# **Ease of Moving Index**



**Hyderabad City Profile** 





# Ease of Moving Index

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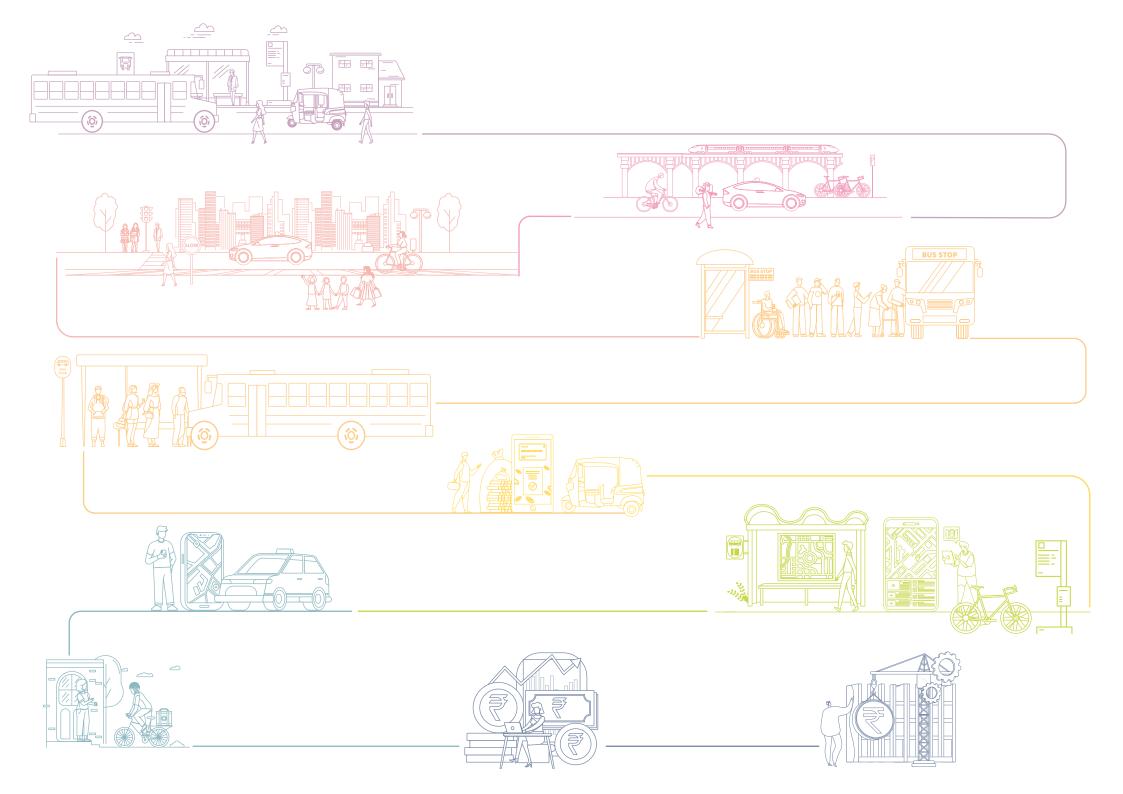
SUGGESTED CITATION: OMI Foundation (2025, February), Ease of Moving Index - Hyderabad City Profile

**REPORT DESIGN:** Chromatick Design Studio

MAP DESIGN: Beyond Urban

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# INTRODUCTION

Hyderabad, also known as the city of pearls and the city of nizams, has undergone a comprehensive evaluation of its mobility paradigm through the 'Ease of Moving¹ 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 on Hyderabad'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 Hyderabad'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,'<sup>2</sup> available on the OMI Foundation's website.

# **CITY OVERVIEW**

#### **Contextual Characteristics**

Hyderabad, the capital of erstwhile Andhra Pradesh, is now the capital of Telangana following the state's division. It is located on the Deccan plateau, along the banks of the Musi river. Table 1 presents the key physical attributes of the city, while table 2 presents its population growth.

Table 1: Physical attributes of Hyderabad



# Topography

Minimum elevation-447m; Maximum Elevation-649m, Average Elevation-549m



#### Location

17.29164° N, 78.23871°E to 17.56083°N, 78.62239°E



#### Weather

Average Minimum temperature- 13° C ; Maximum Temperature- 42° C



#### **Air Quality**

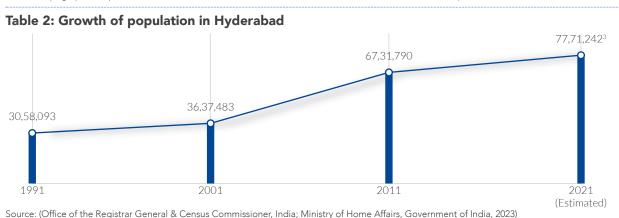
Average annual concentration of PM2.5 (2021)- 39.4 µg/m3



#### Rainfall

Average from 2012 to 2021 - 806.89mm

Source: (topographic-map, 2022) (Climate Data Service Portal, n.d.) (IQ Air, 2022) (meteoblue, n.d.) (Weather Spark, n.d.)



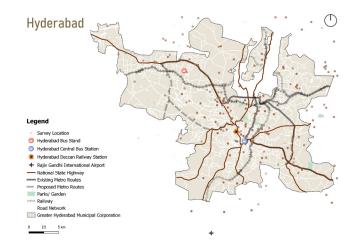
<sup>&</sup>lt;sup>1</sup>The 'Ease of Moving' by OMI Foundation is based on globally recognised concepts of 'sustainable development' and the 'Ease of Living' as propounded by the United Nations and the Ministry of Housing and Urban Affairs, Government of India respectively.

<sup>&</sup>lt;sup>3</sup>The projections are based on growth rates indicated by the Ministry of Statistics and Program Implementation (MOSPI) for 2016 and 2021. The projected population for 2021 of Hyderabad has been derived from the projected growth rate as suggested by MOSPI. Based on the growth rate the population of the city is estimated at 1,00,31,086 at 44.8% in the last three decades.



<sup>&</sup>lt;sup>2</sup>The report can be accessed here: https://olawebcdn.com/ola-institute/easeofmoving-2022.pdf





# **CITY ADMINISTRATION**

#### **Other Authorities**



Telangana State Road Transport Corporation

3,100 Buses



Traffic Police Hyderabad

- Hyderabad city police jurisdiction 3600 sq.km
- Law and order police stations 7
- Women police stations 7
- Traffic police stations 31
- Traffic zones 3
- Divisions 7



South Central Railways - Multi Modal Transport System (MMTS)

- Length 90 km
- Number of corridors 2
- Number of stations 45



Hyderabad Metro Rail Corporation Limited

- Operational 69.2 km
- Number of metro stations  $60^4$
- ullet Number of operational corridors 3

# **Scope of Administration**



Greater Hyderabad Municipal Corporation

650 sq.km



Hyderabad Metropolitan Development Authority (HMDA)

7,257 sq.km

<sup>&</sup>lt;sup>4</sup>According to the author's observation, although 65 stations were proposed, only 60 are present on the ground



# 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. Hyderabad is within the 'Mega cities cluster,' consisting of nine cities<sup>5</sup>, each with a population exceeding 4 million.

# Sample size for No. of respondents/participants

Survey: 2,879 respondents

FGD: 9 participants

#### **Age Distribution**



18 - 25 Years



26 - 40 Years



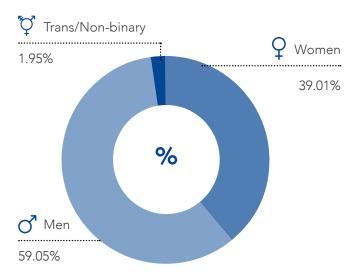
40-60 Years



# **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 focus group discussion (FGD) was conducted with a group of 4 men and 5 women, centering on innovation, growth and local commute.

#### **Gender Distribution**



#### Distribution of disabilities/functional difficulties<sup>6</sup>



78.87%



9.86%



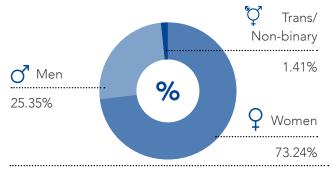


Self-care

0.7%

Seeing

# Gender distribution of persons with disabilities



#### **Persons with Disabilities**



4.93%

total survey respondents

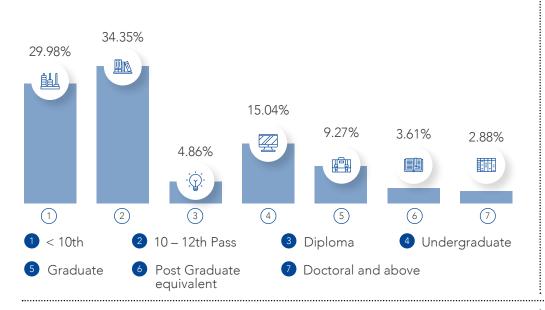


<sup>&</sup>lt;sup>5</sup>The Mega Cities cluster includes the cities of Ahmedabad, Bengaluru, Chennai, Hyderabad, Kolkata, Mumbai, New Delhi, Pune-Pimpri Chinchwad

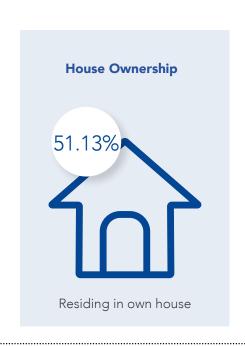
<sup>&</sup>lt;sup>6</sup>Total will exceed 100% as a survey respondent may have multiple disabilities/functional difficulties



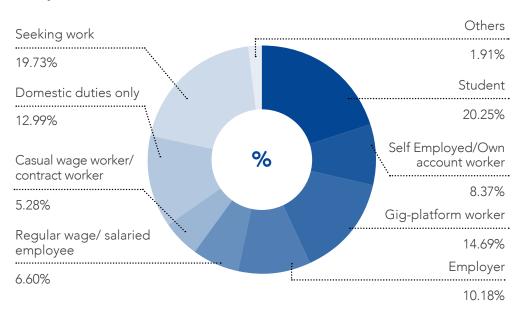
# **Highest Educational Qualification**



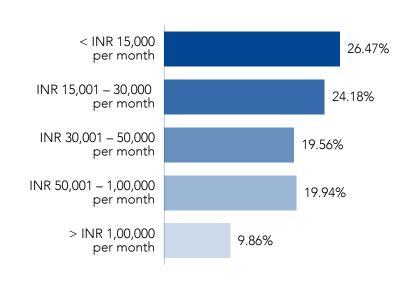




# **Occupation**



# **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 Hyderabad fairs on this parameter.

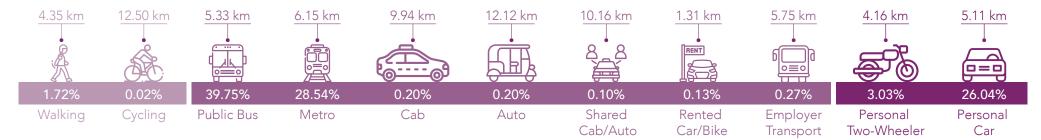


# Mode share and public transport adoption

- In Hyderabad, public transport comprises **68.29%** of the mode share, while the combined mode share of active and shared mobility is **70.93%**.
- Hyderabad tops the cluster in public transport share but lags behind the cluster average of 70.23%, as well as Bengaluru (71.21%), Chennai (74.80%), Kolkata (77.61%), New Delhi (71.56%), and Mumbai (71.45%) in the combined mode share of active and shared mobility, ranking sixth in the cluster.
- In Hyderabad **83.63**% of respondents regularly use the public transport system which is higher than the mega city cluster average of **76.85**%, but lower than Mumbai (at **98.93**%) and Chennai (at **95.82**%). Hyderabad has a substantial availability of 39.89 buses per lakh population, surpassing the cluster average of 38.34 buses per lakh, but trailing behind cities like Bengaluru with 67 buses per lakh and Delhi with 45 buses per lakh.
- In terms of mass transit infrastructure, Hyderabad has 2.04 km per lakh population

- (including both built and under construction), an increase from 1.43 km per lakh population before April 2023. The proposed phase- 2 metro extending 63 Km, is yet to receive approval and an additional 5 km of metro, though approved, remains unbuilt. Once approved, this addition will increase the total length of the mass transit from 159 km to 223 km.
- Among regular public transport users, 71.53% own some form of motor vehicle (two-wheeler/car/three-wheeler). Interestingly, 43.07% of these vehicle owners opt not to use their personal vehicles, attributing their choice to the reliability of public transport and the availability of alternatives such as autos and cabs. Additionally, 32.15% cited the high cost of vehicle ownership as a deterrent, while another 5.60% points to concerns of rash driving and unsafe roads as reasons to not use their own vehicle.

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

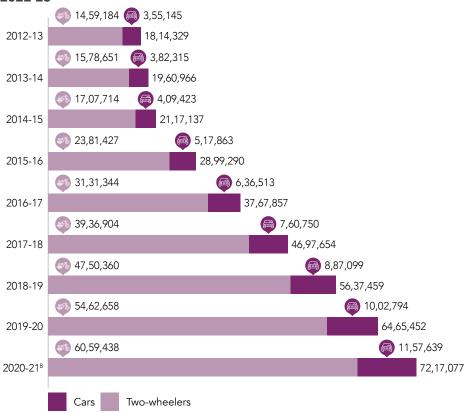


The average commute distance is 5.48 km across all modes.





# Cumulative number of vehicles registered in Hyderabad between 2012-13 to 2022-23



Source<sup>9</sup>: (Ministry of Road Transport and Highways, n.d.; Government of Telangana State Transport Department - Hyderabad RTO, personal communication, [received on 14th February 2023]).

# Vehicle growth and ownership patterns

- Since 2012-13, Hyderabad has witnessed a staggering growth in registered non-transport vehicles at **18.84%** CAGR. The number of registered two-wheelers increased at a CAGR of **19.48%** while the number of registered cars grew at a CAGR of **15.92%** over the same period.
- Among the mega cities, Hyderabad is notably burdened with an alarming count of 779.7 registered two-wheelers per thousand. This figure is significantly above the cluster average of 500 two-wheelers, and far exceeds that of Kolkata, which records 94 two-wheelers per thousand population.
- In terms of car ownership, Hyderabad has a staggering 149 cars per thousand

- population. This figure is lesser than the cluster average of 152 cars but far exceeds the count in Mumbai, which has 81 cars per thousand population.
- The EoMI survey finds that in Hyderabad, **84.47%** of respondents own at least one two-wheeler, **33.17%** own at least one car. Around **36.47%** own a bicycle and, **6.63%** of respondents did not own any vehicle.

# **Availability of public transport**

# Respondent perception regarding ease of availability of Public transport between any two points in the city (n=2449)

	Disagree	Neutral	Agree
🖺 Bus	51.65%	23.03%	25.32%
Metro	25.89%	25.15%	48.96%
Train	67.09%	32.91%	0.00%
Average	48.21%	27.03%	24.76%

- In Hyderabad, only **25.32%** of public transport users reported finding public bus transport easily accessible between any two points in the city, which is below the cluster average of **35.91%**. In contrast, Surat leads the cluster in this aspect with an impressive **49.15%** respondents expressing satisfaction with the availability of public bus transport throughout the city. In Hyderabad, **48.96%** of respondents agreed that the metro is easily available throughout the city. This figure is higher than the cluster average of **39.53%**, but slightly lower than the **50.26%** respondents in Kolkata who expressed the same sentiment.
- While an average 24.76% of survey respondents reported good availability of
  public transportation across Hyderabad. 93.14% of regular users expressed
  confidence in using public transport at night. The prime reasons for reluctance of
  the remaining people to not use public transport were lack of availability in their
  area and unreliable schedule of transportation services in their areas, highlighting
  an unequal distribution of the public transport network.

<sup>7</sup>Since the number

For the compilation of the EoMI scores for the city for personal mobility indicator under Impetus for Active and Shared Mobility parameter, number of registered vehicles (19,92,499 two wheelers and 4,43,604 cars]) as reported by MORTH Year book 2018-19 in were used. However, the author later on 14th February,2023 received updated figures from the Telangana State Transport Department for the 2015-16 till 2020-21 and the same have been updated here.

The data for the years 2012-13 to 2014-15 is sourced from the Road Transport Year Book for the corresponding years. Notably, the Year Book reported no change in data from 2014-15 till 2015-16. This lack of change indicates a possible gap in data collection and reporting, especially since [state source] reported a significant number of new vehicle registrations for the years 2015-16 ([6,73,713 two wheelers and 1,08,440 cars), 2016-17 ([7,49,917 two wheelers and 1,18,650 cars]), 2017-18 ([8,05,560 two wheelers and 1,24,237 cars]), 2018-19 ([8,13,456 two wheelers and 1,26,349 cars]), 2019-20 ([7,12,298 two wheelers and 1,15,695 cars]), 2020-21 ([5,96,780 two wheelers and 1,54,845 cars]). Consequently, for the years 2015-16 and onwards, the author has used the 2014-15 registered vehicle data (from the Ministry of Road Transport and Highways- Road Transport Year book (2014-15)) as a baseline, and then added the number of new vehicles registered as reported in Telangana State Transport Department to this baseline. However, these figures have not been adjusted for the number of deregistered vehicles, which may result in an overestimation of number of registered vehicles in the city.





#### **SEAMLESS MOBILITY**

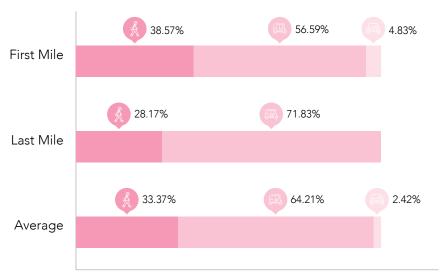
The integration of various transportation modes through seamless multimodal connectivity plays a vital role in promoting active and shared mobility and significantly affects individual mode choices. Hyderabad has one of the longest operational metro networks in the country and is in the process of developing better mass transit connectivity across the city. It has also expanded its Suburban rail project colloquially known as Multi Modal Transport System (MMTS) while also maintaining a well-established network of buses, however, shared feeder services are limited.



#### First- and last-mile connectivity to public transport

- In Hyderabad, 33.37% of regular public transport users walk to transit stops, a figure slightly lower than the cluster average of 34.8%. In comparison, in Pune Pimpri Chinchwad 43.16% walk to transit.
- Approximately **64.21**% of respondents rely on IPT modes for first-mile and last-mile connectivity to public transport, surpassing the cluster average of **62.02**%.
- Telangana State Road Transport Corporation (TSRTC) offers a TSRTC-MMTS combi ticket/ monthly pass allowing travel on both buses and trains with a single pass. (Telangana State Road Transport Corporation, n.d.)

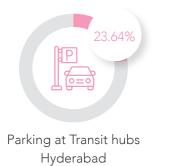
# Modes used for first - and last mile connectivity by regular public transport users (n=2,048)

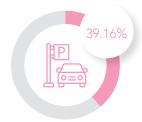


Source: OMI Foundation. (2022). Ease of Moving Index Survey [Data set]. Available from OMI Foundation upon request.

# **Parking facilities**

• The survey revealed that 23.64% of regular public transport users in Hyderabad find the dedicated parking facilities at major transit hubs satisfactory. This is lower than the cluster average of 25.46% and significantly lower than in Surat, where 39.16% of respondents expressed satisfaction with parking availability at transit hubs. Additionally the survey suggests that 41.33% of respondents who use bicycles found that there is adequate parking for bicycles at transit hubs.





Parking availability at Transit hubs in Surat

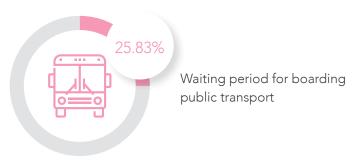


Parking for bicycles at Transit hubs in Hyderabad





## Access and wait time for public transport



- Regular public transport users in Hyderabad reported an average time of 8 minutes and 12 seconds to reach the nearest transit stop. It has the fourth shortest average time to access after Mumbai, Chennai and Bengaluru.
- The average wait time for public transport in Hyderabad is 9 minutes and 16 seconds, which is lower than the cluster average of 9 minutes and 22 seconds. However, there is still room for improvement compared to Mumbai, which has the shortest wait time among mega cities at 9 minutes. This is reinforced by the dissatisfaction expressed by an average of 25.83% of respondents across all public transport modes in Hyderabad in regards to the waiting period for boarding public transport.





# Average wait time for public transport

Hyderabad 16 seconds 22 seconds

Cluster Average

9 minutes and 9 minutes and

### **Unified Metropolitan Transport Authority (UMTA)**

• The Unified Metropolitan Transport Authority for Hyderabad Metropolitan Region was constituted under the Municipal Administration and Urban Development Department and managed by Hyderabad Metropolitan Development Authority in 2008. Since its inception UMTA has been assigned the task of overseeing implementation of various traffic and transportation measures by different government agencies and coordinating the effort across different departments. (Hyderabad Metropolitan Development Authority, n.d.) The UMTA was instrumental in preparing the Comprehensive Transport study Report, which proposed several investments in public transport. (Deekshith, 2022)





#### **TOWARDS VISION ZERO**

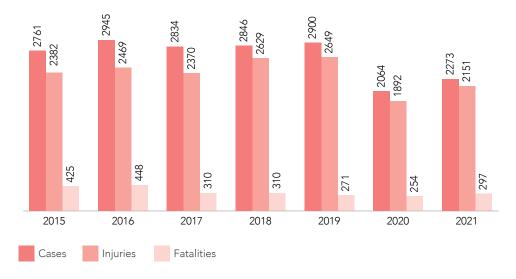
Reducing road accidents is crucial for improving public safety and promoting sustainable mobility, making it a top priority for urban planners and policymakers alike. Here's a look at Hyderabad's records from 2015 to 2021



#### **Road Safety and Fatalities**

- Hyderabad has achieved a **43.30%** reduction in road fatalities in 2020 from its peak of 448 in 2016.
- Though there has been a reduction in road fatalities and accidents since 2016, the number of vulnerable road users including pedestrians, cyclists, and twowheelers accounted for 85.52% of the total road fatalities in Hyderabad in 2021.
- Hyderabad has among the lowest absolute number of fatalities across the Mega cities cluster with 297 fatalities. However at 3.82 fatalities per lakh population, it is still higher than Mumbai (3.26).

#### Road Accident details from 2015 to 2021



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

# Pedestrian and cycling infrastructure

- In Hyderabad 40.64% of respondents considered the footpaths in the city to be wide and in good condition, the highest percentage among the mega cities.
- About 40.15% of respondents agree that major junctions in Hyderabad have sufficient grade separators like Foot Over Bridges (FOBs) and Subways. This is higher than the cluster average of 31.36%, but slightly lower than Pune-Pimpri Chinchwad (43.6%), Bengaluru (42.61%), and Mumbai (41%).
- UMTA resolved to create a working group for Non Motorised Transport (NMT) policy for Hyderabad in coordination with the Comprehensive Transport Study and identify specific projects for NMT. (Government of Andhra Pradesh, 2013). Inspired by South Korea's cycle highways, Hyderabad recently built a 23 km long solar-covered cycle track. The first-of-its-kind project has the potential to generate 16 megawatt of green energy, enough to illuminate 800km of city's road. (The Economic Times, 2023)
- Hyderabad has a third-generation public bicycle sharing system available at almost all metro stations, and over **40.13%** respondents agree that the availability of public bicycle sharing will encourage them to cycle for short distances.

# Illumination on roads and footpaths



Road Illumination



Footpath Illumination

• The EoMI survey reveals that 28.20% of respondents in Hyderabad believe that the city's roads are adequately illuminated, and around 41.23% stated that the footpaths are also well lit. While the percentage of respondents satisfied with road illumination is slightly less than the cluster average of 28.42%, the percentage of respondents who agree that the city's footpaths are well-lit is above the cluster average of 31.39%.





#### **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 within the city.



# Persons with Disabilities and public transport accessibility

- According to the survey results, 88.33% of respondents in Hyderabad with disabilities or difficulties in walking, communication, self-care use public transport regularly.
- Persons with disabilities respondents in Hyderabad rated the public bus and metro system higher than the cluster average, with ratings of 29.18% for the bus system and 32.03% for the metro system.
- In comparison, a higher percentage of persons with disability in Mumbai (43.32%) find the public bus transport accessible, and in Delhi, a significantly larger portion (63.86%) find the metro system accessible.

# Respondent perception regarding accessibility of public transport for persons with disabilities (n=120)

Modes of Commuter	Disagree	Neutral	Agree
Bus	36.67%	20.83%	42.50%
Metro	39.17%	22.50%	38.33%
Suburban Train (MMTS)	30.00%	30.83%	39.17%
Average	35.28%	24.72%	40.00%

# Safety from gender related crime events such as eve teasing and molestation in public transport (n=994)

Bus	Metro	Suburban Train (MMTS)	Average
25.65%	26.26%	23.54%	25.15%

- In Hyderabad, over **83.80%** women and trans/non-binary respondents use public transport regularly, a figure higher than the mega cities cluster average of **74.44%**.
- Among the female and trans/non-binary respondents, only **25.15%** agreed that public transport in Hyderabad is safe from gender related crime events such as

- eve teasing and molestation, compared to **35.28%** average respondents across megacities cluster.
- Across the Mega cities cluster, Bengaluru leads in safety from gender related crimes in public bus transport as perceived by 41.47% women and trans/non-binary respondents. Pune Pimpri Chinchwad leads in metro safety with 69.08% while Mumbai leads in Suburban rail safety as perceived by 39.43% women and trans/ nonbinary respondents in their respective cities. Pune-Pimpri Chinchwad also has the highest overall average among mega cities, as 47.54% respondents across public transport systems considered it safe from gender-related crimes.
- In Bengaluru, 41.47% of women and trans/ non binary respondents agreed that the public bus transport is safe from gender-related crimes, the highest percentage among the megacities cluster.
- While in Pune-Pimpri Chinchwad, 69.08% women and trans/ non binary respondents were satisfied that the metro is safe from gender-related crimes, the highest percentage among mega cities.
- Pune-Pimpri Chinchwad also has the highest overall average among mega cities, as 47.54% respondents across public transport systems considered it safe from gender-related crimes.

# Safety from pickpockets and other petty crimes in public transport (n=2449)

Bus	Metro	Suburban Train (MMTS)	Average
25.03%	25.72%	50.59%	33.78%

Among respondents who use public transport regularly, about 33.78% agreed
that the public transport system in Hyderabad is safe from pickpocketing and
other petty crimes. This is better than the cluster average of 31.29%. However,
Hyderabad lags behind Ahmedabad in public bus safety and Pune-Pimpri
Chinchwad in metro safety, with 42.33% of respondents in Ahmedabad and
49.06% in Pune-Pimpri Chinchwad considering their public transport systems
safe from petty crimes.





#### **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 Hyderabad, **34.10%** of respondents find public transport affordable. This number is lower than the cluster average of **35.37%** and much lower than Pune-Pimpri Chinchwad which leads the cluster, with an average of **57.67%** respondents across all income groups agreeing that public transport is affordable between any two points in the city.
- Among the mega cities, Hyderabad had only 25.11% of respondents agreeing that buses were affordable, as compared to the cluster average of 33.11% among mega cities. This can be attributed to the fare hikes in March 2022 (Paul, 2022). While Bengaluru leads on the most affordable public bus transport with 40.01%, 68.31% respondents in Pune Pimpri-Chinchwad agree that the metro is affordable between any two points in the city.
- Among the respondents with monthly household income below INR 30,000, 33.66% considered public transport affordable, which is lower than the cluster average of 35.34% and much less than Pune-Pimpri Chinchwad, where an average of 57.68% respondents think public transport is affordable between any two points in the city.
- Among the respondents with monthly household income below INR 30,000, 41.88% respondents in Surat believed that the public bus transport is affordable between any two points in the city, the highest in the cluster. While Pune-Pimpri Chinchwad leads in metro affordability, with 69.02% of respondents stating it is affordable between any two points in the city.
- Even though the percentage of people considering public transport affordable in Hyderabad is lower than the cluster average, no respondents reported declining an opportunity due to difficulty in commuting, compared to the cluster average of 5.18%.

# Affordability of public transport in Hyderabad

Public Transport Mode			
Bus	25.11%	25.31%	
Metro	26.09%	25.14%	
Suburban Train (MMTS)	51.08%	50.53%	
Average	34.10%	33.66%	

#### Monthly expenditure on travel

- The monthly travel expenditure in Hyderabad is low, with over 90.48% of respondents reporting spending less than INR 3,000 per month on mobility.
- Approximately 50.64% (1,458 respondents) have a monthly household income below INR 30,000, and all of them spend less than INR 3,000 on transportation.
- The respondents with household income less than INR 30,000 reported spending
   9.65% of their income on transport. This is lowest in the cluster, where the average is
   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. Availability, accessibility and time taken for trips is yet another pertinent yardstick for measuring efficiency of public transport. This section presents how Hyderabad fairs on this parameter.



#### **Availability of information**

# Respondent perception regarding easy availability of information on timetable, fare etc. of public transport modes (n=2449)

Modes of Commuter	Disagree		Agree
Bus	49.12%	25.36%	25.52%
Metro	23.97%	23.97%	52.06%
Suburban Train (MMTS)	38.79%	21.60%	39.61%
Average	46.85%	29.70%	39.06%

- On average, **39.06**% of respondents in Hyderabad indicated easy access to information regarding public transport fares and timetables, compared to the cluster average of **46.54**%.
- While 25.52% respondents in Hyderabad expressed satisfaction with accessing information about buses, this is lower than the cluster average of 38.81%. In Surat, however, 65.22% of respondents reported easy access to information such as fares, timetable of public buses.
- In Hyderabad, 52.06% respondents have easy access to information regarding fares and timetables regarding the metro, which is higher than the cluster average of 45.01%. However, in Ahmedabad, 65.37% of respondents agreed that they have easy access to information regarding fares, timetable etc. for the metro.
- In Hyderabad, only 7.99% respondents accessed this information through digital means, with the majority obtaining it at transit stops, through print media and via word of mouth. While 42.87% of the respondents in Hyderabad have access to some information about public transport.

# **Public Transport vs Private Vehicle**

• In Hyderabad, 40.67% respondents, highest in the mega city cluster, disagreed that they reach their frequented destination significantly faster by using their own vehicles as compared to travelling by public transport.

# Average commute duration

# Trip distribution and average trip length based on trip types



- Nearly 40% of the trips as stated by respondents were for work, and 15.94% of the trips were made for education.
- On average, the respondents in Hyderabad reported commuting for a duration of 31 minutes and 8 seconds which is around the cluster average, and marginally higher than Ahmedabad which has the lowest commute duration of 29 minutes 53 seconds.





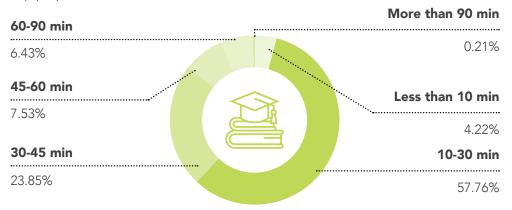
### Distribution of work and education trips across different time intervals

Trip purpose: Work

# 60-90 min



Trip purpose: Education



• In Hyderabad, 56% of work trips and 61.99% of education trips were completed within 30 minutes. Comparatively, across the cluster, an average of 58.37% of work trips and 62.94% of education trips were completed within 30 minutes. Ahmedabad had the highest percentage of both work (62.7%) and education (74.10%) trips completed within 30 minutes among the mega cities.

#### Time spent on First Mile/Last Mile connectivity

- In Hyderabad, 25.22% respondents take less than 10 minutes to walk or cycle to the nearest transit stop for first and last mile connectivity, which is only slightly below the cluster average of 25.89%. However, in Pune-Pimpri Chinchwad, 34.68% respondents can access transit stops on foot within 10 minutes for first and last mile connectivity.
- On average, almost 49.10% respondents in Hyderabad take less than 10 minutes to reach the nearest transit stop by shared mobility modes, which is higher than the cluster average of 46.98%. Notably, Ahmedabad has the highest percentage, with 52.43% of respondents able to access nearest transit stops by shared mobility within 10 minutes.

## Congestion and crowding

# Respondent perception regarding state of overcrowding in Public Transport (n=2449)

Modes of Commuter	Disagree		Agree
Bus	49.45%	25.23%	25.32%
Metro	49.61%	24.66%	25.72%
Suburban Train (MMTS)	49.69%	24.83%	25.48%
Average	49.58%	24.91%	25.51%

- In Hyderabad, an average of 25.51% of public transport users felt it is overcrowded, making it difficult to find a space to sit or even stand. The metro was perceived as slightly more crowded than the buses and trains in Hyderabad. Among the mega cities, an average of 35.75% respondents felt public transport is overcrowded. While the public transport in Pune-Pimpri Chinchwad was perceived to be the most crowded, it was perceived as the least crowded in Ahmedabad.
- In contrast, Delhi boasts the lowest percentages of complaints regarding overcrowding in both public buses (24.31%) and the metro (25.2%). Additionally, the Ahmedabad metro, though operational, has not been perceived as overcrowded by any respondents. These findings highlight the need for targeted strategies to alleviate overcrowding and improve the public transport experience.
- In Hyderabad, 45.47% of the respondents agreed that the roads are not congested, which is slightly above the cluster average of 45.44%.



#### **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 Hyderabad fares in terms of clean mobility:



## Deaths due to PM2.5 pollution

• In 2019, Hyderabad recorded 83.13 deaths per lakh population<sup>10</sup> attributed to PM2.5 pollution. (Health in Cities, n.d.) The rising vehicular traffic and emission along with reduction in green cover due to construction has impacted the air quality severely (IANS, 2022).

#### **Electric Vehicle (EV) adoption**

Hyderabad has several Electric vehicle OEMs and is gradually attracting adoption
of electric vehicles among its residents. Approximately 3.02% of the total twowheelers owned by the respondents were electric vehicles. In the case of bicycles,
0.87% were either pedal-assisted or electric cycles.

# Top three reasons for unwillingness to buy electric vehicles (n=2058)

Reasons for unwillingness to buy Electric Vehicle	Hyderabad
Electric vehicle are more expensive than ICE vehicles	5.83%
Limited finance options	19.24%
High cost of finance	2.28%
Safety concerns	86.15%
Not enough EV options in the market to choose from	39.94%
🖟 Inadequate charging infrastructure	78.33%
No clarity on resale/resale value of EVs	3.45%
Concerned about technology and reliability of existing EVs	51.94%
(a) Lack of service centres/skilled mechanics	6.85%
I'm not aware of the EV technology	2.82%
I own a car/recently purchased personal vehicle so not planning to buy one in the next few years	3.16%

 About 28.52% of respondents in Hyderabad expressed their willingness to purchase electric vehicles in the near future, which is lower than the cluster average of 34.5%. However, there are certain concerns that discourage people from adopting personal
electric vehicles. The top three concerns identified were safety, inadequate public
charging infrastructure, and concerns about technology and reliability of existing
technology. The city is also building a vast charging infrastructure around metro
stations, railway stations and other such public infrastructure. (Times Now, 2022).

# Cleanliness and hygiene perception in public transport Respondent Perception on cleanliness, hygiene and maintenance/upkeep of Public transport (n=2449)

Modes of Commuter	Disagree	Neutral	Agree
Bus	40.91%	19.76%	39.32%
Metro	24.99%	24.34%	26.05%
Suburban Train (MMTS)	49.53%	25.40%	25.07%
Average	38.48%	23.17%	30.15%

- In Hyderabad, **39.32%** respondents find the public bus transport to be clean and hygienic, which is slightly lower than the cluster average of **39.63%**. Among the megacities Mumbai has the highest percentage **40.24%** respondents who reported that buses are clean and hygienic.
- Only **26.05%** of respondents find the Metro to be clean and hygienic. This is much lower than the cluster average of **39.79%**. Among the mega cities the twin cities of Pune-Pimpri Chinchwad has the highest percentage, **68.92%**, of the respondents reporting that the metro is clean and hygienic.

#### Shift to Electric bus

• TSRTC has added 470 electric buses to its fleet. Out of this, 120 are non AC and 350 are AC buses. (Baski, 2023). Under the Faster Adoption and Manufacturing of Hybrid and Electric Vehicles in India (FAME-1 and 2) scheme, 340 AC electric buses were procured, 40 such buses were procured under FAME-1 and 300 under FAME-2. (ITDP India and ASRTU, 2022)

 $<sup>^{10}</sup>$ The figure has been calculated by dividing the number of deaths due to PM 2.5 pollution in 2019, by the projected population of Hyderabad in 2021





#### **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 Hyderabad, let's explore the extent to which citizens embrace technology-enabled mobility and payment solutions:



# Mobility and package delivery

Percentage of respondents having atleast one applications for different services



Booking a ride on digital platforms for taxi-cabs, auto-rickshaws, bike-taxis, etc



Rental vehicle Application -PBS/Bike/ Cars



Ticketing on bus, metro, other public transport etc.



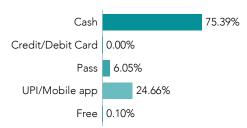
Journey Delivery of food, groceries, medicines, on routes and timetables and fares

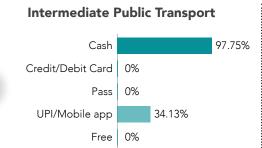
• Over **97.99%** of respondents use a smartphone. Of these, **87.27%** have at least one app to book a ride on digital platforms and all smartphone users have at least one app for food and package delivery. However, the percentage of respondents having at least one app for rental vehicle applications, ticketing for public transport and journey planning, etc are significantly lower. This pattern is observed across the cities in the cluster.

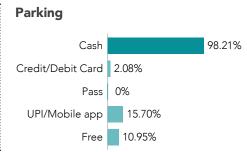
# Payment for mobility, and parking

Distribution of payments made for different mobility services - parking (n=2255), public transport, and IPT (n=2,048).

# **Public Transport**







- UPI/ Mobile applications is the most popular and acceptable mode for cashless payment. While 15.70% of respondents using parking facilities pay via UPI/ Mobile applications, their usage of UPI/mobile applications for payment in public transport is 24.66% and for Intermediate Public Transport (IPT) it is 34.13%.
- Cash remains the dominant mode of payment for all the three purposes in Hyderabad, a pattern also observed in other cities in the cluster.
- Passes are a convenient cashless payment mode for public transport, but only 6.05% regular public transport users in Hyderabad use it, marginally lower than the cluster average of 6.1%. UPI and mobile apps, as modes of payment for public transport, are being used by 24.66% respondents, the highest in the cluster.
- Hyderabad has the highest uptake of UPI usage with 34.13% of respondents using it to pay for Intermediate Public Transport services.

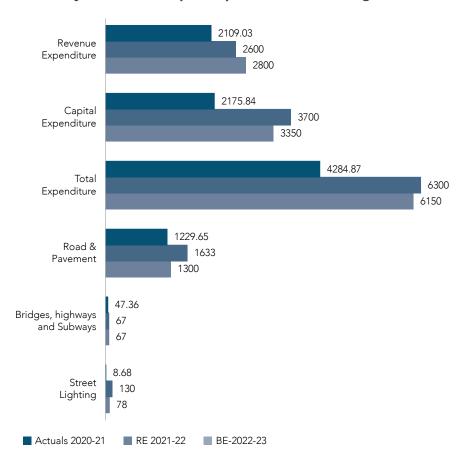


#### **INVESTMENT IN CITY**

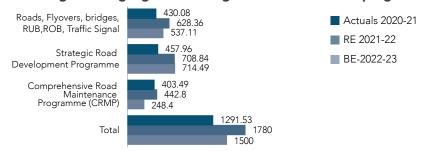
Financial resources play a vital role in development and maintenance of a sustainable, seamless, efficient and inclusive mobility system. Below is the updated budgets for Hyderabad, with particular reference to mobility spends:



# Greater Hyderabad Municipal Corporation (GHMC) Budget 2022-23 details



# The expenditure on roads is distributed across different programs. The following table highlights the budget for different road programs.



Source: (Greater Hyderabad Municipal Corporation, n.d.)

- The estimated budget of GHMC for 2022-23 was reduced by 2.38% or INR 150 crores from the revised budget of 2021-22. The estimated budget from the revenue account has increased significantly by 7.69% or (INR 200 crore).
- GHMC has budgeted INR 1500 crores, or about **24.39%** of its 2022-23 budget estimate towards building and maintaining the road assets.
- In addition to GHMC, the Municipal Administration and Urban Development department of Telangana also supports development in the city. The Hyderabad Metro Rail Limited, Telangana State Road Transport Corporation, Hyderabad Metropolitan Development Authority, Traffic police etc. also have substantial allocation in their budgets towards improving mobility and transportation in the city.
- The revenue and capital expenditure for the Greater Hyderabad Municipal Corporation incurred, as per revised budget estimate 2020-21, was INR 8500 crore (Greater Hyderabad Municipal Corporation, 2020) however, the actual amount was INR 4284.87 crore (Greater Hyderabad Municipal Corporation, n.d.) or half of the revised estimate. Thus, the per capita budget is only INR 5514 and not INR 10,938 as estimated, and is one of the lowest across mega cities.





# THE ROAD AHEAD

There are multiple factors affecting mobility, as it should be for something as encompassing. If infrastructure sets the pace, technological advancements and behavioural changes ensure that the journey to sustainable and efficient mobility systems is seamless. Universal goals cannot be achieved in isolation. 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.

Key responsibility and improvement areas along with the agencies responsible for intervention.



# **Encourage Shared Mobility**

#### **Improvement Areas**

• The increasing use and personal vehicle ownership in Hyderabad (refer Section Vehicle growth and ownership patterns) is resulting in growing congestion in the city. To address this trend and foster sustainable transport solutions, policy interventions are crucial. Encouraging alternatives like walking, cycling, public transport, electric and shared mobility is imperative to mitigate this growth in vehicle ownership.

# **Responsible Agency**

State Transport Authority/ RTO



Improving first - and last mile connectivity and seamless multi - modal integration

#### **Improvement Areas**

 Access to mass transit can be improved by encouraging use of active and shared mobility modes for first - and last mile connectivity. As evidenced in section Seamless Mobility, there is an opportunity to improve Hyderabad's active mobility. (Refer section First - and last-mile connectivity to public transport & Time spent on First Mile/Last Mile connectivity)

# **Responsible Agency**

HMRDA or UMTA- Hyderabad



#### **Road safety infrastructure**

#### **Improvement Areas**

- Investment in safe cycling infrastructure, especially on major roads, will encourage more people to use bicycles, thereby reducing congestion and emission. Hyderabad has already explored this with a solar rooftop cycle pathway. Scaling this idea across the city could be explored. (refer sections Road Safety and Fatalities and Pedestrian and cycling infrastructure)
- Well-lit and well-designed roads and footpaths will encourage walking and keep both motorists and pedestrians safe. (Refer section Illumination on roads and footpaths)

# **Responsible Agency**

Greater Hyderabad Municipal Corporation (GHMC) Telangana State Road Transport Corporation







## **Budgetary spending**

# **Improvement Areas**

 The budget estimates of 2022-23 has increased by INR 1865 Crores from actuals 2020-21, yet the per capita is lesser than the cluster average. (Refer section Investment in City)

# **Responsible Agency**

Greater Hyderabad Municipal Corporation (GHMC) Telangana State Road Transport Corporation



#### **Decarbonisation**

## **Improvement Areas**

 Augmenting electric buses in Hyderabad will not only improve air quality standards, but also encourage patronage for public bus transport. (Refer section Deaths due to PM2.5 pollution and Shift to Electric bus)

# **Responsible Agency**

Telangana State Road Transport Corporation



# **Improving Public Bus Transport services**

# **Improvement Areas**

- The availability of public buses is lower than cluster average, and can be improved by increasing the number of buses, increasing coverage and improving operational efficiency. (refer section Availability of public transport)
- Improving cleanliness and safety from petty crimes like pick pocketing and gender related crimes are essential to improve its ridership. (Refer section Safety from gender-based crimes and Safety from petty crimes and Cleanliness and hygiene perception in public transport)
- Open data on schedule will enable opportunities for service providers to improve first and last mile efficiency and reduce access and wait time. (Refer section Access and wait time for public transport and Availability of information)

# **Responsible Agency**

Telangana State Road Transport Corporation



# **Improving Mass Transit system**

#### **Improvement Areas**

- Making data on schedules and historical ridership publicly available presents significant opportunities for enhancing the efficiency of first and last mile connectivity. Such open data, accessible via APIs, facilitates better integration of public transit systems with various modes of transportation. This integration not only aids service providers in optimising their operations but also empowers commuters to more effectively plan their journeys.
- Traditionally, investing in a dense network of mass transit and its upkeep encourages more people to use the public transport system. Similar practices by MMTS could help it improve the patronage for public transport.

# **Responsible Agency**

Hyderabad Metro Rail Corporation Limited and South Central Railways

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 Hyderabad's mobility scenario.





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