End User Impact of Metro Rail Services in Hyderabad
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## CONTENTS

The Changing Picture of Urban Transport: An Introduction  
Metro: A Vision for the City  
Research Objectives and Research Questions  
Methodology  
  - Statement of Problem  
  - Research Design  
  - Research Tools/Instruments Used  
  - Sampling and Data Collection  
Incentives and Appeals of Metro Travel: Explaining the ‘Switch’  
  - Cost  
  - Connectivity  
  - Convenience  
Clientele: Who is the Metro Catering to?  
Locating Gender in Hyderabad Metro  
  - Metro as an Equaliser?  
  - Reserved Coaches: A Liberating Space?  
Metro as a Facilitator of Well-Being: Understanding Elderly Travellers and their Use of Metro  
  - Factors Facilitating Well-Being: Convenience in Access Challenges to Well-Being  
Vision and Actualisation  
  - Metro and Class  
  - Metro and Gender  
  - Metro and Inclusion  
  - Last Mile Connectivity and Feeder Travel  
Teething Issues in Hyderabad Metro Rail  
  - Frequency  
  - Accessibility  
  - Technology and Infrastructure  
Conclusion  
References  
Annexure I
ABSTRACT

Metro Rail has been envisaged as a rapid transit solution to ensure reduction in commute time, improved connectivity, and better travel experience. In the Indian context, the presence of Metro Rail in a city is seen as a sign of 'coming of age' in the transition to become a 'world class city' and this has led to increasing demands from various cities to have it as a mode of transport. The research study aims to explore the role played by Hyderabad Metro Rail in the broader goal of 'Urban Transformation' by focusing on the aspects of equity, inclusion, convenience, and safety among others. The research bases itself on a user perception study that takes into account several factors including the ones mentioned here and will attempt to provide recommendations for teething issues which could be incorporated in the operationalization of remaining lines for improved efficiency.
THE CHANGING PICTURE OF URBAN TRANSPORT: AN INTRODUCTION

It has been established, in the recent years, that a city’s transport system has a direct bearing on the mobility, safety, and health of its residents. The development of urban transportation in India has been a challenging experience. This is partly due to the chaotic growth of cities and partly due the fact that central and state governments, till a few years back, have been mindlessly encouraging private transport. Reportedly, the challenge of urban transport will only increase manifold with India’s city and town population is expected to increase to about 473 million in 2021 and 820 million in 2051 (“Ensuring Equity”, 2006). The policy makers have been, therefore, urged by many health professionals to adopt a policy centred on creating access to public transport system, so that there is a decrease in the dependence on private vehicles. An efficient transport policy is understood as the one that not only decongests the roads but reduces the air and noise pollution, and the risk of accidents (“Urban Transport and Public Health”, 2009).

To this end, the metro – as a form of modern transit system – is seen by as a “cure” to the urban ills of stress, accidents, and pollution, and thereby a clean, fast, smooth, and air-conditioned alternative to existing forms of public transport. The metro is expected to be an infrastructurally sound and eco-friendly mode of urban transportation whose primary aim is to reduce traffic congestions by encouraging people to travel in public transportation systems.

One of the recent metro projects intended to change the lifestyles of urban population is – the Hyderabad Metro Rail Project, also known as HMR. It has been touted as the world’s largest Public-Private-Partnership project in the metro sector, being implemented through L&T Metro Rail (Hyderabad) Limited, a Special Project Vehicle (SPV) of the Government of Telangana, to facilitate coordination between various stakeholders. Design-Build-Finance-Operate and Transfer model has been adopted for this project and to ensure financial viability, the Government of Telangana gave L&T permission to construct and operate malls as 45% of the revenue is expected from real estate development. (“L&T Hyderabad Metro”, n.d.; “Swanky malls to help L&T”, 2017). While there exists considerable debate on the viability of metro in PPP mode, the HRM serves as an important test case for a metro project operating under the model. The metro has been envisaged as a rapid transit solution to ensure reduction in commute time, improved connectivity, and better travel experience, and Hyderabad Metro Rail is a step in that direction.
METRO: A VISION FOR THE CITY

“Metro will be more than just a cheap and safer means of transport. It will reduce congestion on roads making movement easier. It will also reduce atmospheric pollution to a great level making the environment healthy. The metro will totally transform our social culture giving us a sense of discipline, cleanliness & enhance multi-fold development of a cosmopolitan city.”

E Sreedharan, Ex-Delhi Metro Managing Director (as cited in Siemiatycki, 2006, p. 281)

Today, major public transit systems have come to represent the visions, narratives, and character of an urban landscape. The above words aptly capture the force with which the development of transit systems like metro has been understood, particularly in the developing world. Siemiatycki (2006) argues that the popularity and support for infrastructure mega projects, particularly public transit systems, is created and sustained by the way it is presented to the public. In the case of metro, an all-round positive image is generated by combining tangible variables with a set of intangible symbols. In integrating both tangible and intangible variables into the construction of an image, the development of public transit such as metro “merges function with form, becoming the intersection of mass mobility and mass/ popular culture” (p. 278).

Several studies have demonstrated that the promotion of metro projects has relied on narratives that revolve around the efficient movement of people. The development of metro network paves the way for several transportation benefits. In the popular imagination, the technological advancement of metro is to address the challenges of efficient urban mobility, sanitary conditions, and security. Siemiatycki (2006) argues that the metro attempts to attract the middle-income crowd back to public transit while cultivating a clientele amongst the existing bus and other transport users. In doing so, mobility-related features such as reduced travel time, and increased safety and comfort become the backbone of metro travel. These features coupled with the ability of metro to provide an escape from traffic congestion provide for a multiplicity of transportation benefits (Bhatnagar, 2002; Schrag, 2002).

While the construction of a metro is posited as an attempt to improve urban mobility, it has also been accompanied by other meanings. The metro seeks to be more than just a safe platform for urban mobility. It endeavours to inculcate a pattern of public behaviour, in sync with the vision of modernity. Equipped with the aesthetics of an open concept layout, hi-tech surveillance,
technologically advanced no-touch turnstiles, and air-conditioned comfort, the metro represents an environment of progress, order, and security. The sliver trains with sleek industrial design, automatic functions and digital signage represent an embodiment of the future.

In several public announcements, metro has been officially sanctioned as a vehicle for inculcating a sense of discipline, cleanliness, and order. In order to connect with a wider community, the message of metro is speaking to a city that is dynamic, modern, and competitive and ‘world class’. Therefore, the metro is broadcasted as a catalyst for societal change and a stimulus for enabling transformation of the urban landscape. In this sense, the development of metro is also intertwined with the definition of urban progress.

Therefore, metro, as a form of urban transport, has become both a metaphor and a catalyst for achieving: i) the tangible goals of congestion reduction, environmental amelioration and increased safety and ii) the intangible objective of social and cultural transformation.

Viewed in its entirely, the metro forms a vital piece of transport infrastructure, symbolizing the transformation of the city into a modern metropolis. Taking cue from the above understanding, the study is situated in a framework that would enable one to understand the varied impacts of the development of metro rail services in Hyderabad.
RESEARCH OBJECTIVES AND RESEARCH QUESTIONS

The research aims to capture the end user impact of Metro Rail Services in Hyderabad. In doing so, the framework of following research objectives and questions will be deployed.

1. To understand the role metro plays in the larger context of urban transportation.
   1.1 What is the socio-demographic profile the metro is catering to?
   1.2 What is the role of metro in relation to urban congestion?
   1.3 How is the metro envisioning to change the character of urban mobility?

2. To examine the impact of metro development from the standpoint of Women and Elderly.
   2.1 What is the nature of influence metro has on the well-being of Elderly and Women?
   2.2 How has the metro accommodated the question of gender in terms of parameters such as safety and convenience?
   2.3 What is the nature of accessibility created by the metro infrastructure in comparison to other modes of transport?
METHODOLOGY

Statement of problem

This chapter outlines the methodology employed to conduct the study on the Hyderabad Metro, as an urban transport system. It details out the research design, methods and tools of data collection, sampling method, ethical considerations and limits of the research study.

Research Design

Research design is a critical component of any research as it provides the researcher with the capacity to choose the appropriate tools and methods to answer the intended research question. As described by Parahoo (1997) a research design is “a plan that describes how, when and where data are to be collected and analysed” (p. 142). Polit et al. (2001) define a research design as “the researcher’s overall for answering the research question or testing the research hypothesis” (as cited in AN De Langen, 2009, p. 10). In the most elementary sense, the design is the logical sequence that connects the empirical data, research questions and conclusions (Yin, 2002).

The research design is a mix of qualitative and quantitative in order to conduct an objective as well as subjective exploration of the subject. Researchers use the quantitative approach to study inter-relationships and patterns between different variables and the qualitative approach to explore the behaviour, perspectives, experiences and feelings of people and emphasize the understanding of these elements (AN De Lagen, 2009). “Qualitative research allows researchers to get at the inner experiences of participants to determine how meanings are formed through and in culture and to discover rather than test variables” (Corbin & Strauss, 2008, p. 12).

The research approach employed in the current study is non-experimental, exploratory-descriptive and relies on statistics to substantiate the points made. Descriptive research tries to answer the questions of who, how, what, where and when by describing data and characteristics specific to the population or object of the study (Myers et. al., 1998). As the study here focuses on a new attempt, the choice here has been explorative in addition to descriptive. According to Polit et al. (2001), explorative studies are undertaken when a new area is being investigated or when little is known about an area of interest. It is used to investigate the full nature of the phenomenon and other factors related to it (p. 19).
Research Tools/instruments used

The tools used for this have been quantitative in nature in addition to thick descriptions used in qualitative methods.

The major tool for data collection was in-depth interviews with the sample (selection of sample is discussed in the following section). The in-depth interviews conducted were personal and semi-structured in nature with a combination of both open ended and close ended questions. “Semi-structured interviewing is best used when you won't get more than one chance to interview someone and when you will be sending several interviewers out into the field to collect data” (as cited in Cohen & Crabtree, 2006, p. 45). While the closed ended questions were aimed at capturing quantifiable data which is required to substantiate the major arguments presented, open ended questions aided in capturing the opinions of travellers of metro in detail. Through the in-depth interview, the researchers aimed to understand the personal experiences of travellers. The personal interviews provide a direct contact between interviewers and interviewees, which is an advantage for the researchers as it ensures responses from the interviewees. However, the interviewer must train themselves well and be equipped with necessary skills to be able to successfully conduct the interviews (Fisher, 2005; Wilson, 2003).

An interview schedule was prepared by the research team to conduct the semi-structured interviews. The guide, as mentioned earlier, also contained certain close ended questions (see Annexure I for the semi-structured interview schedule).

Sampling and Data Collection

For this particular study, purposeful sampling was employed for selecting cases that are information-rich with respect to the purposes of the study, which is to understand the user’s perspectives about the Hyderabad Metro. This method of sampling falls under non-probability sampling techniques wherein individuals in the sample are selected based on their relationship with the subject and their knowledge on the subject in research (Freedman et al., 2007). In this study, members of the research team visited metro stations and spoke at random to individuals travelling by metros. The team also conducted interviews to ensure inclusion of all categories such as men, women, senior citizens etc., who fell in the categories of analysis to answer the research
questions. While most individuals were comfortable in interacting with the research team, a few individuals were hesitant in interacting with the team due to language issues and the lack of time for the in-depth interviews.

The research team visited all the currently working Metro Stations of the Hyderabad metro to conduct in-depth interviews and collect observation of the Stations. The visits were conducted on all the days of the week including weekends resulting in a wide and diversified sample indicating various travel patterns.
INCENTIVES AND APPEALS OF METRO TRAVEL: EXPLAINING THE 'SWITCH'

The demand for public transport has over the years increased in big cities, bearing serious implications on the urban ecosystems. Inadequate public transport facilities lead to an increase in the number of private vehicles on roads which leads to congestion and air pollution, in turn causing a number of health problems. Thus, there is a need for an ecologically sustainable urban transport system which the metro rail aims to provide. The Hyderabad metro provides a number of incentives to the commuter, both tangible and intangible, to make a switch from the previous mode of transport. This section examines some of those incentives and appeals.

1. Cost

Cost is the first and foremost incentive that directly affects the choice of transport system in general and specifically in urban areas.

1.1 Economical Mode of Travel

Metro rail is aimed at making transportation financially feasible in comparison to other available modes of transport. The existing literature on Delhi metro shows that the introduction of metro in the city has provided multiple benefits, ranging from saving of passengers’ time, to reduction in traffic congestion and savings in fuel. (Murty, Dhavala, Ghosh, & Rashmi, 2006) Manideep, a regular user of the metro in Hyderabad, pointed out that metro costs him lesser than an AC bus/cab. One cannot ignore the fact that there will be a reduction in vehicle operating costs for those who have switched from private transports like cars and two-wheelers to metro rail.

However, our survey also highlights the fact that there has been an increase in the total journey cost which includes costs for metro and feeder costs1 (see Figure 1). Those using metro for work purposes may not mind loosening their pockets primarily because of the travel allowances they are entitled to (as seen in Figure 2, most of the metro users surveyed earned more than 2.5L). Similarly, those accessing metro for personal reasons, may not be reluctant to pay extra, for they may not be regular travellers. However, K.S. Nath remarked, “If I travel alone, the cost is bearable but if the entire family is travelling by metro, it is expensive.” Therefore, if metro aims to function

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1 Feeder costs are those costs which are incurred by passengers to reach the metro station form the initial point and to reach the destination from the metro stations.
as an alternative mode of transport it must re-think the current pricing mechanism to be able to ensure optimum utilization of the capacity.

**Comparative Cost Change vis-a-vis Purpose of Travel**

<table>
<thead>
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<th>Purpose of Travel</th>
<th>Change in cost</th>
<th>Percentage Increase</th>
<th>Change in cost</th>
<th>Percentage decrease</th>
<th>Change in cost</th>
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</tbody>
</table>

**Figure 1.** Comparative changes in cost with respect to purpose of travel

**Income-wise Average Expenditure on metro (one time, to & fro)**

- Below 2.5 L: 23%
- 2.5L to 5L: 22%
- 5L to 10L: 20%
- Above 10L: 10%
- No Income: 25%

**Figure 2.** Income-wise Average Expenditure on metro (one time, to & fro)
1.2 Greener Form of Travel

To some extent, the introduction of the metro will bring about a reduction in carbon footprint due to the substitution of electricity for petrol and diesel, and reduced congestion on the roads. There will be health and other environmental benefits to the public due to reduced pollution levels. Overall savings in fuel consumption may also happen in the future due to the diversion of a part of the road traffic to the metro. In this way, metro travel promises a more sustainable future.

2. Connectivity

2.1 Faster Urban Connectivity

One of the main reasons for the switch of users has been the amount of time saved by the commuters while travelling in the metro as evident from Figure 3. Since many of the people that used to previously travel by road have switched to the metro, the roads will be less congested and there will be savings in travel time for the people still using road transport. One of the respondents remarked, “I study in a boarding school which is far from my home in Secunderabad. With metro, I get to go home easily on every Friday after school hours and spend my weekend at home. Earlier I used cab which not only charged more but also more time consuming”. The time-saving and comfort aspect of the metro use may cause the users to disregard the higher costs of travel.

Figure 3. Time taken by metro in comparison with other Modes of Travel

[Diagram showing the percentage of time taken compared to previous modes of travel: 62% lesser than previous, 33% same or more, 5% NA]
3. **Convenience**

3.1 **Reliable and Safe Journey**

“The metro helps in the diversion of a very high proportion of current passenger traffic from road to metro and serves part of the growing passenger traffic demand.” (Murty, Dhaivala, Ghosh, & Rashmi, 2006, p. 9). This was the case observed in Delhi. A study done by the Institute of Economic Growth, Delhi on the Social Cost-Benefit Analysis of Delhi Metro found out that the increased use of the metro will also bring about savings due to fewer accidents. It is important to note that metro fatality rates are a quarter of those of automobiles. Taking into account factors like gross loss of future output due to death/major injury, medical treatment expenses, legal expenses, administrative expenses on police, insurance companies and the intangible psychosomatic cost of pain, there would be substantial savings due to fall in road accidents.

One of the respondents argued that since metro encourages crowd mobility, unlike car/two-wheelers, it is a more safe and reliable mode of travel, especially for women lone commuters. It is even convenient for senior citizens and PwDs as the journey offers infrastructural assistance with escalators, lifts, wheelchairs, ‘May I Help You’ support staff and washroom facility. With an objective of gentrification, Hyderabad metro has given comfortable access to all the individuals. Also, most of the stations have parking facility available that has made transfer journeys easier.

3.2 **Physical and Mental Well-being**

As a part of the urban rejuvenation program, HMR wants to teach Hyderabadis how to walk by creating sidewalks. That’s one of the reasons why bus stops and parking lots are located away from the stations (Ghanate, 2017). Also, metro travel helps in reducing stress levels in terms of driving, expenses, pollution thereby giving hassle-free travel. It has been observed that commuters use the travel time to pursue their hobby of reading and also, engage in conversations with co-passengers which account for social well-being. As Ashok, one of the respondents pointed out, “Sukoon hai metro mein, jaldi ja sakte hai, ache se ja sakte hai”.

Cleanliness and hygiene serve as integral parts of the metro services across the country. “Physically separating the outside world from its stations and trains, Delhi Metro has created a
space for different behaviour inside. The use of Delhi Metro has prompted passengers to behave in a certain manner by keeping the place clean and having a kind of modern system people aspired for.” (Onishi, 2016, p. 38) Likewise, we can hope for a similar change to usher in Hyderabad with the introduction of the metro services.
CLIENTELE: WHO IS THE METRO CATERING TO?

HMRL, DMRC or any other metro rail facilities, though not envisaged for any specific kind of clientele, usually end up catering to a specific aspirational class i.e. the middle class. Our survey, to a considerable degree confirms this argument. The larger question that arises is what incentivizes the aspirational class and the educated middle class to opt for metro facilities as opposed to other modes of transit system and as opposed to other classes accessing it like the middle class. Although the category of “middle class” is hard to define, it is usually signified by patterns such as consumption, occupation, education, etc. For the purpose of this study, the identity of middle-class is understood not only in terms of increased education and income levels but also with respect to changed lifestyles, and social and political behaviour.

The literature repository shows how policy-makers are working hard to make more of our cities “smart” (efficient public facility) and chief executive officers are keen to inculcate new behaviours in their organizations. Each of us have a lot to imbibe from the changes, rituals, and emotions around our metro stations that have managed to transform the public behaviours of a large number of people. Also, human behaviour experts have always expressed stronger correlation between physical surroundings (infrastructure) on human behaviour. Wendy Wood, a full-time professor of psychology and neuroscience at Duke University, by her works claims that “Even though people think they’re making choices, many of our repeated behaviours are cued by everyday environments” (Dominic, 2017; “Why no ‘paan’ stains in our Metro stations?”, 2017). In this context, if we look at the question of ‘incentivizing factor’ of aspirational class to opt for metro then we can ascertain and reaffirm it through our study. About 56% (composed of income range viz. 2.5-5 lakhs, 5-10 lakhs, and above) of the clientele belongs to taxpaying cohort i.e. more than half of the total commuters. The taxpaying coherent is known not only for preferring cleaner, safer and faster mode of transit system but also for taking pride in displaying high moral standard in public place.

The emotional high and lack of established norms makes the creation of new social norms easier in the early stages of the metro. In this state, metro users are far more malleable to follow instructions from authorities — to queue up, to give way, to not litter. Over a period of time, these behaviours become the new social norms of the place. Corroborating this point, several credible reports like the KMRC’s Annual Report (2016-17) have highlighted that Kolkata Metro or Delhi
Metro, even decades after it started services, remains cleaner than the rest of the city. Moreover, civic behaviour can foster community participation and government involvement. It includes individual volunteerism, community engagement efforts, organizational involvement and government work. Metros and other modes of travel speak a lot about the nature and culture of the passengers, so that we have an impeccable civic behaviour when we step into the metros of our country.

**Figure 4. Income Range of the Commuters**

The current developmental discourse is highly polarized around urbanization. Rapid urbanization is also a consequence of migrant influx in search of better opportunities. This adds to the ‘cup of woe’ which is already in a state of ‘brimmeth over’. Several policies are testified with no discernible result so far. In the context of newly developed HMRL, our study tries to explore several dimensions to questions of efficient transit systems in urban settings. Can HMRL be relied upon as some form of panacea to the looming ‘Urban Traffic Congestion’? Disinterring the relationship between traffic congestion and increasing use of metro train by clientele can be an interesting area of investigation. Though our survey has a limited sample size, it is hinting towards a trend that metro trains may have an impact on the commuters’ behaviours in terms of swapping their preferred mode of transport from previous mode of commuting.
For instance, 62% clientele has income more than 2.5 lakh per annum (figure 5). Out of them, 88% of commuters privately own a vehicle (figure 7). Interestingly, a wide clientele base owns a vehicle and, at the same time, prefers the metro transit system. Drawing from the arguments based on incentives and externalities (civic behaviour by commuters), the metro has been successful in instilling a sense ownership or dignity which was envisaged in its mandate. The metro, therefore, has a potential to become a lifeline of urban transit system of Hyderabad post full-fledged operationalization.
DMRC has taught Delhites and many other big cities how good public transport can reduce travel times and make travelling through the city less arduous. Many of those who swore by their own vehicles have embraced the idea of parking at the nearest station and travelling by metro. It continues to grow even today making it one of the fastest expanding metro networks in the world carrying about 40 lakh (4 million) passengers. However, there has been a subsequent fall in the ridership after hike in the fares of the Delhi Metro, while in Hyderabad we can see this from the beginning itself. The highest fare in Hyderabad Metro is INR 60 which is non-bargainable and unfortunately this condition keeps many citizens away from the metro keeping its clientele limited.
LOCATING GENDER IN HYDERABAD METRO

One of the major transport concerns in policy-making is to construct and maintain an efficient and cost-effective infrastructure. However, the issues at various locations narrate the lack of fuller integration of the gender dimension into the mainstream debates. This question of gender intersects with other aspects of culture, class and geographical location. A woman has spatial limitation, she's often anxious about travelling alone to new places or unknown areas within her own city. Though family lifestyles and women's dual role have changed over the years, the heightened concern for safety and convenience is a significant deterrent to travel. The present survey brings out some insights on the question: how the advent of metro as a means of urban transportation has accommodated the question of gender.

The following sections will depict how the advent of metro as a means of urban transformation has accommodated the question of gender. The two primary questions dealt with: i) what role does metro play as an equalizer between genders? ii) what are the perceptions around a separate coach with respect to providing a liberating space for women in the public realm?

1. Metro as an equalizer?

It is well-established that women's journeys, while numerically similar to those of men, are often shorter and form a more complex linking of a number of different destinations and functions, for example to school, to shop, to part or full-time employment. The cultural rules that are rarely unfavourable to men reinforce the unequal gender power relations in transport as well. Men can usually travel as they wish, by whatever means available. However, women may be constrained by restrictions on where, how and with whom they travel (Tara, 2011).

The total number of respondents in the survey is 210, out of which 133 are male and 77 are female. This section examines the education, occupation and income status across genders in the Hyderabad Metro to arrive at a comprehensive understanding of their profile. In addition, this section also looks at their purpose of travel and ownership of vehicles.

1.1 Education profile

Most (more than 95%) of the users were educated above the secondary level, irrespective of gender. Educational profile of the metro users confirms a pattern of clientele inclined towards
the fairly educated, urban middle class. It also shows the absence of disparity between the educated males and females in accessing metro services. The graph below provides the details.

**Figure 8. Educational Profile across Genders**

1.2 Occupation and Income profile

Most users were salaried and most of them earned above 2.5 lakhs. Although the definition of middle class is not necessarily based on income alone, keeping in mind the high educational levels, we can argue that the income distribution again confirms the clientele of metro as – educated, salaried middle class.
Furthermore, the presence of female homemakers as metro users in comparison to zero male homemakers is a depiction of the traditional pattern being followed when comes to home making. Though there is an increasing trend in employed women, homemaking still continues to be the realm of women.

**Figure 9.** Occupational Profile across Genders

**Figure 10.** Income Distribution across Genders
As the graph shows, metro does act as an equalizer across genders in terms of occupation since the clientele base is middle class (as discussed in the earlier sections). However, is this equality achieved by restricting the entry of ‘others’? As seen in Figure 9, very less percentage of daily wage employees and casual labourers use metro for travelling. For them, the options available for transport remains the same. This places metro as a space only for a population that belongs to middle class and above. The cost incurred might be one of the primary reasons for it. This leads us to the question whether metro actually acts as an equalizer where gender intersects with class. The observations from the gendered income profile of users point towards the same.

1.3 Purpose of travel

The graph shows the diverse uses that metro caters to across gender. The students complained about the delay in reaching their destinations due to the slow speed, but they do not have other options because bus would take them the same time and there is always a risk of getting stuck in traffic jams. The aspect of ‘convenience’ & ‘comfort’ is highlighted across genders. The graph shows higher proportion of women using the Metro for education purposes. Despite incurring same costs, a lot of women were noticed to have switched to metro as a mode of transport to their work and education places due to comfort and less traffic. Moreover, the purpose of travel across gender depicts an equality across genders in terms of different purposes for which they travel – an equality in purposes for which they have come out in the urban space.

![Purpose of travel across Genders](image)

*Figure 11. Purpose of Travel across Genders*
The observation made in this section can be clubbed with the next section on ownership of vehicle across genders.

1.4 Ownership of vehicle

Ownership of assets is often attached with independence. So is the case with ownership of vehicle. Most working women have cars in their home, but it is their husbands who use them for their convenience in travelling. In the case of women, mere ownership does not indicate independence but actual control over them does. It is possible that one of the factors behind women using metro, as a mode of transport, is their husbands using the vehicle at home. It can be said that the metro, therefore, provides a new and sophisticated mode of transport for the middle-class women to travel.

![Ownership of personal vehicle](image)

**Figure 12.** Ownership of Personal Vehicle across Genders

2. Reserved coaches: A liberating space?

The environment in which one travels plays a significant role in the way individual acts and reacts. The vulnerability of situations has led many women to forgo travel as a whole in many instances. The survey conducted in Hyderabad narrates metro as a safe and comfortable option to
travel. However, both men and women are sceptical about safety and convenience in the future when the metro may get crowded and congested.

HMRL has reserved seats for women in the first and last coach of each metro with a signage reading "Reserved for Ladies". However, these were of no use as male commuters continue to occupy these seats leaving women to stand during the course of journey (Deccan Chronicle, 2018). There were a lot of men emphasizing on the need of a separate coach. One said, "I think it is better to have separate coaches for women because there may be cases where pregnant women, mother who carry their children (0-5yrs old) travels in metro." Another response, in terms of the college students, was that, "it is better to have separate coaches because when metro reaches the station, women college students have to enter along with men which make them hesitant and waits until they enter, but metro waits in station only for a fraction of time". Some women aged above 60 had complained that they do not get access to reserved seats as they are very less in number.

The following graph shows the percentage of women who get access to reserved seats.

| Women's access to Reserved Seats |
|---|---|
| Yes | 13% |
| No | 81% |

*Figure 13. Women’s access to Reserved seats*

A separate coach for women provides a space that is safe, comfortable and private. To substantiate, let us take the example of Delhi Metro. Delhi saw the introduction of a reserved coach for women after eight years of the advent of the metro. The connectivity to prime stations led to congestion and the experiences of women became similar to their earlier experiences in bus.
Though the reserved coach could only accommodate 43 sitting, more women were noticed to be sitting. This tells us how the women do not mind body distance in the absence of men. It is not just lone women who use the reserved coach for travelling but those who travel with men also use them.

Inside the metro, the sense of freedom and space is different among women in many ways. In a reserve coach, women can talk, sit and laugh loudly without being conscious of the male presence; without being judged through the lens of respectability. In this way, the ladies coach serves as a resource-platform for "doing gender". Doing gender means constructing the differences between men and women and using them in actions and interactions to ensure the essentialness of gender. In the feminist studies of social construction of gender and doing gender, gender itself is constituted through interactions which explains the gendered internalisation of the use of space and behaviour including posture, dress and speech. The freedom that the ladies coach provides reveals, first, how a private space is created for women in a public transport while transiting from one space to another, second, how gender is reproduced in a new environment and third, how women conduct themselves to fit their own notion of expressivity (Tara, 2017).

The nascent stage of Hyderabad Metro prevents commuters to make a real observation on the question of gender and travel. However, there is no doubt on the question of privacy and comfort that reserved coaches can provide. The experience with reserved seats proves the lack of moral inclination in people to offer seats to those in need. This calls for a forceful execution of a reserved coach for women ensuring a private space in public realm until there is a radical shift in the attitude towards women.
METRO AS A FACILITATOR OF WELL-BEING: UNDERSTANDING ELDERLY TRAVELLERS AND THEIR USE OF METRO

The Hyderabad Metro Rail aims at pushing Hyderabad closer towards being a ‘smart’ city – a model that is inclusive of all citizens. Throughout the study it has been seen that the metro inadvertently caters to a certain demographic i.e. the urban salaried, middle-class even though it has facilities for all. The content below analyses how these facilities cater to other demographics such as senior citizens and their experience with this new mode of transport.

Seniors in comparison to other citizens require special assistance due to the constraints they face owing to their age. “Access to reliable, affordable and safe transport is important for older people to maintain contact with friends and family who may live some distance away, helping to avoid loneliness and isolation which can both adversely affect wellbeing.” (Holley-Moore G & Creighton H, 2015, p. 8). This becomes more important in urban areas, specially such as Hyderabad, where long distances, congestions, weak public transport such as busses make it inconvenient for elderly people to travel.

A total of 7 % Senior Citizens have been interviewed for the purpose of this study with a specific focus to understand their interaction with Metro Rail as an alternate public transport mechanism. For this study, we have used the Government of India definition of Senior Citizens, as a category of citizens who have crossed 60 years of age.

Figure 14. Total Senior Citizens Interviewed
Akin to studies outside of India, travel purposes of the seniors largely remained restricted to leisure activities or personal purposes. “I am going to visit my daughter who lives near Kukatpally,” said a senior who was earlier travelling by cab which is much more expensive than the metro. “Travel purposes of older people revealed from a survey carried out in Germany showed that shopping, leisure, medical visits are the main motives for travel of those over 60.” (Holley-Moore G & Creighton H, 2015, p. 4335).

1. Factors facilitating well-being: Convenience in access

Increased well-being is through increased access of public transport. Evidence shows that the journey itself, rather than the end result, can be beneficial to well-being (Holley-Moore G & Creighton H, 2015). Moreover, the ease of access to transport plays an important role for senior citizens. Data collected for the study indicates that most senior citizens preferred using lifts to escalators and find it convenient to use metro because of these facilities.
Access is further eased by the availability of wheelchairs at the stations and personnel who can manage them for the convenience of senior citizens, in and out of the stations. “If any elderly people come and ask we will bring wheelchairs and take them till the station they want to get down at” informed one of the staff at a Metro Station. Wider use of live departure boards and audio-visual announcements on buses could increase older people’s confidence in using public transport (ibid.). Similarly, elderly have sought assistance in enquiring about ticket counters, train platforms etc., as reported by the personnel who were there to help, and more elderly are seen to seek assistance apart from some first-time travellers.

2. Challenges to well-being

2.1 Costs of comfortable travel

One must also be conscious of the fact that several senior citizens who are engaged in the informal sector and whose daily needs are met with wages continue to work after the post-retirement age of 60. This category within the elderly might find it difficult to pay the prices of metros, as one of the elderly user opined, “I am travelling for my work purposes, I work in a factory and take the metro whenever I feel very tired and want to go home comfortably. But I cannot take the metro everyday given its high prices, which is why I prefer to take the bus”. Countries like Dubai have made public transport 50% cheaper for senior citizens and people with special needs and cities like Chicago provide free travel in public transport, providing a good learning experience for the Indian case in general and Hyderabad in particular.
2.2 Access to reserved seats

An organization called ‘Sixty Plus Life’ dedicated for senior citizens in India speaks about the numerous seat reservations which can be availed owing to the fact that elderly people require additional support to be able to travel. However, the Hyderabad Metro paints a different picture. Senior Citizens reported the lack of specifically reserved seats for them. They stated that there are general boards on the metros directing passengers to voluntarily give up seats for senior citizens and women. “There is no specific reservation, so most of the times I do not get a seat. I can ask them to get up, but I don’t like doing it. If anyone offers their seat I occupy it,” said one of the seniors.

This messaging and assumption of voluntary seat giving is an indication towards a specific kind of passenger behaviour. The metro envisions to inculcate and transform the ‘urban class’ into a ‘conscious urban class’ who would voluntarily offer their seats to the elderly and others, without the necessitating the need for enforcement. On the contrary, participant observation also revealed the fact that several travellers give up their seat only if someone asks them and this holds true in the case of women and senior citizens. Upon in-depth conversations, it was also revealed that travellers often feel that they are eligible for the seats since they pay high prices to travel in the metro. This, therefore, affects the well-being of senior citizens utilizing the metro and many even discourage them from using metros.
VISION AND ACTUALIZATION

The vision of Metro Rail system of Hyderabad involves rejuvenation, aims to redesign traffic corridors, and change the way people commute from one end of the city to the other. The system has a concept of each station being just one kilometre apart so that metro is available at every doorstep. Advanced technology has been harnessed to provide world-class architecture with skywalks and accessibility, making it convenient for all genders and age groups to travel a larger part of the city. The objective of such mass transit systems is to provide socio-economic benefits and equal opportunities in public spaces to all citizens. They have tried keeping the ticket pricing affordable, and the elevated rails and platforms are to make sure that they decongest the traffic. A good intermodal integration is promised at all rail terminals, bus stations and MMTS stations, and minibus services, which will connect the nearby colonies, business establishments, and other popular places (“Hyderabad Metro Rail Limited”, 2016). However, there are certain gaps in the HMR project with respect to the question of actualization. This section tries to highlight the above along with the issues of end-to-end connectivity and feeder travel.

1. Metro and Class

As suggested by the authorities, the rail system may not be equitable when it comes to its fare structure because some passengers have felt that their travel cost has doubled since they shifted to metro from their regular modes of transport. This is because the minimum fare of Telangana State Road Transport Corporation is 5 Rupees and the Maximum fare is 30 (Arakkal, 2018). Conversely, the minimum travel cost of metro rail is 10 Rupees and the maximum fare reaches 60 Rupees (“Hyderabad Metro Fares Announced”, 2018). Hence, the metro is unintentionally catering to a certain section of the society. The study corroborates the same as 62% of the people interviewed during the survey were earning more than 2.5 lakh rupees (earlier discussed in the clientele chapter).

The utility of metro as a rapid mode of mass transit technology is unquestionable owing to the fact that it takes lesser time for long-distance travel. Yet, claiming that the metro would reduce traffic congestion and hence transform the city into a greener place by reducing pollution might not be accurate. This is because the evidence of other metros like Delhi suggests that both pollution and congestion levels are on a gradual rise. Though the metro is not directly contributing to this
increase, the fact that the metro expansion has not been tied up with any policy prescriptions on curbing the growth of private vehicles does not let the gap fill between metro and a pollution free city (Randhawa, 2012).

2. **Metro and Gender**

   It is overwhelming to see that the metro is catering to both the genders, in terms of employment, by training and hiring women as loco pilots to run the metro trains. They are also trying to empower women by placing ‘May I help You’ staff and security personnel on the platforms in order to preventing harassment of any kind. Although they are striving towards a gender equal metro by ensuring equal opportunity to work and by ensuring women safety, the fact that there is no staff inside the metro trains is a bit alarming. There are no personnel inside a metro train to monitor the behaviour of people and address the harassment of women. Moreover, there are no female security personnel on the platforms and no ‘May I help You’ female staff for the convenience of women in emergencies. In addition to the non-availability of female security staff, the survey shed light on the fact that a significant proportion of men and women do not about the existence of emergency helpline numbers. The following figure shows the number of men and women aware of the emergency helpline.

**Figure 19.** Emergency Helpline awareness
HMR, by not assigning any personnel inside the train, seems to be relying on the voluntary moral transformation of metro users. There is no one to ensure the enforcement of reserved seats provision for elderly, PWDs and women. By not adopting any enforcement measures, the system is trusting the passenger's sense of ethics and values of voluntarily giving up their seats for the needy. There is a need for the authorities to realize the fact that people seated may not be empathetic towards the ones who are in actual need of those seats and, hence, may not give it up for them. While the above-mentioned issues are important to address, it should be noted that women interviewees repeatedly mentioned that they feel a sense of liberation and safety on the metro, especially in the night, in comparison with other modes of transport.

3. **Metro and Inclusion**

Urban transport planning had, for a long time, not taken the plight of Persons with Disability (PWDs) into account. The new age transport, however, is slowly changing and attempting to accommodate the needs of PWDs while planning and policy making. While the cities are attempting to be inclusive, there continues to be a variety of access related issues. For instance, many metropolitan cities of India are quite old in terms of establishment and, hence, are mostly developed. It is, hence, a challenge for them to make changes in the infrastructure that has already been built.

The HMR has attempted to address the daily struggles of PWDs by being inclusive of their needs like obstacle-free pathways. It is encouraging to see that metro has followed the Access Indian campaign guidelines in making the environment barrier-free. By ensuring quality lifts and escalators, they are trying to provide equal opportunity of movement for all in the public spaces. As promised, the metro infrastructure is inclusive of senior citizens and PWDs. The objective is enable the all sets of individuals to use the metro services. However, there are some gaps between their objective to be inclusive and actualization of their visions.

The primary problem is that there are very few footpaths left in the city and, hence, persons with disability always find themselves unable to travel freely. This is a huge concern as it compromises their ability to reach the metro stations as well as to reach their destination from metro stations. In addition to the above problem, insufficient and inaccessible infrastructure,
inadequate public spaces and limited access to feeder transportation also results in the exclusion of PwDs from the larger picture of urban transport.

4. Last mile connectivity and Feeder travel

The proposed cost-effectiveness of the Hyderabad metro can be improved if, and only if, the feeder travel options are well-integrated to ensure last-mile connectivity. This will not only increase the number of metro users but benefit the public transport system as a whole, creating higher possibilities for citizens choosing public transport over cabs and autos. The development of better integrated intermodal systems has an advantage where they offer the possibility of reducing cost while simultaneously increasing the revenues. Better integration can reduce transit costs by erasing duplications and employing the most cost-effective mode in each segment of the system. With the improvement of these feeder travel service quality, there would be a better coverage, reduced access costs and shorter travel times which will incentivize people to choose public transport over private vehicles (Kuah & Perl, 1989).

Though the metro authorities have promised minibuses and end-to-end connectivity, there are some important junctions where Hyderabad metro stations lack feeder bus services. A TSRTC study has revealed that out of the 24 stations that the metro is working in, Begumpet, Bharatnagar and Prakash Nagar have the most challenging feeder services and it is highly disadvantageous for people travelling to these metro stations. To overcome these problems, the study has proposed skywalks at places like Secunderabad, Parade Grounds, etc., to make sure there are no accidents and that the commuters can transit directly out of the stations into the bus bays (Reddy, 2017). Figure 20 shows that bus is the second most popular choice of travel and, hence, there is a need for coordination between the metro authorities and the TSRTC.

The advantages of using bus transport as an access mode to a rail rapid public-transport system are many. An example would be the public-transport system reducing parking requirements at the metro stations, thereby reducing capital costs for the rail system. Moreover, it also increases the financial viability of the rail system by attracting auto trips. The potential for improving the financial conditions of public transport by designing better-integrated feeder-bus to a rail rapid public transport system has to be recognized and, hence, a methodology to develop it should be put in place (Kuah & Perl, 1989). One way to increase coordination between HMR and TSRTC
would be to specify the locations of the bus stops according to the metro stations and designing a set of bus routes along with the determination of the operating frequency on each route.

Sustainable mobility is the new paradigm in transport planning and policy making. At the heart of the new policy models are two modes of urban transport, which until recently were not recognized as being important. These modes are – walking and bicycling. In the wake of traffic congestions and pollution along with the last-mile connectivity problems of the metro, the HMR has come up with creative solutions. They have introduced an initiative to operate bicycles in association with different organizations to promote eco-friendly and cost-effective ways of transportation. The commuters will have an option of pedalling their way to their destinations from metro stations, as HMR intends to offer 10,000 bicycles through many bike stations on all the three corridors of Hyderabad Metro. The main idea behind the promotion of bicycles is that the urban population can address their end-to-end connectivity problems by using eco-friendly modes of transports that will not contribute to the already existing traffic congestion and they can also stay fit (Kumar, 2017).

Walking and cycling are two modes which are commonly referred to as ‘active travel’. Some of the most prosperous cities in the world, like New York, London and Paris, amongst others are adopting pro-walking and cycling policies, investing in appropriate infrastructure and have recently rolled out large cycle-hire schemes. Transport strategies in most of the cities include replacing the use of private cars, even for short distances. Perhaps one of the first realizations emerging from the latest research on walking and cycling is that promoting these modes is not just a simple question of infrastructure provision. With the number of people increasing in the urban areas throughout the world, the potential role of walking and cycling has to be recognized as the creator of healthier and more sustainable cities. In the plight of motor traffic with its noise and air pollution, emissions of greenhouse gases, injury and fear from road accidents, walking and cycling will be potential contributors to more sustainable urban environments (Tight & Givoni, 2010). Hence, it is a commendable initiative by HMR to promote cycling as an alternative mode of feeder transport.

However, one question that bugs those wanting to ride these bicycles is whether our roads are fit enough for such mode of transport (Moosa, 2017). In a city like Hyderabad, where footpaths are vanishing day by day, is walking safe at all? “In a city where even pedestrians do not have a
place to walk, where will the cycles be ridden?” is a question that is being asked by the bikers of the city (Maddy, 2018). The bikers believe that, for the initiative to succeed, adequate road safety measures have to be adopted and there have to be some dedicated roads for bikers. With the existing bicycle stretches being given away to overhead bridges and commercial buildings, there is no possibility of a safe ride. Vinod K Kanumala, chief functionary, Indian Federation of Road Safety, while speaking about the possibility of increasing the width of roads to create dedicated pathways for bicyclists, said that “there is no way they are going to increase the width of the road and create a dedicated pathway for bicyclists at this stage of metro rail construction. They should have incorporated this into the mail rail plans” (Moosa, 2017).

Figure 20. Modes of Feeder Travel
TEETHING ISSUES IN HYDERABAD METRO RAIL

Teething issues have been faced by all metros in the country and Hyderabad Metro Rail is no exception to this. However, a few of these initial hiccups unfortunately continue to persist. These include issues with frequency, accessibility and infrastructure among others. In this section, these issues will be discussed in detail along with related issues of other metros.

1. Frequency

Currently, trains are running with a frequency of 8 minutes in Miyapur – Ameerpet section and 15 minutes in Ameerpet – Nagole section. During the survey, respondents voiced out their discontentment with the low frequency in Ameerpet – Nagole section and the increased waiting time in Ameerpet station due to the difference in frequencies between the two sections. “Metro is very suitable for me. But as the frequency is very less, I get late for work sometimes if I miss one train.” a user remarked.

From the experience of metro operations in other cities, it has been observed that frequency is usually increased with an increase in number of commuters using the metro and new corridors/sections opening up for metro operations (“Soon, travel from Chennai,” 2017). The frequency mentioned above remains the same in peak and non-peak hours in Hyderabad Metro, in contrast to other cities where there is a difference (“Any hour is rush hour,” 2012). Reports suggest that frequency will be increased soon accompanied by a reduction in time in closing of doors in coaches (“Hyderabad Metro to run till”, 2018).

Commuters also criticized the speed of metro which is slow, particularly in the stretch between Begumpet and Mettuguda. “It goes so slowly that you can run along the metro”, commented a user. It has been observed that trains stop at Mettuguda for longer duration than required and this delay has been attributed to the absence of Communication-Based Train Control (CBTC) in Begumpet – Mettuguda stretch. It has also been reported that when Ameerpet – LB Nagar section gets opened soon, similar issues will arise as CBTC would have not been setup in the stretch (“Metro rail far from,” 2018). This indicates the need to keep in mind necessary technology before making a stretch operational.
2. Accessibility

According to a report by New Indian Express, an internal study of TSRTC found that conditions required for operating feeder services which includes parking bays and access routes were not present. Lack of space is the prime reason and it might take more time for integration of different services. Accessibility is expected to improve with the increase in usage of bike sharing systems and new bus services connecting metro stations with other places in the city. Lack of parking space at some stations is also an issue. (“Hyderabadis yet to warm up,” 2018) Users also want the remaining corridors to open as it will improve overall connectivity and usage of metro services. “If other lines open up soon, it will be great.” remarked a user.

Figure 21. Commutation Time and Metro Use

Figure 21 clearly indicates that the total travel time increases when feeder travel time is included along with metro time. An examination of the graph reveals that while time spent only on the metro for several travellers is lesser than the time spent on the complete journey, indicating issues in the feeder travel which may have a negative impact on travellers towards preferring the metro. While the increase in the magnitude of feeder travel facilities may take time, the bike facilities and the like may be encouraged by the government to address this gap sooner. This would have a positive impact on the magnitude of people accessing metros owing to the
reduced total time of travel. These should also be affordable alternatives as the cost and time for urban transport stand on a very fragile thread, any undue increase in either of the factors may discourage travellers.

When it comes to disabled-friendly features, Hyderabad Metro Rail has several of them including appropriate ramps, wide lifts, braille numbering and specially embossed tiles among others. Nonetheless, experience for some persons with disabilities were not happy. Entrance areas to metro stations are usually zones of high traffic which makes it more difficult for persons with disabilities to enter the premises (“It’s going to be a dignity,” 2017). It has been reported that the gap between doors of coaches and platform is causing problems for persons with disabilities even after several reports mentioning that it will not be a problem before the start of operations (“Metro stations in Hyderabad,” 2017).

Commuters appreciated the help provided by ‘May I Help You’ support staff in general but some respondents were not happy with the absence of female support staff. Senior citizens face a difficult time getting seats, especially in rush hours and wanted reserved seating arrangements. Many respondents were not aware of the presence of toilets in stations and those who were aware of their presence complained about the difficulty in locating washrooms. They also wanted the usage of washroom to not be charged. Delhi Metro is planning to issue monthly passes or offer discounts for student and senior citizens and the same can be considered for Hyderabad Metro.

3. Technology & Infrastructure

As expected, people thronged the metro to experience the much-delayed services and authorities had a tough time handling huge crowds in the initial days. According to reports, more than 2 lakh passengers travelled on the first day of operations. Non-functional ticket vending machines, locked washrooms and smart card glitches were some of the problems faced by commuters on the initial days of operations of Hyderabad Metro. (“Hyderabad Metro Rail: Rush,” 2017)

Respondents complained about absence of information on arrival/departure of trains on display boards on platform which currently display information only about frequency and smoking prohibition. Commuters also reported issues with the official app. “I downloaded the official Hyderabad Metro Rail app, but it wasn’t functioning properly. It did not display the timings and
it can be improved. Now, *I use Metro station maps*” a user commented. Reservation of seats has become an issue as it has been found that men are occupying the seats reserved for women. The authorities have reserved some seats in first and third coaches of the train for women, however, awareness needs to be generated in the general public about this issue. (‘Men occupy ladies’ seats,” 2018).

During the survey, it has been observed in some places that support staff is guiding the driver regarding the time to close the doors to ensure that everyone boards the train. Commuters have complained about alignment issues as the doors are not positioned according to the entry/exit markings on platforms. In the case of Ameerpet interchange station which experiences higher crowd than other stations, respondents found it difficult to exit the coach as people from outside usually do not wait till the time everyone exits the coach even when the halt time is greater at this station.

There were reports of a technical snag happening in Hyderabad Metro which led to delay in services (‘Hyderabad metro train develops,” 2017). It has been reported that Chennai Metro Rail is planning to install technology which will resolve issues from control room itself instead of personnel having to approach the stranded train every time a snag is reported. This will be done by control room passing instructions to train operators on the steps to be taken to resolve the issue (‘Metro Rail to get hi-tech help,” 2017). The feasibility of installing the same technology in Hyderabad Metro may be considered to avoid disruptions of services in future.

It is hoped that before opening up of other corridors of metro, the issues mentioned above are solved and the needs of women, senior citizens and persons with disabilities are taken into consideration to ensure a happy experience for all commuters on metro.
CONCLUSION

Urbanisation is a reality and India is in the throes of it. With Hyderabad being the capital of a newly formed state in the country, there has been a constant push by the government and its administration to make it a world class city by developing infrastructure (“Hyderabad to host 5th Smart City Summit”, 2018). As seen in the report, the Hyderabad Metro Rail is a step towards urban transformation. Created mainly for the growing city population, the introduction of the metro has broader implications beyond its immediate purpose.

One of the fastest growing metros in India, Hyderabad has created an image of being a geographically strategic, multilingual cosmopolitan city to attract investment in different sectors such as IT and commerce (“Why Metro”, n.d.). In this regard, the Hyderabad Metro Rail can be seen as part of the city’s tremendous Public Relations (PR) exercise. As can be extracted from the study, the metro is aimed at reducing traffic congestion, pollution and providing comfort in travel for all people, thus making it a new alternative. This can be seen in conformity with the SMART city model that emphasizes on liveability, workability and sustainability. However, it is important to note whether the establishment of the metro has been successful in catering to all its users.

Contributing to urban and social transformation, the metro is seen as a gender-neutral space. While there have been suggestions of reserving seats/coach for women, it was also noted that the presence of security personnel and metro staff itself makes the space accessible for everyone to a large extent. Apart from this, the metro is also an inclusive space in terms of disability access. With features such as tactile paving and lift services, the metro attempts to become an urban space for all. Nevertheless, there are areas of concern which may hinder the metro’s and even the city’s goal to become a world class city with quality and inclusive urban spaces.

The cost of the rail tickets limits the demographic of metro to only the salaried, middle-class, thereby excluding the section of daily wage earners. Similarly, the metro may also not be able to cater to all persons with disabilities simply because other infrastructure such as footpaths, feeder services etc., around it has not been developed with the overall set-up. This may also mean that the metro solely cannot encourage citizens to reduce their carbon footprint. Rather, the introduction of other eco-friendly means of travel with roads that support such a purpose have to
be integrated with the metro rail to be more effective. Furthermore, there exist a number of teething issues related to the frequency of the metro, the time taken by its feeder services, technology interface etc.

Still in its nascent stage, the metro is all set to be expanded in near future. With on-going construction work, the metro will see addition of new trains in the existing lines and the completion of the remaining phases. Additionally, there is also an attempt to develop real estate by taking advantage of the airspace over the places provided for project facilities such as depots and parking areas ("Know more about project", n.d.). Similarly, the introduction of commercial centres inside the stations will provide citizens with more services than just travel. It has also been suggested that the metro’s towering profile can be used to make it a “platform for people congregation” by promoting cultural symbols and social causes through its aesthetics and design involving local artists and personalities ("Right Track", 2018).

All in all, the Hyderabad Metro Rail plays a significant role in the large-scale urbanization process in the country that intends for urban spaces to be inclusive for all. As work progresses, there is a high possibility for existing issues to be resolved and the citizens of Hyderabad being provided with good quality services.
References


**ANNEXURE I**

**QUESTIONNAIRE FOR METRO USERS**

**Socio-demographic Profile**

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</tr>
<tr>
<td>No. of People Accompanying:</td>
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**Demographic Remarks:** Ethnic symbols; assistance device (if any):

1. How often do you avail the metro services? (first-time – 0/ daily - 1/weekly - 2)
2. Where do you board the metro? Where do you get off?
4. Do you still use that mode of transport? (Yes – 1/ No – 0)
   How often? (daily - 1/weekly - 2)
5. Do you own a vehicle? (Yes – 1/ No – 0)
   Do you get fuel allowances from work? (Yes – 1/ No – 0)
6. Type of Vehicle and Model?
7. Do you park in the metro parking station? (Yes – 1/No – 0) Why/ why not?
Cost

1. With respect to your travel on metro, what is the total price incurred on tickets according to daily/occasional/weekly usage?

2. How far is the nearest metro station from your residence? (<1KM – 1 ; >1.1-2 KM – 2; >2.1-3 KM – 3; >3.1KM – 4)


4. What is the cost incurred to reach the metro station? (<Rs 10 – 1/ Rs11-50 - 2/ Rs51-100 – 3/ >Rs 101 – 4)

5. How far is the metro station from your destination? (<1KM – 1 ; >1.1-2 KM – 2; >2.1-3 KM – 3; >3.1KM – 4)


7. What is the cost incurred to reach the destination? (<Rs 10 – 1/ Rs11-50 - 2/ Rs51-100 – 3/ >Rs 101 – 4)

8. In terms of cost, how does metro fare in comparison to other modes of transport? (Cheaper than other modes of transport – 1/ Same as other modes of transport – 2/ Expensive than other modes of transport – 3). If expensive, why do you continue to use it?

9. What is your opinion on the expenses of travelling by the metro? Do you want the existing fares to be revised?

Time

1. With respect to your routes, how much time does the metro travel take? [Answer] (< 15mins – 1, 15-30mins -2, 30-45mins – 3, >45mins – 4)

   What do you think of metro in comparison to other modes of transport?

2. How much does it take in total for your travel (home to destination)? (< 15mins – 1, 15-30mins -2, 30-45mins – 3, 45-60mins – 4/ >60mins- 5)

3. What is your opinion on the timings/frequency of metros?

4. What is your opinion on the time taken by metros (based on your travel routes)?
How Do Different Social Categories Perceive Convenience And Safety?

1. What are your preferred timings for metro travel? (Morning -1, afternoon- 2, evening-3, night -4)
   Do you also avail the metro services for night time travel?

2. What is your preference in terms of coach and seats in metro?
   Do you get access to reserved seats for women/ senior citizens/ PwD? (Yes – 1, No – 2)

3. What is your opinion on safety of women travellers in Hyderabad metro?

4. Do you know of anyone who has faced safety issues while travelling in metros? If yes, elaborate.

5. In contrast to the MMTS/ TSRTC buses, metros in Hyderabad do not have reserved sections/ coaches for women.
   What changes can the introduction of a similar reserve coach model bring for women travellers in Hyderabad metro?

6. Are you aware of the helpline services (or emergency alarms) available to women/ Senior citizen/ PwD in case of emergencies? (Yes-1, No-0)

Senior Citizen & PwD:
Do you use the lift/escalator? (Yes – 1, No – 0)
Is the pathway to the lift/ escalator free of obstacles? (Yes – 1, No – 0)
What is the approximate waiting time for lift/ escalator?
Do you know anyone who has faced problems while navigating and travelling through metros? If yes, elaborate.

Women & transgender:
If they travel late night- Do you know anyone who has faced problems while travelling in metros? If yes, can you elaborate.
Do you know anyone who faced problems during the journey to and from the metro station at night? If yes, can you elaborate?
7. Do you see police/ safety personnel on the metro station regularly (or inside the metro)? (Yes-1, No-0)
8. Do you also see female police/ safety personnel on the metro station (or inside the metro)?
   (Yes-1, No-0)
   If yes,
   Have you approached them for help? (Yes-1, No-0)
   What is your opinion on the behaviour and response of personnel?
9. Why do you think people will prefer (or not prefer) metro over TSRTC bus/ MMTS/ shared auto service? (safety/ convenience/ fatigue)

**Transgender:** How do you describe the response/ behaviours of your co-travellers towards you?

What is your opinion on the introduction of reserved seats for transgenders?

Do you have access to washrooms on metro station? If no, why?

If yes, how do you describe the obstacles faced by transgenders wrt public washrooms?

How do you describe the response/ behaviours of metro staff towards transgenders?

**Senior Citizen/ PwD:** Do you have easy access to wheelchair/ assistance facilities provided on metro stations?

Do you access to washrooms on metro station? If no, why?

If yes, how do you describe the obstacles faced by senior citizens/ PwD wrt public washrooms?

How do you describe the response/ behaviours of metro staff towards senior citizens/ PwD?

**Technological Interface**

1. How do you gather information about metro frequency and routes? (Metro station maps – 1; Mobile application – 2; Others [specify] – 3 )
   
   If they use metro station maps,
   Are the route maps on metro stations well-illustrated and easy to understand? (Yes -1/ No – 0)
   If they use metro mobile app,

   Which app do you use?

   How has your experience been with the app?

2. Do you buy tickets or have a metro-card? (Ticket – 1, Metro-card – 2)
Mode of payment to buy tickets/metro card? (cash - 1/ card -2/ e-wallet – 3)

If they buy ticket,
Are there separate lines for women, elderly, differently abled? (Yes – 1, No – 0)
Approximately, how much time does it take for ticket procurement? (<5mins -1/ 5-10mins – 2/ 10-20mins – 3/>20mins -4)

If metro card,
Do you receive any discounts/ benefits through the card? (Yes – 1, No – 0)
As compared to ticket procurement, what are the benefits of having a card?

3. Have you availed the washroom facilities on the metro stations? (Yes – 1, No – 0)
   If yes,
   What is your opinion about the cleanliness and maintenance of washrooms?

**Senior Citizen/PwD:**

What is your opinion on the variety of audio-visual assistance present on stations and metro?

Have you used ticket vending machines? Do you use it on your own or take assistance?

If they use metro card- do you recharge it on your own or take assistance?

If they use cabs for last-mile connectivity- do you book the cab? If not, who books it for you?

How has your experience been with travel-related technology?

**Additional**

1. Are there any suggestions or changes that you would like to see in the near future?
2. How do you pass your time in the metro travel?