Ease of Moving Index

OMI FOUNDATION

Kolkata City Profile

February 2025

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OMI Foundation Trust is a policy research and social innovation think tank operating at the intersection of mobility innovation, governance, and public good. Mobility is a cornerstone of inclusive growth providing the necessary medium and opportunities for every citizen to unlock their true potential. OMI Foundation endeavours to play a small but impactful role in ushering meaningful change as cities move towards sustainable, resilient, and equitable mobility systems that meet the needs of not just today or tomorrow, but the day after. OMI Foundation houses three interconnected centres which conduct cutting-edge evidence-based policy research on all things mobility.

Centre for Future Mobility
OMI Foundation's Centre for Future Mobility envisions a future which meets the aspirations of all in a diverse world, anchored in the paradigms of active, shared, connected, clean, and AI-powered mobility.

Centre for Clean Mobility
OMI Foundation's Centre for Clean Mobility explores the diversity of near- and long-term pathways to clean mobility. It focuses on the use of electric, future fuels, and renewable energy alike within the mobility ecosystem.

Centre for Inclusive Mobility
OMI Foundation's Centre for Inclusive Mobility ensures the existing and emerging mobility paradigms are Safe, Accessible, Reliable, and Affordable for every user of mobility infra and services, including persons with disabilities, women, trans/non-binary, LGBTQIA+, children, and the elderly. It further paves the road for the future of work and platform economy to fulfil the modern promise of labour.

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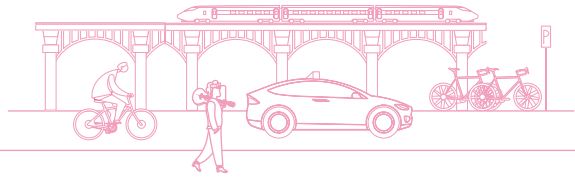
SUGGESTED CITATION: OMI Foundation (2025, February). Ease of Moving Index - Kolkata City Profile

REPORT DESIGN: Chromatick Design Studio

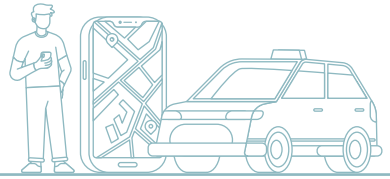
MAP DESIGN: Beyond Urban

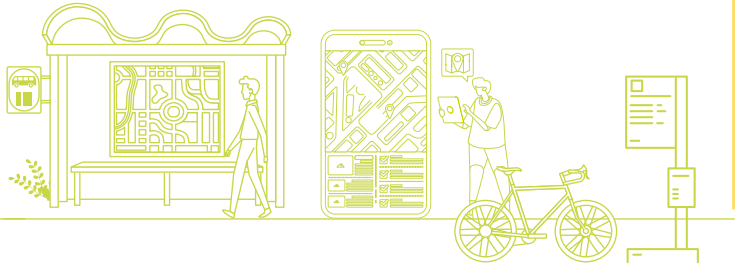


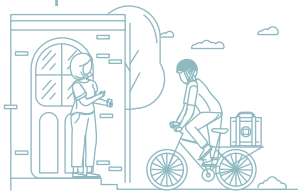
SLOW

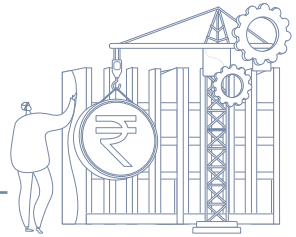
BUS STOP
BUS STOP

BUS STOP









INTRODUCTION

Kolkata, the 'City of Joy, is a captivating city, blended in rich cultural legacy with remnants of British colonial influence. Spread roughly north–south along the banks of the Hooghly River, Kolkata sits within the lower Ganges Delta of eastern India. Kolkata has undergone a comprehensive evaluation of its mobility paradigm through the 'Ease of Moving[1] Index - India Report 2022 (EoMI 2022)' study conducted by the OMI Foundation. EoMI 2022 is a framework enabling cities to evaluate their mobility paradigm across nine parameters. It enables cities to benchmark against their peers and assess opportunities for improving specific mobility aspects in the city.

This city profile presents the key findings of EoMI 2022, focusing specifically on Kolkata's mobility system. It provides a detailed analysis of the city's performance across the nine parameters (listed later in the document) of the Index, shedding light on the strengths and areas requiring attention in the city's mobility network. For an optimum understanding, readers are encouraged to explore this city profile in conjunction with the 'Ease of Moving Index - India Report 2022[2] available on the OMI Foundation's website.

[1]The 'Ease of Moving' by OMI Foundation is based on globally recognised concepts of 'sustainable development' and the 'Ease of Living' as propounded by the United Nations and the Ministry of Housing and Urban Affairs, Government of India respectively.
[2]The report can be accessed here: https://olawebcdn.com/ola-institute/easeofmoving-2022.pdf

CITY OVERVIEW

Contextual Characteristics

Kolkata's transport system revolves around its iconic yellow taxis, embodying the city's essence. These vintage Ambassador cars, with their signature yellow livery, navigate the narrow streets, evoking nostalgia. Adding to the charm is the historic tramway, Asia's oldest, offering not just transport but a window into Kolkata's colonial heritage. The extensive suburban railway network too caters to millions, bridging the city to its suburbs. Kolkata boasts India's inaugural Metro railway, marking its transformation into a global metropolis, resilient and adaptable. Figure 1 presents the key physical attributes of Kolkata, while figure 2 presents the figures on population growth of the city.

Figure 1: Physical attributes of Kolkata

Topography
Average elevation is about 5 m above Sea Level. Max elevation is about 21 m.

Location
88° 30'E - 22° 33' N

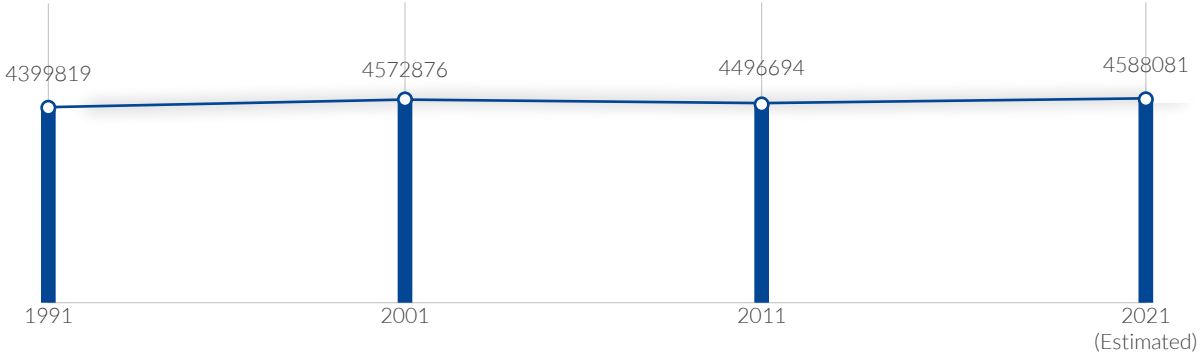
Weather
10°Celsius to 40°Celsius

Air Quality
Annual average concentration (2021) of PM2.5 (µg/m3) in Kolkata: 98

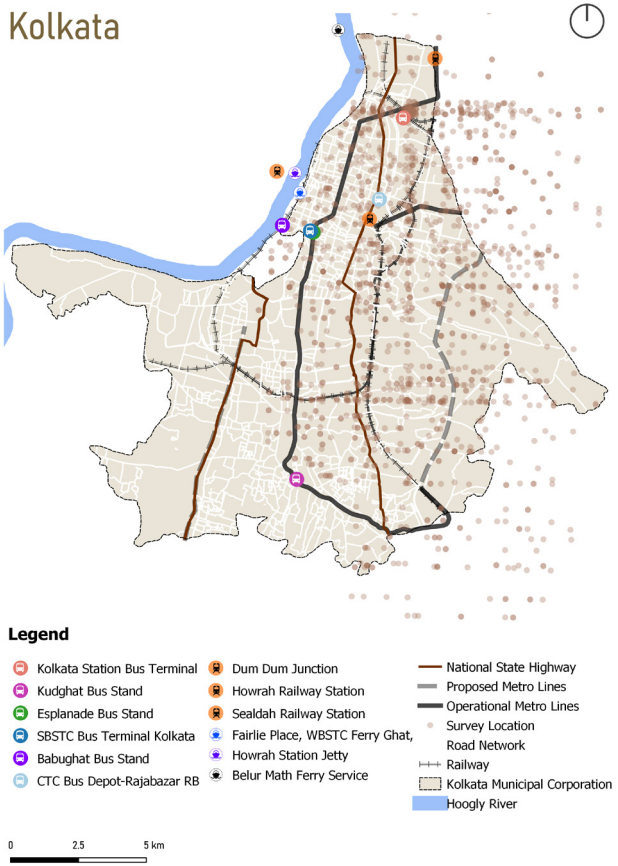
Rainfall
Average of 1656 mm in 2022

Source: Topographic-map, 2022; IQ Air, 2022; IMD

Figure 2: Growth of population in Kolkata



Source: (Office of the Registrar General & Census Commissioner, India; Ministry of Home Affairs, Government of India, 2021)



CITY ADMINISTRATION

Public Transport Authority

Calcutta State Transport Corporation (CSTC)

1553 Buses

West Bengal Surface Transport Corporation

- Ferry Service: 20 Steel Vessel
- Air Services : 4 routes

Kolkata Metro Rail Corporation

- Commissioned - 9.3 km
- Under Construction - 7.25 Km

West Bengal Transport Corporation Limited

- 385 buses
- 7.17 km Ferry Service

Rail Vikas Nigam Limited (RVNL)

- Commissioned - 51.07 km
- Under Construction - 8.71 km

Kolkata Metro Railways

- Operational - 16.6 km
- Commissioned - 50.26 km

Regional Transport Office

- 5 RTO - PVD Kolkata, Saltlake, Kasba, Behala, Alipore

Traffic Police

311.68 sq. km

Scope of Administration

Kolkata Municipal Corporation

206.68 sq. km

Kolkata Metropolitan Development Authority (KMDA)

1876 sq. km

Source: (Kolkata Municipal Corporation, 2024) (Metro Railway Kolkata, 2023)

EASE OF MOVING INDEX 2022 DATA COLLECTION AND RESPONDENT PROFILE

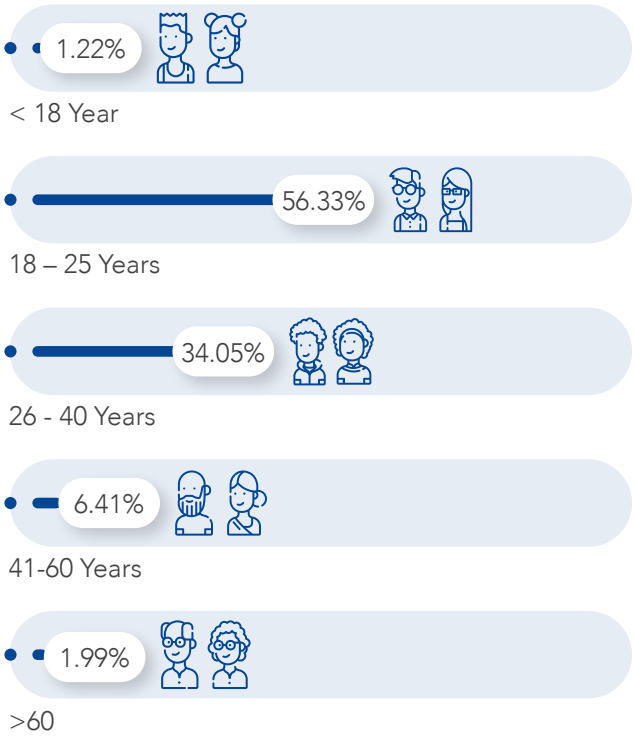
The Ease of Moving Index - India Report 2022 was developed based on findings from primary surveys, FGDs, and secondary data analysis. To ensure comparability, the 40 cities were divided into four clusters based on their estimated 2021 population. Kolkata is a part of 'Mega cities cluster,' consisting of nine cities[3], each with a population exceeding 4 million.

Sample size for No. of respondents/participants

Survey: 1809 respondents

FGD: 20 participants

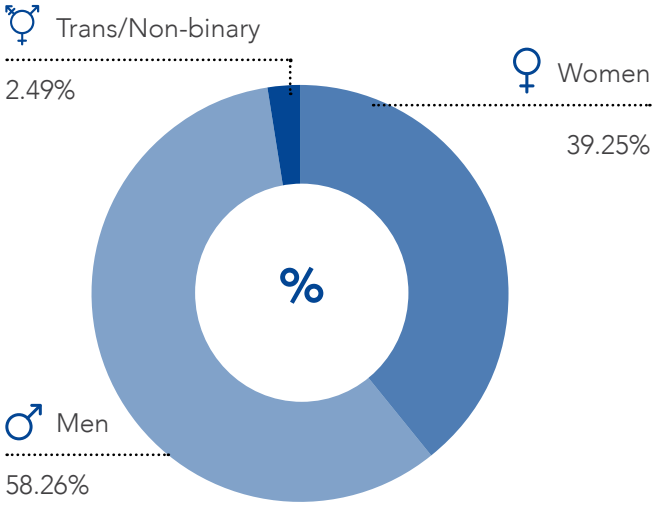
Age Distribution



Survey sample and FGD participants

The primary survey was based on a randomly selected and statistically significant sample, stratified by gender, disability, and household income. The sample size was determined with a 95 percent confidence level and a 5 percent margin of error, based on the estimated population for 2021. Additionally, a FGD was conducted with a group of 20 participants of which 15 were involved with the transportation systems by profession. The discussion centred on seamless connectivity through multi-modal integration.

Gender Distribution

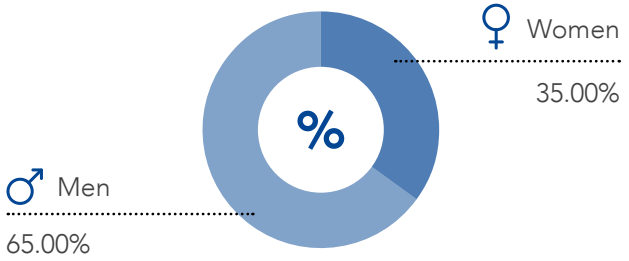


Distribution of disabilities/functional difficulties[4]

18.33% Seeing

81.67% Walking

Gender distribution of persons with disabilities



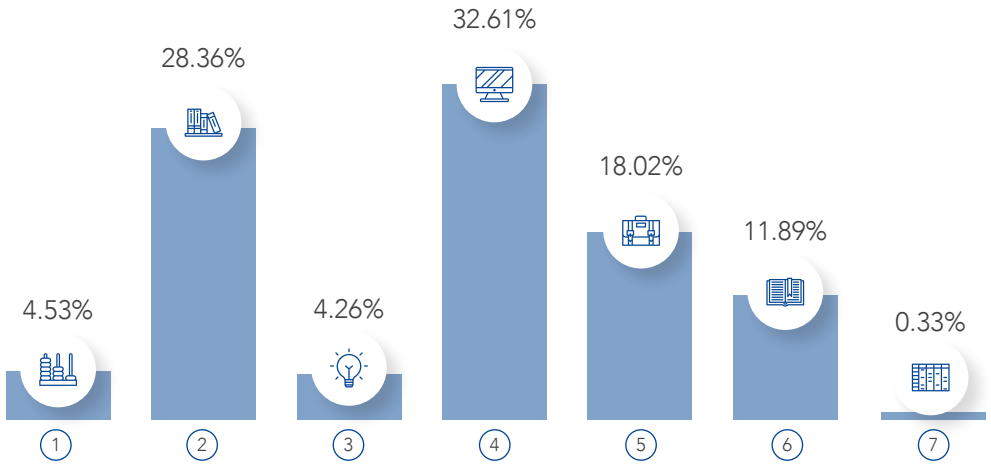
Persons with Disabilities

3.32%
total survey respondents

[3]The Mega Cities cluster includes the cities of Ahmedabad, Bengaluru, Chennai, Hyderabad, Kolkata, Mumbai, New Delhi, Pune-Pimpri Chinchwad and Surat.

[4]Total will exceed 100% as a survey respondent may have multiple disabilities/functional difficulties

Highest Educational Qualification

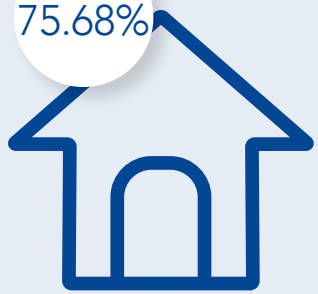


Average Household Size

3.94

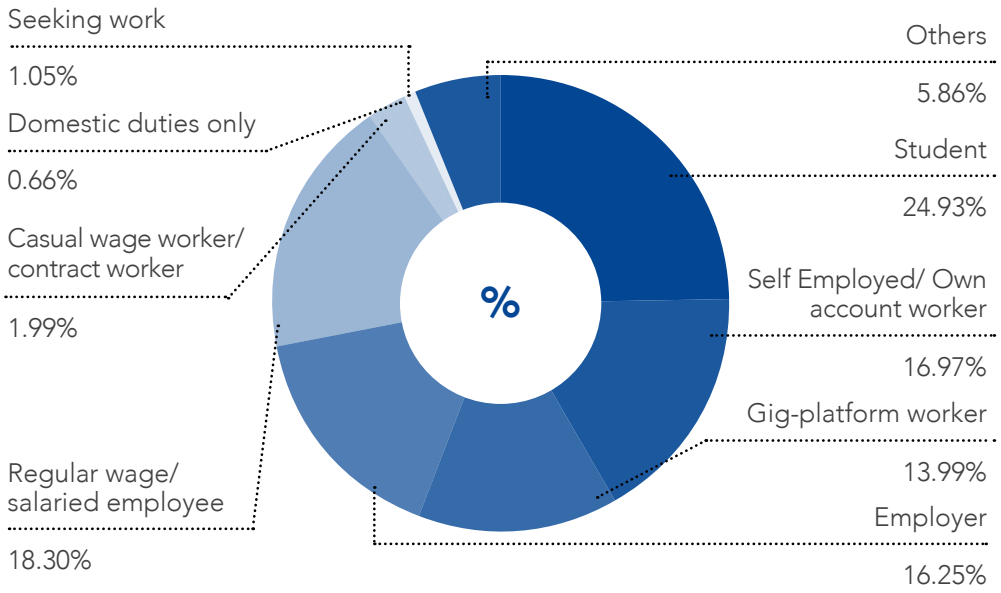
House Ownership

75.68%

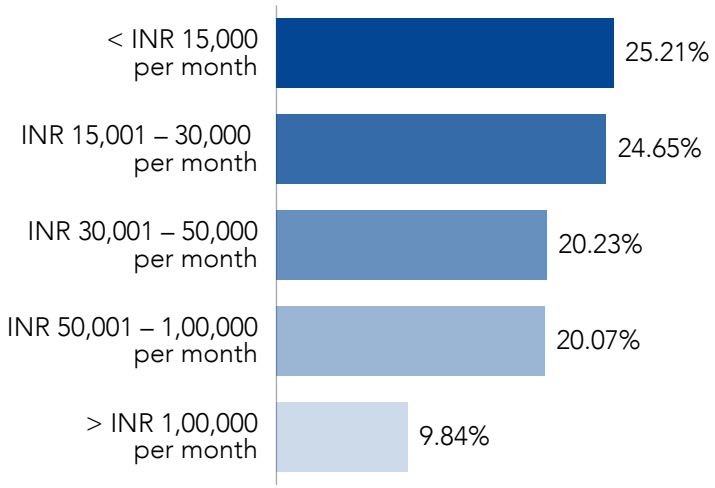


Residing in own house

Occupation



Household Income



INSIGHTS FROM THE EASE OF MOVING INDEX 2022

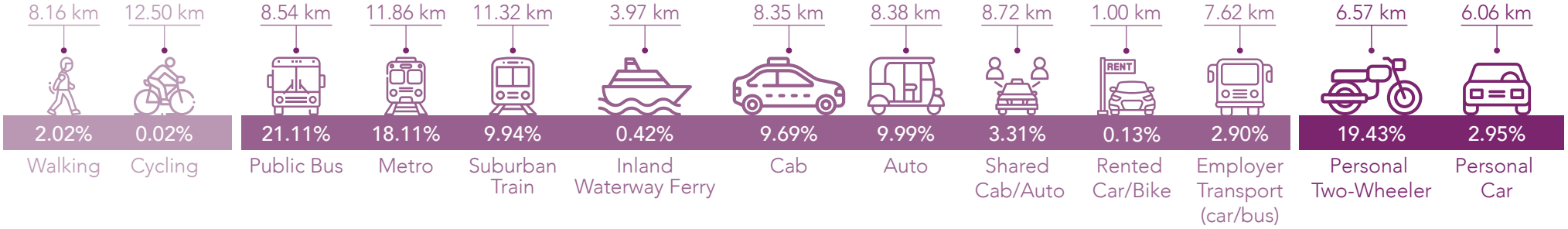
IMPETUS FOR ACTIVE AND SHARED MOBILITY

A robust urban infrastructure supporting active and shared mobility plays a pivotal role in creating a cleaner and more sustainable environment. By promoting physical activity and reducing traffic congestion, it enhances public health while offering affordable and inclusive transportation choices. This, in turn, improves accessibility and fosters social equity within the community, making it crucial to give impetus to active and shared mobility in cities. Here's how Kolkata fares on this parameter.

Mode share and public transport adoption

- In Kolkata, public transport comprises **49.57%** of the mode share, while the combined mode share of active and shared mobility reaches **77.64%**. The city scores the highest in the parameter of impetus to active and shared mobility within its cluster and third overall. This is also reflected with Kolkata ranking second amongst its cluster in bicycle ownership with **36.87%** respondents owning a bicycle.
- In Kolkata **82.95%** of respondents regularly use the public transport system. The city has the highest 80.71[5] buses per lakh population in its cluster, surpassing the cluster average of 38.34 buses.
- Among regular public transport users, **86.34%** own some form of motor vehicle (two-wheeler/car/three-wheeler). Among regular public transport users only **16.74%** of these vehicle owners choose not to use their vehicles. However, It is encouraging to see that **46.05%** cite reliability of public transport and the availability of alternatives such as autos and cabs for not using personal vehicles. Additionally, **31.63%** cited the high cost of vehicle ownership as their reason for relying on public transport.

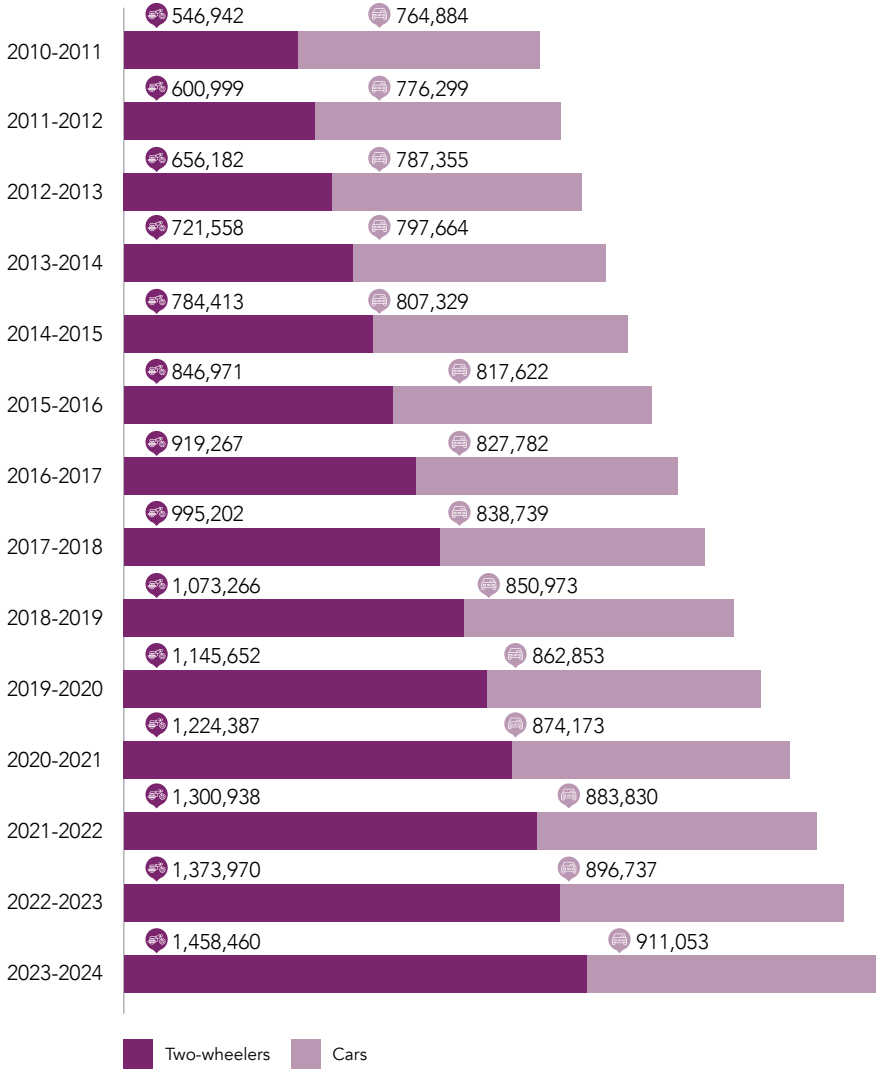
Mode share and average trip length, as reported by EoMI survey respondents



The average commute distance is 8.87 km across all modes.

[5]Kolkata has close to 4000 odd public and private buses plying in the city. This Includes 2500 private buses and 1500 state owned buses.

Cumulative number of vehicles registered in Kolkata between 2010-11 to 2023-24[6]

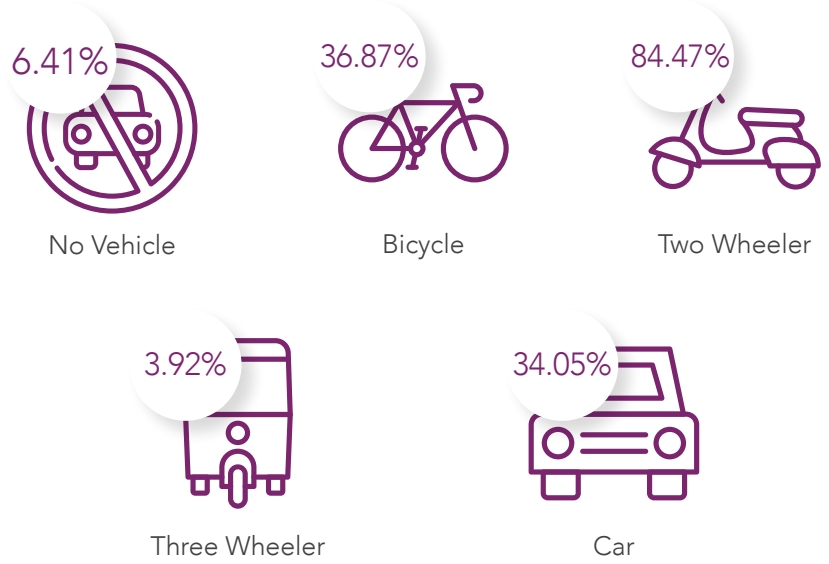


Source: (Ministry of Road Transport and Highways, 2010-11, 2011-12, 2012-13, 2014-15, 2015-16, 2016-17, 2017-18, 2018-19, 2019-20, 2020-21, 2021-22, 2022-23, 2023-24)

[6]This is based on the registration of 5 RTOs PVD Kolkata, Saltlake, Alipore, Kasba, Behala

Vehicle growth and ownership patterns

- Over the past decade, Kolkata has witnessed a significant growth in registered vehicles. The number of registered two-wheelers increased at a CAGR of **7.84%** while the number of registered four-wheelers grew at a CAGR of **1.35%**. These figures are noteworthy when compared to the population's growth of **3.57%** during the same period.
- Among the Mega cities, Kolkata has the lowest two wheeler ownership rate at 190 registered two-wheelers per thousand population much lesser than the cluster average of 414 two-wheelers.
- In terms of car ownership, Kolkata has 267 cars per thousand population which is more than the cluster average of 125 cars.
- In Kolkata, there is a high ownership of two wheelers with **84.47%** of respondents owning at least one two-wheeler, **36.87%** owning a bicycle, and **3.92%** own a three-wheeler. Around **34.05%** own at least one car and **6.41%** of respondents did not own any vehicle.



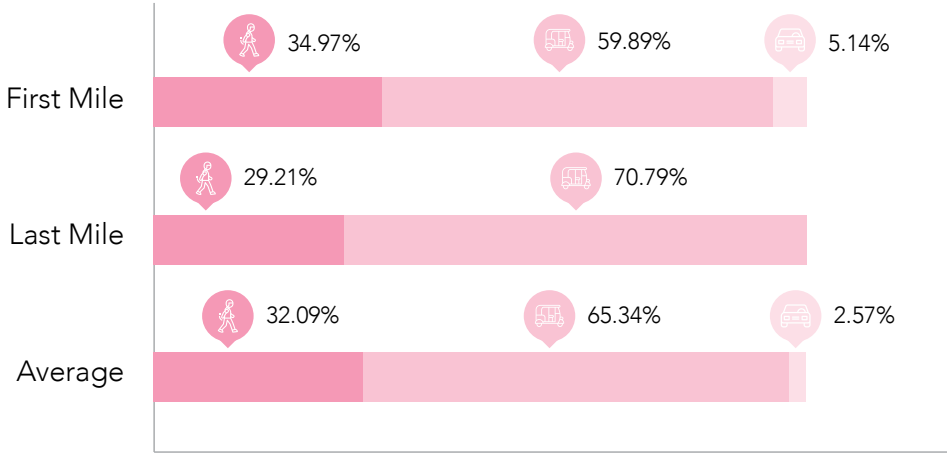
SEAMLESS MOBILITY

The integration of various transportation modes through seamless multimodal connectivity plays a vital role in promoting active and shared mobility significantly affecting individual mode choices. In Kolkata, as the Metro system continues to extend its network, the government is actively revitalising and reconfiguring existing auto routes to seamlessly integrate them with the expanding metro infrastructure. This comprehensive approach ensures that commuters have seamless mobility to both public transit facilitating smoother travel experiences.

First- and last-mile connectivity to public transport

- In Kolkata, **32.09%** of regular public transport users walk or cycle to transit stops, less than the cluster average of **34.80%**. Pune - Pimpri Chinchwad has the highest number of respondents with **43.16%** walking/cycling to public transport amongst mega cities.
- **65.34%** respondents in Kolkata rely on IPT modes to access public transport is higher than the cluster average of **62.02%**, but lesser than Ahmedabad which leads at **68.41%**.
- Only **2.57%** of regular public transport users use personal vehicles to access public transit, less than the cluster average of **3.1%**.

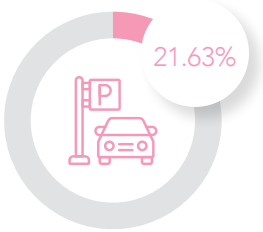
Modes used for first and last mile connectivity by regular public transport users (n= 1284)



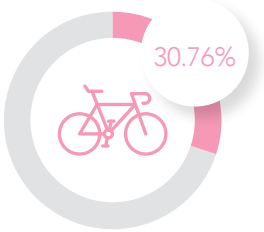
Source: OMI Foundation. (2022). Ease of Moving Index Survey [Data set].

Parking facilities

- The survey indicates that **21.63%** of regular public transport users in Kolkata find parking facilities available at major transit hubs though it is lower than the cluster average of **25.46%**.
- The survey also highlights **30.76%** respondents believe there is sufficient bicycle parking available at transit hubs slightly higher than the cluster average of **29.61%**.
- To ensure safe and efficient vehicular traffic in the Kolkata Municipal Corporation (KMC) area the city introduced a parking policy to reduce congestion and improve road usage. It aims for strict enforcement of traffic rules to maximise road capacity and minimise economic losses. This policy includes standards for direction and signage, tailored to the unique needs of the KMC area.

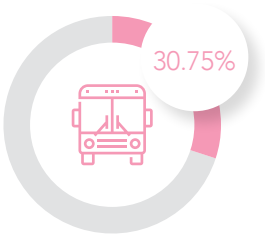


Parking at Transit Hubs Kolkata



Bicycle parking at Transit Hub Kolkata

Access and wait time for public transport



- Regular public transport users in Kolkata reported an average time of 8 minutes and 19 seconds to reach a transit stop.
- The average wait time for public transport in Kolkata is 9 minutes and 24 seconds.
- Only **30.75%** of commuters in Kolkata expressed the long waiting period for boarding public transport which is one of the lowest in the mega city cluster.

Time to access nearest transit hub

Kolkata

8 minutes and 19 seconds

Average wait time for public transport

Kolkata

9 minutes and 24 seconds

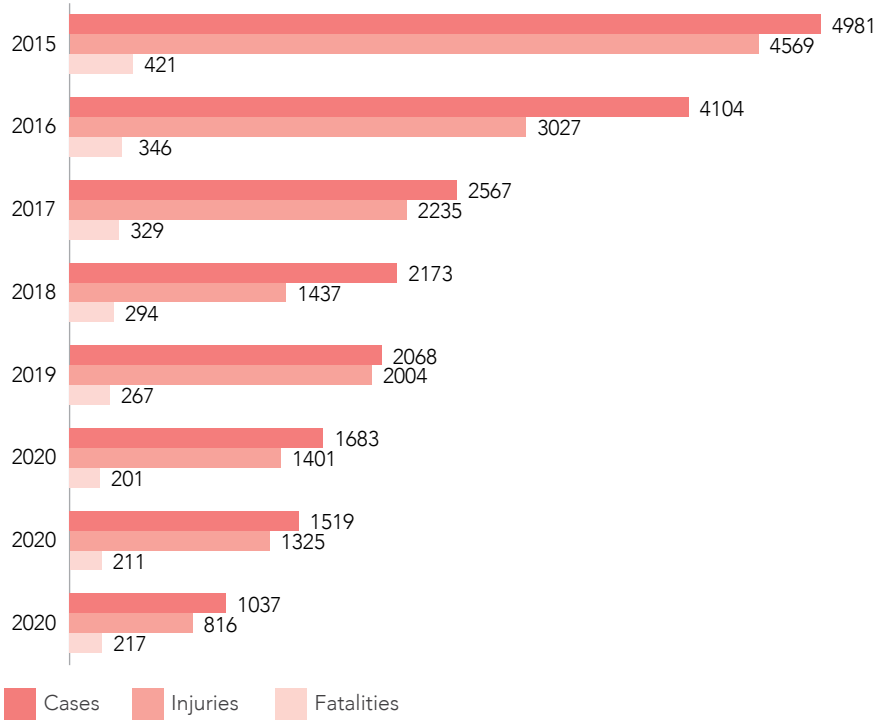
TOWARDS VISION ZERO

Reducing road accidents is crucial for improving public safety and promoting sustainable mobility, making it a top priority for urban planners and policymakers alike. Here's a look at Kolkata's records on this front.

Road Safety and Fatalities

- Kolkata has achieved a **48.46%** reduction in road fatalities in 2022 from its peak of 421 deaths in 2015. Kolkata has the least number of fatalities among mega cities.
- The city has 4.26 fatalities per lakh population which is lower than the cluster average of 5.80 but higher than Mumbai's fatality rate of 3.26 per lakh population.
- Vulnerable road users, including pedestrians, cyclists, and two-wheelers, accounted for nearly **87.20%** of the total fatalities in Mumbai in 2021

Road Accident details from 2015 to 2022

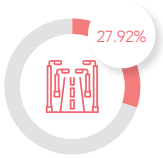


Source: National Crimes Record Bureau (2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022)

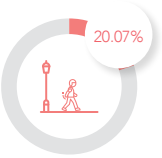
Pedestrian and Cycling Infrastructure

- Kolkata scores one of the lowest in the cluster with only **20.07%** of respondents considering the footpaths in the city to be wide and in good condition. This is notably lower than the cluster average of 31.05 and much below Hyderabad where approximately **40.64%** of respondents were satisfied with the quality of footpaths.
- A mere **18.91%** of the respondents in Kolkata express confidence in the adequacy of grade separators such as Foot Over Bridges (FOBs) and Subways at major intersections in the city. **39.40%** of respondents in Kolkata believe that there are sufficient cycle tracks and lanes available throughout the city which is higher than the cluster average of 36.76.
- Although Kolkata has a growing network of public bicycle sharing services, only **25.98%** respondents agree that availability of public bicycle sharing would encourage them to cycle for short distances as compared to the cluster average of **33.50%** and notably lower than Chennai's **42.13%**.

Illumination on Roads and Footpaths



Road Illumination



Footpath Illumination

- The EoMI survey reveals that **27.92%** of respondents in Kolkata believe that the roads in the city are adequately illuminated, and around **20.07%** stated that the footpaths are well lit. However, **30.22%** respondents in Ahmedabad were satisfied with the road illumination, and **41.57%** of respondents were satisfied with the lighting on footpaths.

MOBILITY FOR ALL

Inclusive urban mobility ensures that everyone, regardless of their age, gender, ability, income level, or background, has equal access to transportation options. It reduces transportation-related inequalities and enables individuals to participate in the economic, social, and cultural activities in the city.

Persons with Disabilities and public transport accessibility

- According to the survey results, **88.46%** of respondents in Kolkata who have disabilities or difficulties in walking, communication, self-care and hearing use public transport regularly.

Public transport accessibility as reported by persons with disabilities (n=60)

Modes of Commute	Disagree	Neutral	Agree
Bus	35.00%	36.67%	28.33%
Metro	78.33%	21.67%	0.00%
Local Train	88.33%	11.67%	0.00%
Average	67.22%	23.33%	9.44%

- In Kolkata, a mere **9.44%** of respondents with disabilities agree that public transport is accessible. However, of all the respondents with disabilities, **88.46%** respondents regularly use public transport.

Safety from gender related crime events such as eve teasing and molestation in public transport (n=640)

Bus	Metro	Local Train	Average
24.69%	24.53%	38.44%	29.22%

- In Kolkata, over **82.81%** women and trans/non-binary respondents use public transport regularly.
- Among the female and trans/non-binary respondents, only **29.22%** agreed that public transport in Kolkata is safe from gender related crime events such as eve teasing and molestation, compared to **35.28%** respondents across the Mega Cities cluster.
- Kolkata fares poorly compared to its counterparts in the Mega Cities cluster. Pune-Pimpri Chinchwad lead the safety from gender-related crimes in the cluster, with **47.54%** women and trans/non binary respondents reporting overall public transport to be safe. While public bus transport in Bengaluru leads in safety from gender-related crimes at **41.47%**, Pune-Pimpri Chinchwad leads in metro safety with **69.08%**. These findings highlight a substantial need to improve safety from gender-based crimes in Kolkata.

Safety from pickpockets and other petty crimes in public transport (n=1548)

Bus	Metro	Local Train	Average
24.68%	26.36%	27.52%	26.18%

- Among respondents using public transport regularly, about **26.18%** agreed that the public transport system in the city is safe from pickpocketing and other petty crimes. This is lower than the cluster average of **34.98%**.
- Kolkata ranks low in safety from pickpockets and petty crimes compared to most mega cities. Ahmedabad leads in public bus safety, with **42.33%**, while Pune-Pimpri Chinchwad takes the lead in metro safety with **49.06%**. Surat has the highest **42.16%** respondents agreeing for safety from pickpockets and other petty crimes in public transport in the Mega Cities cluster.

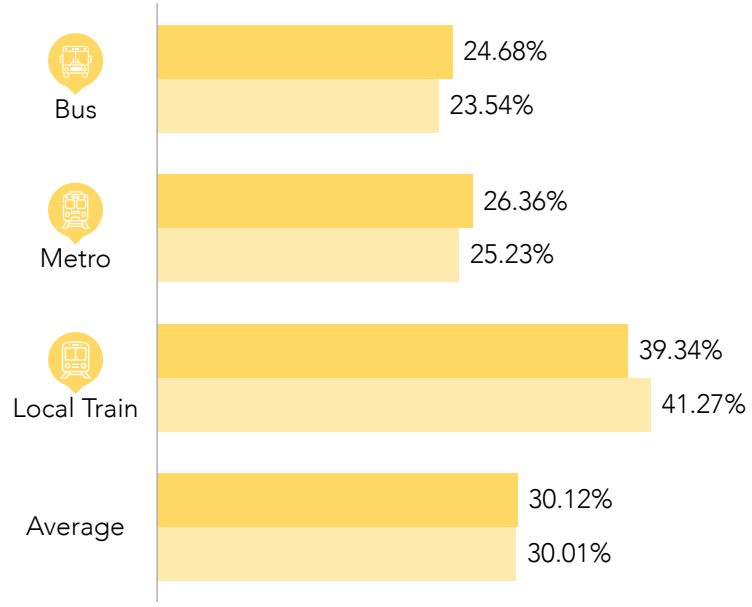
AFFORDABLE MOBILITY

Affordable mobility allows individuals to access essential services like education, healthcare and job opportunities, regardless of their financial situation. Affordable transport systems allow low-income households to allocate their budget on other important services like education, housing, and healthcare, thereby contributing to a more equitable distribution of resources.

Public transport affordability

- In Kolkata, **30.12%** of respondents find public transport affordable, which is notably below the cluster average of **37.89%**. Among respondents with a monthly household income below INR 30,000, **30.01%** consider public transport affordable, below the cluster average of **36.80%**.

Public transport affordability in Kolkata

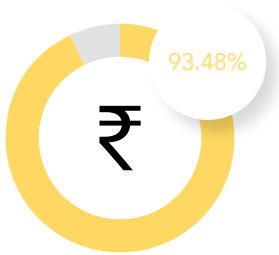


Perception of affordability (income agnostic) (n = 1548)

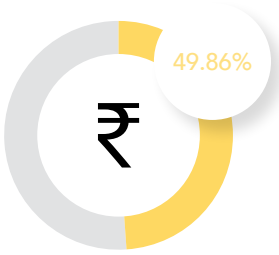
Perception of affordability (monthly household income less than 30,000) (n= 773)

Monthly expenditure on travel

- **93.48%** of respondents reported spending less than INR 3,000 per month on transportation in Kolkata, highest in the mega cities cluster.
- Approximately **49.86%** (902 respondents) have a monthly household income below INR 30,000, and roughly **93.95%** of them spend less than INR 3,000 on transportation which is highest among mega cities.
- The respondents with household income less than INR 30,000 reported spending **9.66%** of their income on transport, second lowest after Hyderabad and lower compared to the cluster average of **11.98%**.



Transport Expenditure less than INR 3000 (Income agnostic)



Transport Expenditure less than INR 3000 (Respondents earning less than INR 30000)

EFFICIENT AND RELIABLE MOBILITY

Efficient and reliable mobility is a key aspect of any well-functioning transportation system. In this regard, access to timely and accurate information on fare and timetables, and efficient public transport is crucial for making informed travel decisions. Time taken for trips is a pertinent yardstick for measuring efficiency of public transport.

Availability of information

Respondent perception regarding easy availability of information on timetable, fare etc. of public transport modes (n=1548)

Modes of Commuter	Disagree	Neutral	Agree
Bus	49.74%	25.58%	24.68%
Metro	24.61%	24.10%	51.29%
Local Train	25.00%	23.84%	51.10%
Average	33.13%	24.51%	42.36%

- **42.36%** of Kolkata's respondents indicated easy access to information regarding public transport fares and timetables, lower than the cluster average of **46.54%**. However, **24.68%** find the information accessible for buses, compared to **51.29%** for the metro and **51.10%** for local trains.
- Ahmedabad has the highest satisfaction level in terms of information availability for public buses (**65.37%**).

Availability of public transport

Easy availability of Public transport across the city" (n=1548)

Modes of Commuter	Disagree	Neutral	Agree
Bus	55.88%	19.44%	24.68%
Metro	25.84%	23.90%	50.26%
Local Train	41.21%	20.74%	38.05%
Average	40.98%	21.36%	37.66%

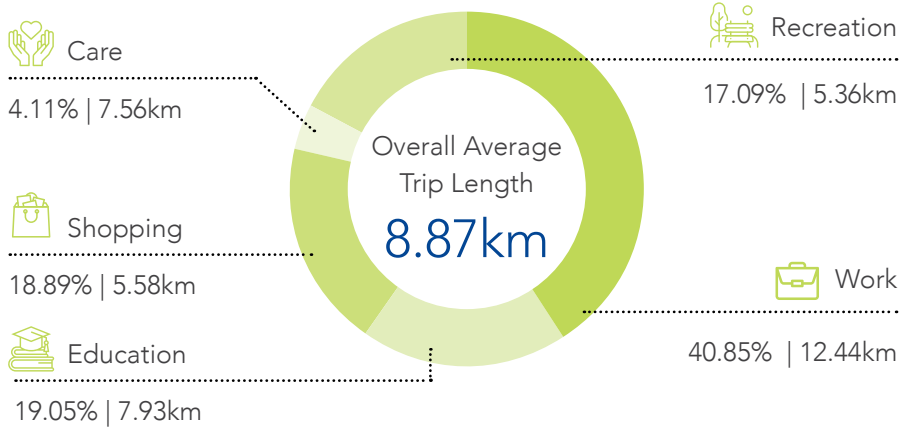
- In Kolkata, **37.66%** of public transport users agreed, finding public transport easily available across the city, much above the cluster average of **35.91%**. Surat leads the cluster in this aspect with an impressive **49.15%** respondents reporting satisfaction on public transport availability throughout the city.

Public transport vs private vehicle

- **41.73%** respondents in Kolkata disagree that reaching their frequently visited destinations is significantly faster by their own vehicle than public transport. This is significantly higher than the cluster average of **30.94%** and second only to Hyderabad (**40.67%**).

Average commute duration

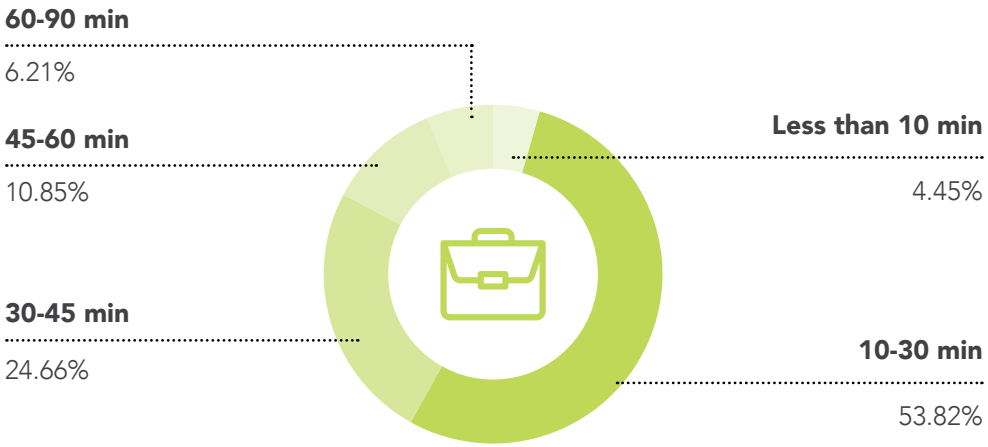
Trip distribution and average trip length based on trip types



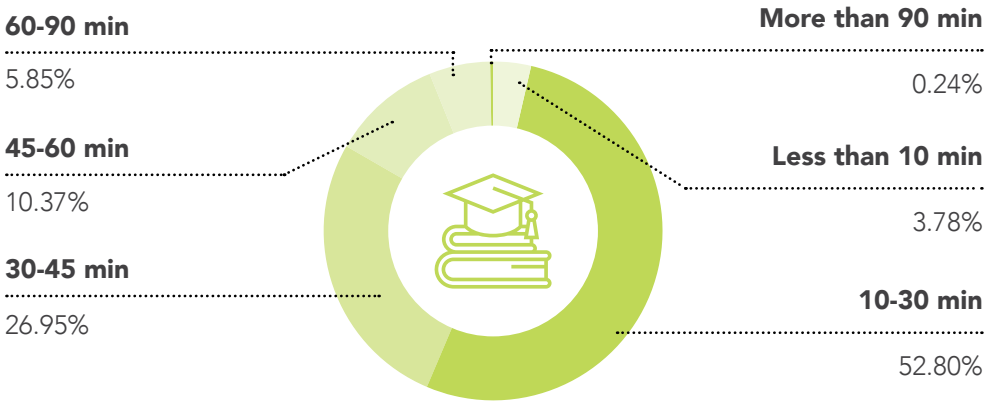
- On average, the respondents in Kolkata reported commuting for a duration of 31 minutes 27 seconds which is marginally more than the cluster average of 31 minutes 1 seconds, and Ahmedabad which has the lowest commute duration of 29 minutes 53 seconds.

Distribution of Work and Education trips across different time intervals

Trip purpose: Work



Trip purpose: Education



- In Kolkata, around **58.27%** of work trips and **56.59%** education trips were completed within 30 minutes. This is higher than the cluster average for work trips **58.37%** but lower than the cluster average of education trips **62.94%**. Ahmedabad leads the Mega Cities with a majority of respondents reaching their work and education in under 30 minutes.

Time spent on First Mile/Last Mile connectivity

- In Kolkata **23.13%** of respondents took less than 10 minutes to walk or cycle to the nearest transit stop for first and last mile connectivity. Comparatively, among the Mega Cities, the average is **25.89%**.
- **50.08%** of respondents take less than 10 minutes using shared mobility to reach the nearest transit stop for first and last mile connectivity. The figure is slightly higher than the cluster average of **46.98%** and ranks third within its cluster. Notably, the highest percentage of respondents achieving this quick connectivity was observed in Ahmedabad, where it reached **52.43%**.

Congestion and Crowding

Respondent perception regarding state of overcrowding in Public Transport (n=1548)

Modes of Commuter	Disagree	Neutral	Agree
Bus	49.74%	25.58%	24.68%
Metro	49.10%	24.55%	26.36%
Local Train	39.79%	19.32%	40.89%
Average	46.21%	23.15%	30.64%

- **46.21%** disagree that public transport in the city is overcrowded and congested, higher than the cluster average of **39.49%**.
- **36.21%** agree roads in the city are adequately wide, slightly lower than the cluster average of **36.43%**. Additionally, **45.49%** respondents agree that roads in the city are not congested.

CLEAN MOBILITY

Clean and sustainable mobility is a key focus in modern urban planning, with a goal to reduce carbon emissions, improve air quality, and create a healthier environment. Moreover, emphasising hygienic mobility practices, including cleanliness measures in public transport, enhances the safety and well-being of commuters. Here's how Kolkata fares in terms of clean mobility:

Deaths due to PM2.5 pollution

- In 2019, Kolkata experienced a concerning number of deaths attributed to PM2.5 pollution, with 431.39 deaths per lakh population. (Health in Cities, n.d.)

Electric Vehicle (EV) adoption

- Electric vehicles are gradually gaining traction among respondents. Approximately **2.39%** of the total two-wheelers owned by the respondents were electric vehicles. In the case of bicycles, **1.95%** were either pedal-assisted or electric cycles.

Top three reasons for unwillingness to buy electric vehicles (n=1254)

Reasons for unwillingness to buy Electric Vehicle	Kolkata
Electric vehicle are more expensive than ICE vehicles	6.38%
Limited finance options	20.10%
High cost of finance	1.99%
Safety concerns	85.65%
Not enough EV options in the market to choose from	42.90%
Inadequate charging infrastructure	77.51%
No clarity on resale/resale value of EVs	2.87%
Concerned about technology and reliability of existing EVs	49.84%
Lack of service centres/skilled mechanics	6.54%
I'm not aware of the EV technology	3.35%
I own a car/recently purchased personal vehicle so not planning to buy one in the next few years	2.87%

- **30.68%** of respondents expressed their willingness to purchase electric vehicles in the near future, lower than the cluster average of **34.50%**. The top three concerns discouraging adoption of electric vehicles were safety, inadequate public charging infrastructure, and concerns regarding technology and reliability of existing products.

Cleanliness and hygiene perception in public transport

Respondent Perception on cleanliness, hygiene and maintenance/upkeep of Public transport (n=1548)

Bus	Metro	Local Train	Average
39.66%	26.36%	23.90%	29.97%

- Among the respondents who regularly use public transport, **39.66%** in Kolkata perceive buses to be clean and hygienic, which is better than the cluster average of **39.63%** and marginally lower than Mumbai's score of **40.24%**.
- In Kolkata **26.36%** of respondents find the metro to be clean, second lowest in the cluster and significantly lower than the cluster average of **39.79%** and **68.92%** in Pune-Pimpri Chinchwad.

Shift to Electric bus

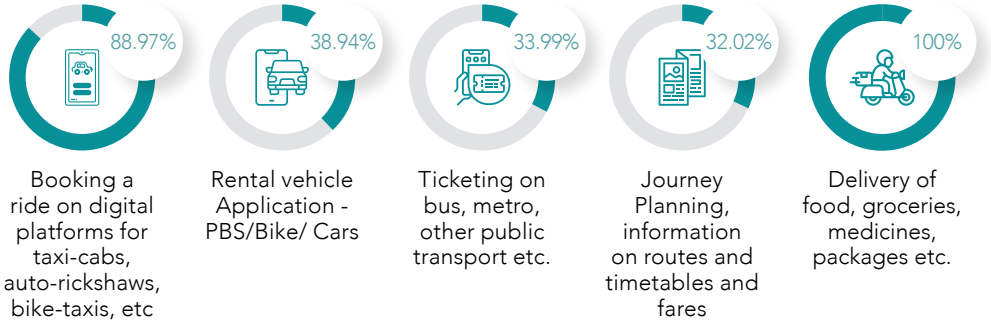
- The West Bengal Electric Vehicle Policy 2021 indicates the state's plans to provide appropriate incentives and other support necessary to ensure that the state reaches 10,00,000 electric vehicles across all modes by 2026. The West Bengal Transport Corporation is also committed to introduce 1200 electric buses by 2025. To spur electrification in the state, INR 8596 crores has been allocated for demand incentives (Government of West Bengal, 2021). Currently, Kolkata has deployed 125 electric buses.

FUTURE MOBILITY

The ubiquity of smartphone applications has brought about a transformative shift in how people make mobility decisions and facilitate payments. This has led to greater flexibility and convenience in choosing the most appropriate transportation mode, whether it's for commuting or package delivery. Additionally, integrated payment systems within these apps have significantly enhanced the efficiency and security of transactions, eliminating the need for traditional cash-based payments. In the context of Kolkata, let's explore the extent to which citizens embrace technology-enabled mobility and payment solutions:

Mobility and package delivery

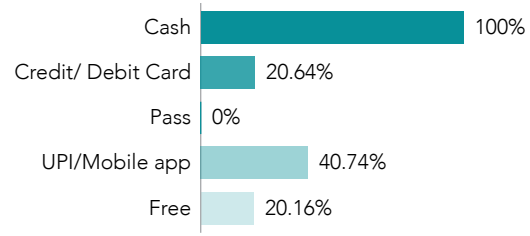
Digital applications for different mobility services



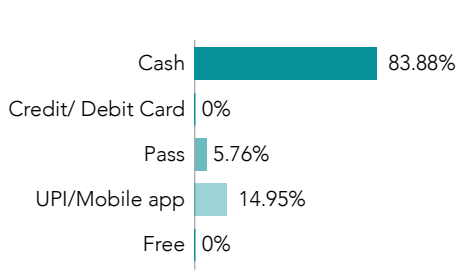
- **98.23%** of respondents use a smartphone. Of these, **88.97%** have at least one app to book a ride on digital platforms and a **100%** have at least one app for food and package delivery. However, the percentage of respondents having at least one app for rental vehicle applications, ticketing for public transport and journey planning, etc. are significantly lower. This pattern is observed across the cities in the cluster.

Payment for public and intermediate public transport

Distribution of payments made for different mobility services - Parking



Public transport



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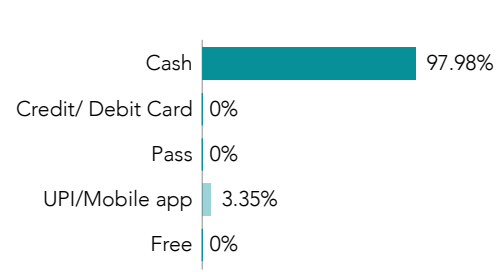
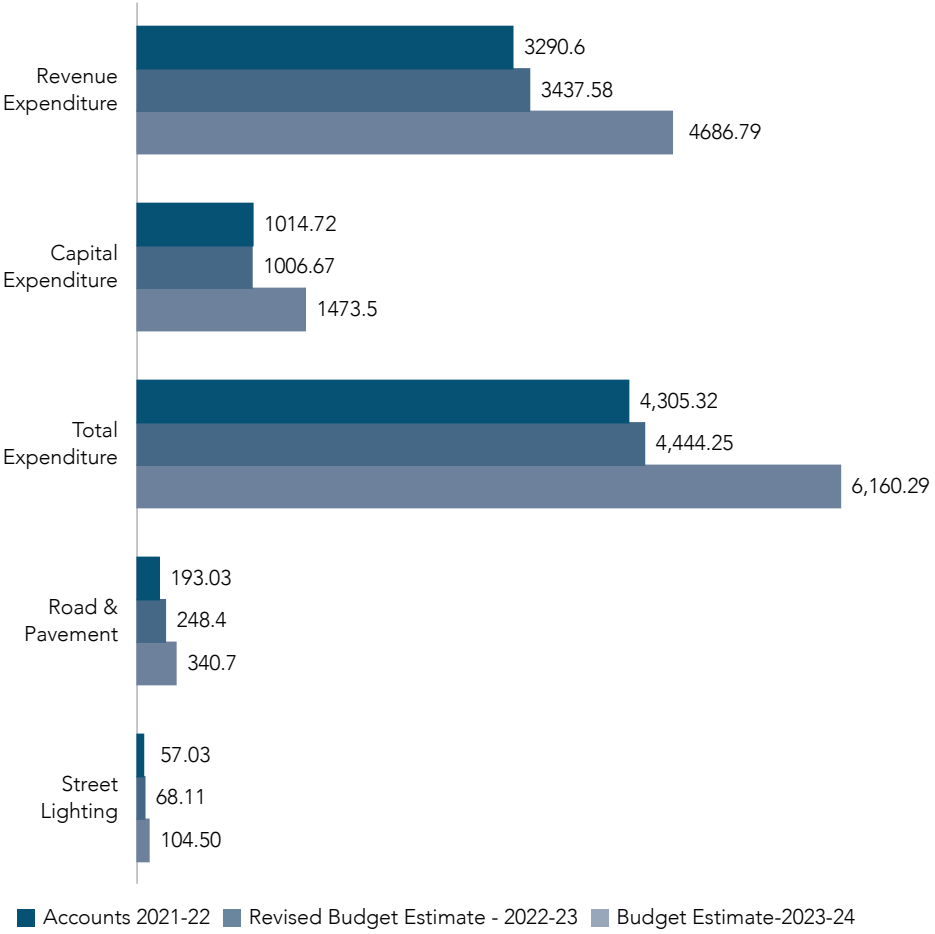


- Cash is the dominant mode of payment for all three mobility related payment purposes in Kolkata, and this pattern is consistent in other cities of the cluster as well.
- Pass (**5.76%**) is a relatively less popular cashless payment mode for public transport in Kolkata. While this is lower than the cluster average of **6.10%**, it is substantially lower than Surat (**8.37%**).
- At the same time, the use of Unified Payments Interface (UPI) for public transport payments at **14.95%** is higher than the cluster average of **14.21%**, but lesser than **24.66%** in Hyderabad.
- UPI/ Mobile applications are the most popular and widely used mode for cashless payment. **40.74%** of respondents using parking facilities pay by UPI/ Mobile applications.
- In Kolkata, **83.88%** of respondents pay by cash for Intermediate Public Transport (IPT) services less than the cluster average of **96.22%**. **14.95%** of respondents use Unified Payments Interface (UPI) to pay for IPT modes, above the cluster average of **8.66%**, but less than **34.13%** in Hyderabad,.

INVESTMENT IN CITY

Financial resources play a vital role in development and maintenance of a sustainable, seamless, efficient and inclusive mobility system. Here is a look at the budgets for Kolkata city with particular reference to mobility spends:

Kolkata Municipal Corporation Budget 2022-23 details



Source: (Kolkata Municipal Council, 2023-24)

- The estimated total budget of the Kolkata Municipal Council (KMC) 2023-24 has increased by over **38.61%** or INR 1716.04 crores compared to the revised budget of 2022-23. For road and pedestrian infrastructure there has been a **37.16%** increase in budget.

THE ROAD AHEAD

There are multiple factors affecting mobility, as it should be for something as pervasive. If infrastructure sets the pace, technological advancements and behavioural changes ensure that the journey to sustainable and efficient mobility systems is seamless. The inferences encapsulated in the study aim to highlight the opportunities ahead, and assist policy makers towards a data-driven decision-making process. The key responsibility areas and their respective improvement areas have been furnished below..

We urge all stakeholders to join us on this journey of improved and enhanced mobility across the country through various engagement channels.

Table 33: Key responsibility and improvement areas, along with the agencies responsible for intervention.

Access time to Public Transit

Improvement Areas

- Allocate funds to improve transit infrastructure, to integrate different modes of transportation to create seamless connections between transit services (refer - Access and wait time for public transport).

Responsible Agency

KMC

First-mile/ last-mile connectivity

Improvement Areas

- Investing in non-motorised infrastructure will encourage higher mode share of active and shared mobility and improve air quality (refer First - and last-mile connectivity to public transport).
- To improve first - and last mile connectivity, the lifting of bans currently in place will enable seamless mobility (Refer - Parking facilities at transit hubs).
- Time taken to reach a public transit stop by walk or cycle is an area of concern. This happens due to several obstacles like hawkers and inadvertent parking. Narrow streets and inadequate infrastructure stifle movement (Refer - Time spent on First Mile/ Last Mile connectivity).

Responsible Agency

KMC

Road safety infrastructure

Improvement Areas

- Safe pedestrian crossing and grade separator interventions, especially on major roads, can improve road safety (Refer - Pedestrian and cycling infrastructure).
- Well-lit and well-designed footpaths will encourage walking and keep pedestrians safe (Refer - Illumination on roads and footpaths).

Responsible Agency

KMC

Decarbonisation

Improvement Areas

- Kolkata ranks among the cities with the highest fatalities attributed to air pollution. Investing in public transit and promoting active mobility can diminish dependence on private vehicles, leading to a decline in carbon emissions.
- Expediting the adoption of electric vehicles (EVs), particularly through the introduction of electric bus fleets, can significantly contribute to emissions reduction efforts. (Refer - Shift to Electric bus).

Responsible Agency
Kochi Metro Rail Limited

Improve Access to Public Transit

Improvement Areas

- Bus stops, trams and ferries need to be made accessible and based on universal design principles so that boarding and deboarding is seamless for PwDs. (Refer - Persons with Disabilities and public transport accessibility).

Responsible Agency
WBSTC

Public Bus Infrastructure

Improvement Areas

- While Kolkata scores well amongst its cluster in availability of buses, however this can be improved during night hours across major routes.
- Safety from gender-based crimes is a challenge in buses. Safety from petty crimes is another area to increase vigilance. Since the majority of the buses are operated privately, action to solve this issue must be strengthened.

Responsible Agency
WBSTC

Cleanliness of Public Transport

Improvement Areas

- Respondent perception also reveals a need for improving cleanliness and hygiene of public transport specially metro services (Refer - Cleanliness and hygiene perception in public transport).

Responsible Agency
Kolkata Metro Rail Corporation Limited.

Encourage cashless travel

Improvement Areas

- To encourage proliferation of pass or cashless payment in public transport, the payment mechanisms need to be strengthened. (Refer - Payments for public transport and IPT).

Responsible Agency
WBSTC

Access to Information

Improvement Areas

- There's room for improvement in comprehensible, accessible, and real-time information about public transport (Refer - Availability of information)

Responsible Agency
WBSTC

The strategic interventions mentioned above need to be prioritised to improve the mobility scenario in the city. OMI Foundation will be keen to support the civic administration in creating pathways for implementation, demonstration of pilot and collaboration to improve Kolkata mobility scenario.

REFERENCES

1. Calcutta Tramways Company. (2023). About CTC – CTC. Calcutta Tramways. Retrieved May 24, 2024, from https://www.calcuttatramways.com/about-ctc/

2. Chanda, D. (2021, September 2). Why Kolkata must reconsider its bicycle ban. Citizen Matters. Retrieved May 24, 2024, from https://citizenmatters.in/kolkata-bicycle-ban-switchon-vehicles/

3. Government of West Bengal. (2021, June 3). Electric vehicle Policy 2021. Department of Power | Government of West Bengal. Retrieved May 24, 2024, from https://wbpower.gov.in/wp-content/uploads/Electric%20Vehicle%20Policy%202021%20(Kolkata%20Gazette%20Notification).pdf

4. Health in Cities. (n.d.). State of Global Air. Retrieved July 25, 2023, from https://www.stateofglobalair.org/data-cities/#/health/plot

5. Indian Meteorological Department. (2022). Annual Report 2022. Information Science & Knowledge Resource Development Division (IS&KRDD). https://mausam.imd.gov.in/imd_latest/contents/ar2022.pdf

6. Kolkata Metropolitan Development Authority. (2024). Kolkata Metropolitan Development Authority. Kolkata Metropolitan Development Authority. Retrieved May 24, 2024, from https://kmda.wb.gov.in/page/cms/introducing_kmda_011393

7. Kolkata Municipal Corporation. (2017, May 5). PARKING POLICY WITHIN THE KOLKATA MUNICIPAL CORPORATION AREA. Kolkata Municipal Corporation. Retrieved May 24, 2024, from https://www.kmcgov.in/KMCPortal/downloads/Car_Parking_Policy_05_05_2017.pdf

8. Kolkata Municipal Corporation. (2024). Kolkata Municipal Corporation. Official Website of Kolkata Municipal Corporation. Retrieved April 25, 2024, from https://kmcgov.in/KMCPortal/jsp/BasicStatistics.jsp

9. Metro Railway Kolkata. (2023, May 4). Metro Railway Kolkata. Metro Railway Kolkata. Retrieved April 25, 2024, from https://mtp.indianrailways.gov.in/view_section.jsp?id=0,1,285&lang=0

10. National Crimes Record Bureau. (2015). Accidental Deaths & Suicides in India - 2015 | National Crime Records Bureau. राष्ट्रीय अपराध रिकॉर्ड ब्यूरो. Retrieved September 20, 2023, from https://ncrb.gov.in/en/accidental-deaths-suicides-india-2015-1

11. National Crimes Record Bureau. (2016). Accidental Deaths & Suicides in India - 2016 | National Crime Records Bureau. राष्ट्रीय अपराध रिकॉर्ड ब्यूरो. Retrieved September 20, 2023, from https://ncrb.gov.in/en/accidental-deaths-suicides-india-2016

12. National Crimes Record Bureau. (2017). Accidental Deaths & Suicides in India - 2017 | National Crime Records Bureau. राष्ट्रीय अपराध रिकॉर्ड ब्यूरो. Retrieved September 20, 2023, from https://ncrb.gov.in/en/accidental-deaths-suicides-india-2017

13. National Crimes Record Bureau. (2018). Accidental Deaths & Suicides in India - 2018 | National Crime Records Bureau. राष्ट्रीय अपराध रिकॉर्ड ब्यूरो. Retrieved September 20, 2023, from https://ncrb.gov.in/en/accidental-deaths-suicides-india-2018-0

14. National Crimes Record Bureau. (2019). Accidental Deaths & Suicides in India - 2019 | National Crime Records Bureau. राष्ट्रीय अपराध रिकॉर्ड ब्यूरो. Retrieved September 20, 2023, from https://ncrb.gov.in/en/accidental-deaths-suicides-india-2019

15. National Crimes Record Bureau. (2020). ADSI - 2020 | National Crime Records Bureau. राष्ट्रीय अपराध रिकॉर्ड ब्यूरो. Retrieved September 20, 2023, from https://ncrb.gov.in/en/ADSI-2020

16. National Crimes Record Bureau. (2021). ADSI-2021 | National Crime Records Bureau. राष्ट्रीय अपराध रिकॉर्ड ब्यूरो. Retrieved September 20, 2023, from https://ncrb.gov.in/en/ADSI-2021

17. National Crimes Record Bureau. (2022). Accidental deaths and suicide in India 2021. National Crime Records Bureau (Ministry of Home Affairs) Government of India. https://ncrb.gov.in/uploads/nationalcrimerecordsbureau/post/1695470306ADSI2021FULLREPORT.pdf

18. Office of the Registrar General & Census Commissioner, India; Ministry of Home Affairs, Government of India. (2021, January 19). India - HH-01: Normal households by household size (total), Tamil Nadu - 2011. Census of India. Retrieved March 23, 2023, from https://censusindia.gov.in/nada/index.php/catalog/7142

19. State of Global Air. (n.d.). Health in Cities. State of Global Air. Retrieved October 20, 2022, from https://www.stateofglobalair.org/data-cities/#/health/plot

20. Transport Department, Government of West Bengal. (2024). Transport Department, Government of West Bengal: Home. Retrieved May 24, 2024, from https://transport.wb.gov.in/

21. Tom Tom. (2022). Traffic Index ranking. TomTom. Retrieved September 29, 2023, from https://www.tomtom.com/traffic-index/ranking/

22. World Live Air Quality Map. (2022, September 12). IQAir. Retrieved September 29, 2023, from https://www.iqair.com/in-en/world-air-quality

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