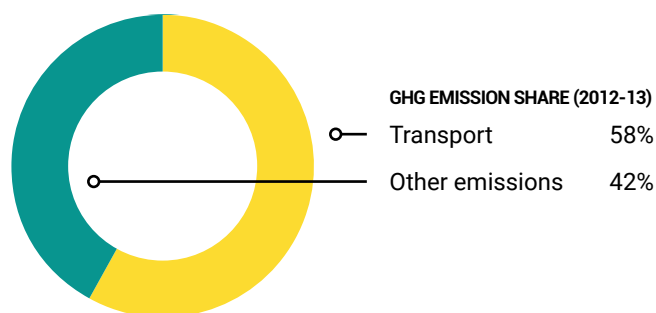
Although city authorities are concerned with the road traffic level and its impacts on the urban environment, much of this concern has been directed at passenger traffic, mainly public transport and private vehicles. Compared to passenger traffic, little consideration has been given to urban freight transport. There is no institution or department responsible for efficient management of freight movement within the city. This makes urban freight more complex than passenger traffic.

Kochi is one of the major ports in India and is the site of considerable container movements. Container movement and other goods movement mainly occurs in three directions, through both directions on National Highway (NH) 17 and north-east to NH 47. All this traffic brings freight movement through the inner city.

According to various transport studies, inter-city goods traffic in the region in 2017 was handled by a number of goods vehicles consisting of 11,176 trucks, 8,690 mini-trucks/tempos and 6,262 auto-rickshaws. Goods measuring 80,797 metric tons were transported to various destinations. A substantial number of goods vehicles (78 percent) either originated from or terminated in Kochi City. Only 21 percent of the total vehicles were found to be bypassing or passing through the city.

Additionally, the exact number of inter-city goods trips by independent retailers and local convenience stores is unknown. The majority of Indian cities are estimated to have more than 40 percent of their freight share generated by these stores. Growth in the use of the Internet has led to the rapid development of e-commerce, which is one of the fastest growing consumption sectors in Kochi.

## GHG EMISSIONS PROFILE



As per the Solar City Master Plan for Kochi, the GHG emissions inventory was prepared in accordance with the approved principles and standards of the Global Protocol for Community-Scale Greenhouse Gas Emissions (GPC). During the year 2012-13, total emissions were found to be 5.08 million tons of CO<sub>2</sub>e with the transport sector accounting for 2.9 million tons of CO<sub>2</sub>e (58 percent of total emissions).

## TRANSPORT DECARBONIZATION STRATEGIES

Kochi City has formulated a vision to provide safe, secure, efficient, reliable and seamless connectivity that supports and enhances economic, social and environmental sustainability. Some of the strategies identified for decarbonizing transport in Kochi include:

- Integrated land use and transport development to promote balanced regional growth in line with regional development strategies.
- Development of a robust public transport system which includes an extension of the current metro system with non-motorized transport access facilities. The city is also focusing on the expansion of bus services followed by route rationalization.
- Creating an action plan for improving non-motorized transport infrastructure, including the development of "pedestrian only" plazas, bike lanes and junction improvements, to address the accessibility for pedestrians and bicycles.
- Promoting electric mobility: Kochi is exploring various alternatives to mainstream electric mobility in the city. Some of the identified priority areas have seen the introduction of e-rickshaws for the first and last mile connectivity to the metro system in the city. The city is also considering the introduction of electric buses as it revamps its urban transport modes.
- Promoting water-based transport system: Kochi has an extensive but underutilized water network and water-based transport system. Water transport could cater to the city's growing mobility needs. Water transport could play its role in three areas of mobility: passenger transport, freight movement and tourism. Kochi is already implementing a waterbus project which includes 16 routes, 17 jetties and 22 minor jetties. It also includes a revival of jetties with modern facilities to enhance the travel experience as well as the safety of the passengers. In continuation of an existing project, it is proposed to plan an extension of a few routes and the addition of new jetties that could further enhance the passenger experience on a bigger scale.
- Freight Management Action Plan: the city aims to manage and improve its urban freight by proposing the following strategies:
  - Policies to restrict heavy vehicle movements in the city.
  - Exploring the inland waterways for the transport of goods.
  - Developing freight consolidation centers outside the city.