

A Safer, Cleaner and Greener
Kolkata

DECARBONIZING TRANSPORT



Volume I



The goal is to act as a conduit for bringing diverse voices and needs to adopt an integrated approach for greening the transport sector in Kolkata.

There are **2 SERIES** to this report, this report is about trams and the upcoming report will be on cycles.



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BACKGROUND

The transport sector is responsible for 13.5% of the country's energy-related CO₂ emissions. To meet the increase in global average temp to 1.5°C, and global CO₂ emissions, we need to reach net zero by 2050 (UNFCCC). By 2050, rates of electrification in the rail and road-focused scenarios will be close to 100%.

OPPORTUNITIES FOR REVIVAL

India has an opportunity to maximise the electrification of all modes of transport. Globally there is a boost in electric mobility in an effort to reach climate neutrality targets as per major climate change commitments across the countries. Reintroducing trams in India for people to travel within the city is a conscious choice that can be made in this environmentally conscious era.

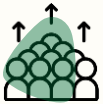
WHY DO TRAMS HAVE AN ADVANTAGE?



Safer ride due to modulated driving speed



Direct connectivity with major bus stops & railway networks.



Feasible for densely populated areas



Reliable & timely than buses as they operate on dedicated corridors.



There is no honking hence no noise pollution



No oil consumption & clean form of transportation



INDIAN EXPERIENCE

Trams in India were established in the late 19th century. Horse-drawn trams were introduced in Kolkata in 1873. Trams became operational in Delhi, Chennai, Kolkata, and Mumbai in the early 1900s. The first-ever electric tram route to operate in Asia in 1900 was Kolkata's Esplanade to Kidderpore route. The popularity of this route led to the establishment of the Esplanade to Kalighat line and in turn the Kalighat Tram Depot. Kolkata remains the only city where trams still meander along the length of the city. According to data collated by Calcutta Tram Users Association from 37 routes covering 70 kilometres in the 1960s, only 7 routes covering about 20 kilometres remain operational today.



RECOMMENDATIONS



Trams should run at regular intervals for a reliable commute option.



Rules to ensure that other vehicles do not hinder the movement of trams.



Disincentivizing the purchase of more personal vehicles.



Inclusion of tram in Electricity Policy, just like electric buses.



Revitalise *Asia's oldest tramway* system as a sustainable transit system in Kolkata.



THE 'TRAMLINE'

First Tram runs in Kolkata

Horse-drawn tram from Sealdah - Armenian Ghat 3.9 km in Feb.



1873

1882



Steam Engine driven Trams were introduced.

Electricity-powered trams

were introduced in Kolkata taking power from Nonapukur.



1900

Electricity-powered trams were introduced in Howrah



1905

1960

CTC had a fleet of 450 tram cars.



Govt of India takes responsibility from CTC



1969

Total track length was 70.74 km (excluding depot & termini)

1967



1982



80 Tram Cars inducted with loan taken from World Bank. Steel body Tram introduced

2008

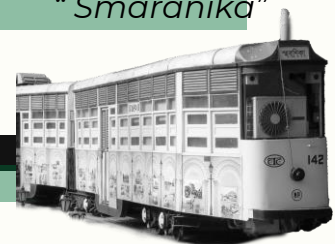
New look polycarbonate sheet fixed tram introduced.

2013



Introduction of AC Tram.

Inauguration of Exhibition Tram- "Smaranika"



2014

LEARNINGS



Collaborate with research institutes on running trams without conflicts with the city's mobility pattern.



Consider the opinion and need of commuters urging the authorities in Kolkata to bring the trams back.



Trams are not just known for their heritage and iconic value, but they also constitute an emission-free public transport system.



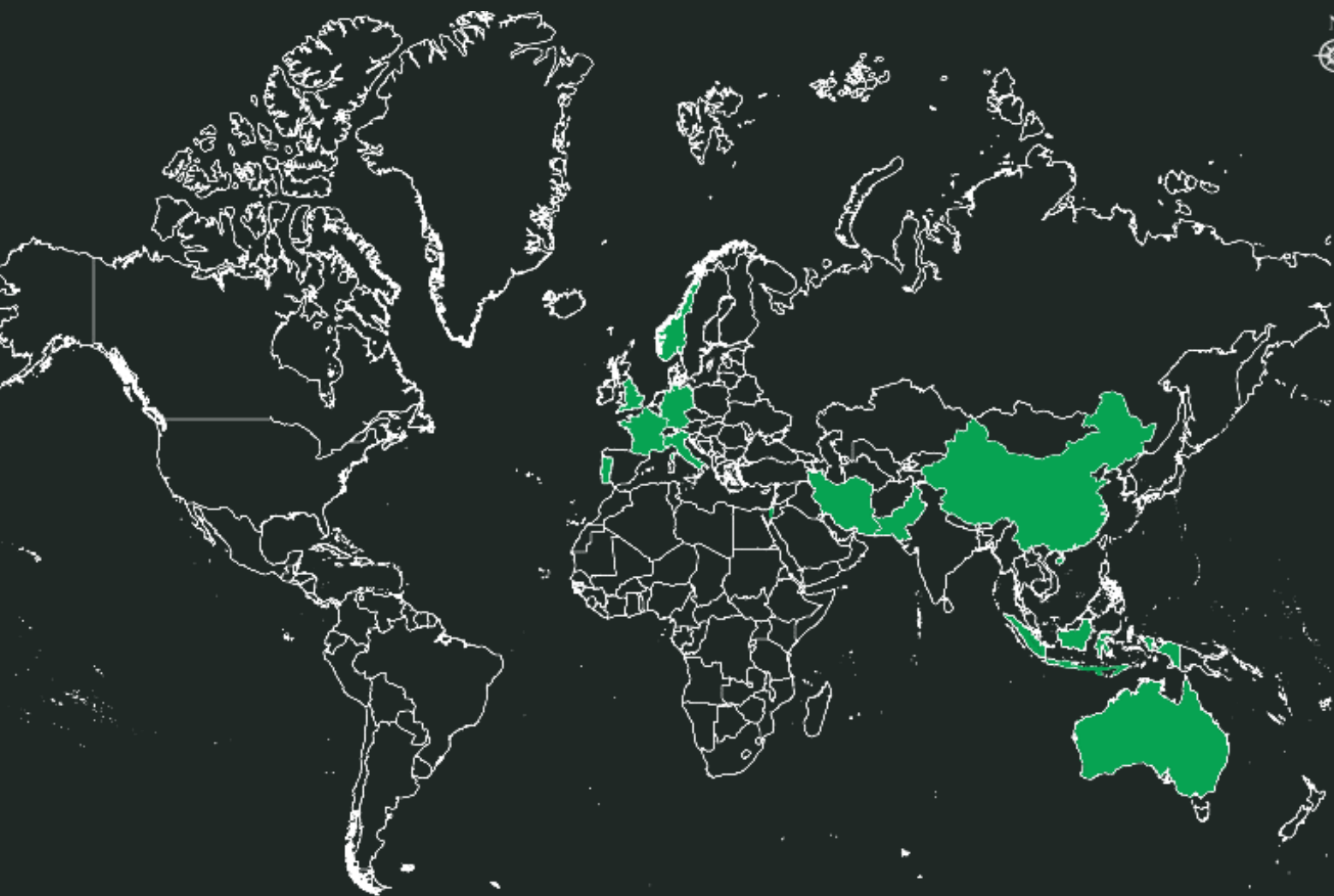
Investments should be made to make the trams trendy, convenient, and enjoyable.



Trams are **10X** more space efficient than cars & need to be prioritised in Kolkata.



Trams are not the reason for congestion rather they can address congestion in urban areas.



SOME OF THE BEST TRAM SYSTEMS AROUND THE WORLD

1 ***PORTUGAL***

2 ***GERMANY***

3 ***FRANCE***

4 ***ENGLAND***

5 ***NORWAY***

6 ***ITALY***

7 ***PAKISTAN***

8 ***ISRAEL***

9 ***CHINA***

10 ***INDONESIA***

11 ***SOUTH
KOREA***

12 ***AUSTRALI
A***

Opinions of **EXPERTS**

CONTEXT

The metro railway in the city needs to be supplemented with tramways. In Kolkata, the structure of the metro vertically cut through 7-8 places. If a person can avail tram after taking a metro, then the commute will be in completely non-motorized mode. In north and central Kolkata, the tram network is extremely intricate. If one can walk for 10-15 mins after availing the tram, one can reach any part of the city. Tramways are making a major comeback globally because of their economic success. The service life of a tram car is extremely high, which is 50-70 years. The fuel in which the motor functions is also electrical-based, hence residual toxicity is not generated.

PROBLEMS

In Kolkata, the boulevards exist on which the trams run so that it does not interfere with cars. Track installation is a significant expenditure for trams, which is already established in Kolkata. Unfortunately, the subsequent steps taken are anti-people and anti-sustainability. The pollution generated by the ever-increasing number of private vehicles and buses and the health impairment as a result of it is often overlooked. By embracing sustainable modes of transport such as trams, and bicycles, the medical expenditure incurred can be reduced due to a lower level of pollution, then the residual amount can be utilised to give subsidies which will be profitable in the long run.



Debashish Saha,

CUTA

RECOMMENDATIONS



The infrastructure for trams is established in Kolkata, hence not much investment is required apart from some bridge repair or line reconnecting.



Political and administrative will can help with the step-to-step repairment of trams which can help with the retirement of ridership loss.

CONCLUSION

A developed tramway system will improve economic development and grow interest among the common mass to use public transit and have low carbon footprints. It will further enrich the urban environment, tourism industry, and recreational activity of Kolkata. In order to reduce ambient air pollution, the city needs to have good public transit. To reduce carbon emissions and environmental pollution, integrating and coordinating policies and interventions should be vigorously adopted. As a consequence of the same, environmentalists favour tram service, and green modes of transportation. The natives of Kolkata also have an emotional attachment to trams. Kolkata tram deserves a better future not only for the people of Kolkata but for the people of India. If dependency on public transport increases, it will reduce the number of private vehicles on the road; in turn reducing traffic jams and improving mobility conditions.

WAY FORWARD

From the above discussion, it can be inferred that it has become increasingly important to make the shift toward clean and sustainable modes of transportation. **The structure to support trams in Kolkata already exists.** With the collective effort of government, civil society organisations, and experts, a plan can be devised to integrate these sustainable modes of transport into the mobility system.

Trams can complement electrical vehicles (EVs) in reducing Kolkata's carbon footprint and contribute to India's fight against climate change, as suggested by experts at the 'Kolkata Climate Vision 2030' in Kolkata.



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