Ride-hailing as accessible Transit: A case study of blind users in India

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Abstract

In this chapter, we examine the potential of ride-hailing services to address the transportation challenges of blind people in metropolitan India. Through a qualitative study, which included both interviews and observations we examined how blind people in metropolitan India used ride-hailing to get around, what they perceived as the benefits of the services and some of the challenges they experienced while using them. Finally, we discuss some improvements to enhance the ride-hailing experiences of blind people in India and also highlight the relevance of our findings by situating them in the Indian context.

Keywords

Accessible transportation, Ride-hailing, India, Blind people

Introduction

Accessible transportation services are central to the quality of life for people with visual impairments, enabling participation in public spaces by allowing access to health, education and job opportunities (Marston and Golledge 2003; Pal *et al.* 2015; Accessible Mass Transit - American Foundation for the Blind 2017). Their importance is further underscored in Article 9 of the United Nations Convention on the Rights of Persons with Disabilities (CRPD), which cites accessible transportation services as a key requirement for independent living (The United Nations Convention on the Rights of Persons with Disabilities 2006). However, in many parts of the Global South public transportation services, which are overcrowded, chaotic and inaccessible are difficult to use for people with visual impairments. However, the recent entry of ride-hailing services such as Uber, and its Indian counterpart, Ola, has attempted to change this landscape by providing its users with convenient access to cabs via mobile apps. Although in academic literature ride-sharing and ride-hailing are used interchangeably with both referring to services like Uber and Lyft, we draw a distinction between both terms. We use ride-hailing to refer to when a rider hires a personal driver to take them to a destination as opposed to ride-sharing where a rider shares a vehicle with others (for example: UberPool).

In this chapter, we examine the impact of these services on people with visual impairments in India. Overall, we found that our participants benefited from the increased independence, accessibility, flexibility and safety that resulted from their use of Uber and Ola cabs. However, using ride-hailing services was not without its challenges and this included finding the exact location of the cab on arrival, choosing and negotiating destination addresses and dealing with drivers. Finally, we discuss how addressing some of these challenges through means like driver incentives and training will improve the experiences of these services for people with visual impairments in metropolitan India.

Transportation in India

India has a vast and varied transportation network, with most metropolitan cities in the country providing access to urban mass transit services as well as door-to-door services. Urban mass transit services include buses and metro trains, while door-to-door services include auto-rickshaws and cabs. Auto-rickshaws are three-wheelers which operate in many parts of India and both, auto-rickshaws and cabs are hailed from the side of the street, often by waving to catch the driver's attention. However, urban mass transit services are mostly overcrowded and chaotic, making them dangerous and hard to use. For instance, in Mumbai and Delhi, mass transit services run at twice their capacity and are consequently difficult and unsafe (Pucher, Korattyswaroopam and Ittyerah 2004). Furthermore, the lack of accessible infrastructure like public announcement systems, makes it additionally difficult to determine when the bus or train arrives.

Streets in many urban areas in the country lack sidewalks resulting in pedestrians needing to navigate in the path of vehicular traffic to access transit. Door-to-door services like auto-rickshaws have to be hailed from the side of the street, whereupon the auto-rickshaw driver and the rider typically negotiate over the price before embarking on the journey -- a process that sometimes needs to be repeated multiple times prior to single trip commencement. Using both urban mass transit services and traditional door-to-door services is challenging for sighted people and these challenges are magnified for people with visual impairments.

Ride-hailing services have attempted to change this transportation landscape by providing access to private fleets of cars via mobile apps. There are two prominent ride-hailing services in the country - Uber, active since 2010 and operating in 40+ cities, and Ola cabs, operational since 2010 and prevalent in over 110 cities. The ride-hailing infrastructure in India is different in comparison to the United States. For instance, while most drivers in the USA are part-time, a majority of the drivers in India work full-time. Uber and Ola cab drivers in India are often employed by transportation contractors, as opposed to the USA where drivers own the vehicles they drive. They also need to be driving cars that have permits to operate as taxis and have yellow license boards making them easy to identify. Thus, in contrast to drivers in the Global North who are often described by riders as being "just like me" (Dillahunt *et al.* 2017; Kameswaran, Cameron and Dillahunt 2018), drivers in India are typically from the working class, while riders tend to be middle- and upper-class Indians. The Uber interface in India, like in the case of the USA allows its users to set pick up and destination locations, estimate how long their rides will take, choose between different cab types and rate drivers. A dominant mode of payment in India is cash, and while there is no systematic published empirical evidence on this, there have been plenty of news reports suggesting that cabs tend to cancel more frequently in India based on the type of payment or drop location (Dixit 2018; Griswold 2018).

Motivation and Methods

In early 2016, we discovered multiple posts online describing the positive impact of ride-hailing services on people with visual impairments. For instance, a post from an Uber and Ola cabs user on a popular youth media platform in India, YouthKiAwaaz read (Misbah 2016),

"*App-based cabs significantly contributed in doing away with nightmarish experiences which visually [impaired] persons used to face while going outside and looking for public transportation which are still largely inaccessible to persons with disabilities… these modes of transport [public] are made for able-bodied persons who's expected to run and catch the bus… but for someone like me who can't manage these things, day to day travel becomes challenging and sometimes frustrating"*

Posts like the one above motivated this study, and consequently, we conducted a qualitative study consisting of interviews and observations to better understand the impact of the services on blind people in India. The interviews focused on eliciting details about our participant's ride-hailing practices, including their experiences with ride-hailing services, challenges they encountered while using them, subsequent workarounds and the impact of these services on their perceptions of dependence and independence. The interviews were semi-structured and elicited both narrative accounts of peoples experiences with ride-hailing (for instance – tell us about your last bad experience with Uber and Ola cabs?) and conceptual questions to understand peoples' notions of independence resulting from their use of Uber and Ola cabs (for instance – how would you describe your sense of dependence/independence when you used Uber and Ola cabs?).

Also, we separately conducted observations of people with visual impairments using ride-hailing services to complement the interview data. In these observations, we accompanied people with visual impairments on their regular journeys, which started when the participants used the mobile app to book a cab and concluded when they reached their final destination. These observations allowed us to capture some of the finer details of people's experiences with ride-hailing, which would have been hard to capture in the interviews including – their use of the mobile app and interactions and conversations with the driver.

In all, 30 people with visual impairments participated in the interviews at which point we reached theoretical saturation and found no new emergent themes. A subset of these interviewees (n=8) participated in the observations. We recruited participants through AccessIndia (n=15) – an online listserv for people with disabilities in India, personal contacts (n=6) and subsequent snowballing (n=9). The interviews, conducted in English included a combination of face-to-face and Skype/Phone calls. The first author conducted observations in Bengaluru, a city in South India and the primary field site for the study. Most trips were from our participant's homes to their workplaces, and here we accompanied them as travel companions – assisting/helping them when asked. Bengaluru is one of the most populous cities in India and one of 53 urban agglomerations in the country (Wikipedia Contributors). Transit services in Bengaluru are similar to other metropolitan cities in the country include buses, metro trains, auto-rickshaws, and ride-hailing services.

Demographics

Participants (n=30) came from eight metropolitan cities in the country and included 24 men and 6 women. The youngest participant in the study was 24 years old while the oldest was 53 at the time of the study. All participants belonged to relatively affluent classes - all had formal higher education and those that were not students held full-time jobs. This is not representative of the large population of people with visual impairments in India and the Global South – a majority of whom are low-income and lack formal education (People with disabilities in India: From Commitments to Outcomes - The World Bank 2007). In-fact, past work has highlighted the challenges with digital accessibility research that inordinately captures a relatively wealthy class of people with disabilities (Pal *et al.* 2013, 2017). Nonetheless, our data capture an important perspective of a rider group whose ride-hailing experiences are under-studied and for whom the limited access to accessible transportation is a significant barrier to inclusion and participation in everyday activities.

Findings

We found that specific features of ride-hailing services offered several benefits over existing transportation services - including an increased sense of independence, safety, door-to-door transit accessibility, flexibility and reduced emotional work (Kameswaran *et al.* 2018). However, using these services was not without its challenges and we observed that participants struggled with picking and choosing destinations and finding the precise location of the cab on arrival. Further, the lack of disability awareness among drivers, who were central to the accessibility of the services also posed occasional difficulties for the participants.

Benefits of ride-hailing services

Increased Independence

Ride-hailing had a positive impact on the lives of many of our participants' lives, and they were able to get out and about a lot more with the likes of Uber and Ola cabs. One of the major advantages of these services was that they no longer needed to rely on sighted people to get around and this made them feel more independent (Kameswaran *et al.* 2018).

"It's [Uber] liberating – it's fun. You are not dependent on a [personal car] driver to come. As a blind person, you are dependent. I can pick up the phone - book a cab get out…it has removed me from the tyranny of depending on a human for transport. Now, I have a mainstream solution which works." P14

This is in contrast with other forms of transportation where they sought help from sighted people at multiple junctures during the same journey. For instance, bus users sought help in getting to the bus stop (because streets lacked pavements and were inaccessible) and while on the bus, also had to ask about approaching stops to determine if they had arrived at their destination.

Although many of our participants had participated in Orientation and Mobility (OEM) training, which acquaints them with public transportation systems, they still noted how overcoming the inaccessibility of public transportation still proved to be challenging and necessitated the right kind of help at the right time. On the other hand, ride-hailing users noted the increased autonomy in the case of Uber and Ola cabs, where they were no longer contingent on the availability of others to get around. Moreover, they had the freedom to go where they wanted to at a time of their choosing. Participants also noted how in addition to giving them the confidence to get around on their own, ride-hailing also instilled confidence in others i.e. their friends, family, and peers that they could travel safely. As P12 said,

"…it has increased our pride, it has increased our prestige before outside world, these people can also travel here and there without anybody's help. Other people including my family and my colleagues and others on the road, they feel that he cannot go alone... People get anxious about myself - whether I will be reaching the correct location or not - that is one problem, that confidence I am able to give to my people around" P12

In addition to the increased sense of independence, Uber and Ola cabs offer practical benefits such as increased accessibility, flexibility, safety and reduced emotional work, which we will now highlight.

Increased Accessibility and Flexibility

First, the fact that participants could book a cab 'on their own' from their mobile phone and receive notifications when their cab arrived was in contrast to mass transit services and auto-rickshaws. In the case of buses and trains, people with visual impairments often need assistance in getting to the bus stop or train station and in identifying the bus or train when they arrived because many bus stops or train stations in India lack public announcement systems.

Moreover, asking for help to get a bus does not always have predictable results and people with visual impairments often find themselves at the mercy of strangers to assist them. Using an auto-rickshaw has a different set of challenges – it requires the traveler to venture out to main roads, listen intently to the unique sound of an auto, and signal intent (often by waving) to board. As with buses, respondents reported frequent reliance on others to board autos. P27 clearly stated the relative advantages of the hailing process in the case of Uber and Ola cabs in comparison to auto-rickshaws,

"While we have to find the auto on the road it's very difficult, like we have to take help from the sighted person, and we have to wait for the auto on the road... And definitely, it is more comfortable or more accessible to book a cab" P27

There are other implications to people being able to book cabs by themselves - in addition to enabling them to travel, they can also use these services to book cabs for others thus allowing them to contribute to their families and friends, who people with visual impairments were

otherwise dependent on to access transportation which further resulted in an increased sense of self-esteem.

"I live with a set of parents who are nervous even after I have been blind for 25 years and being a 48-year-old woman, my parents are still nervous about me, being out on the road on my own… it [Uber] has now given them the confidence that I will book cab for them sitting over here. " P37

There is uncertainty associated with hailing cabs and autos from the side of the street, where riders need to wait until an unoccupied cab/auto passes by them and the driver expresses willingness to take them to their destination. Uber and Ola cabs did away with this uncertainty to an extent, by offering an estimate of how long a car would take to reach the rider (to the extent that the driver does not cancel). Moreover, they offered increased flexibility which meant that our participants could now book a cab from the comfort of their homes and workplaces at a time of their choosing.

Some of our participants like P6 had regular arrangements with auto-rickshaw drivers or others who they employed to drive a car they owned. All of them recalled times when they were stood up without notice and had to resort to Uber or Ola cabs to get around. Further, others noted the increased flexibility of these services at times when other forms of transportation are unavailable or hard to access, for instance - late at night.

“And flexibility, it has offered me more flexibility - like suppose I wish to leave work early, I don’t need to call - I can call the auto person who offers me pick up and drop but in case he is not available, you know I don’t have to bother much, I can just book an Uber or Ola or taxi and I can go home early if I want to.” P6

Planning for trips is also made easier by the availability of information like ETA (Estimated Time of Arrival), which enables more accurate planning than public transportation. Although finding, hailing and boarding public transportation is challenging for sighted travelers as well, for people with visual impairments these challenges are magnified and they are likely to take longer to board a bus or find an auto-rickshaw. Furthermore, using buses, trains and auto-rickshaws requires a certain amount of local knowledge (for instance, locations of stops, the local language to seek help when required which can be difficult in a diverse country like India), but the consistent way in which Uber and Ola cabs operate across geographical contexts made them a convenient option for our participants on travel.

Increased Safety and Reduced Emotional Work

Participants also noted the increased sense of safety they felt while using ride-hailing services. This stemmed in part from their ability to track their journey using maps and share their trips with other people (in Uber). Further, in the case of auto-rickshaws, the auto-rickshaw drivers decide the route to take to a destination which made it hard to determine where one was going, which had safety implications.

"Okay before this I used to travel using auto on my own and now I think I feel much more safer... One more reason could be the fact that I am using Google Maps now… The routes that are shown on their [drivers] thing [phones] is the same that is shown on my phone…" P2

Finally, the automatic fare calculation and access to integrated digital payment systems in Uber and Ola cabs resulted in a reduction of emotional work. This is in contrast to auto-rickshaws where a necessary step is bargaining with the auto-rickshaw driver about the price of the journey. Although auto-rickshaws often carry digital meters, auto-rickshaw drivers don't necessarily use them and auto-rickshaw drivers and riders negotiate on the price of the trip at the start of the journey. Often, one has to repeat this process with multiple auto-rickshaw drivers before actually boarding an auto. As P9 elucidates,

"I have to tell my security in the flat to get me an auto… then I have to bargain with the guy, boss "I have to go here, there" - "How much?" I have to bargain - see now that is not there. I take an Uber, put the location here, put the other location it shows me the price… So that's the comfort I am talking about." P9

Consequently, the automatic fare calculation in Uber and Ola cabs liberated our participants from troubles associated with bargaining and reduced the chances of cheating. Although some Uber and Ola cab drivers cheated our participants (for instance by demanding more money than the cost of the trip when they paid by cash), they noted how the availability of customer support (through the Uber mobile app and phone-support in Ola) meant that they could complain and get their money back. On the other hand, when auto-rickshaw drivers cheated them (for instance, when auto-rickshaw drivers did not hand back the right change, which they realized much after the conclusion of the trip) they were helpless.

In spite of these advantages, ride-hailing was not without its challenges. Participants struggled with many aspects including finding the precise location of the cab on arrival, in choosing and negotiating the destinations and in dealing with some drivers.

Challenges with ride-hailing

Finding the cab

Almost all participants mentioned that finding the cab on the arrival was the most challenging aspect of the Uber or Ola journey. Although ride-hailing is door-to-door, factors including inaccurate GPS and limited addressing of maps in the country often resulted in the driver parking a few meters away from the exact pickup location. Unable to determine where the cab had parked, people frequently took sighted help from people in the vicinity including family members and security guards to whom they communicated details like the cab number - available on the mobile app, to obtain assistance. However, unlike in the case of urban mass transit services like buses, where participants sought help to get to the bus stop (often located far away from the participants homes), find the right bus and board, participants required 'less' help with Uber and Ola cabs, where on most occasions one had to traverse a few meters to find and board a cab. Needless to say, the strategy of seeking sighted help (like with buses and trains) was contingent on the availability of the right help at the right time, without which

finding the cab was impossible. Others shifted the onus onto the driver, giving them descriptive clues about themselves like the color of the shirt or that they were carrying a white cane to enable the driver to find them. Upon finding the cab, participants on certain occasions also sought help with finding the unoccupied seat. One participant P7 described his experience with both strategies,

"Here, she [his wife] is there so she helps me get onto the cab. Or I directly tell them [drivers], I am blind you have to come and pick me... I used to go and stand near Rajalakshmi wines [and tell the driver] I am wearing so and so color of shirt, holding a white cane in my hand you have to find out, I cannot see... Then he used to come and pick." P7

However, participants described how drivers occasionally attempted to circumvent road challenges like U-turns or crowded streets and consequently asked them to cross roads and walk from narrow roads to the main roads to find the cabs. As stated previously, navigating inaccessible roads can be pretty challenging for people with visual impairments, in-fact this is one of the reasons they choose to use ride-hailing services in the first place. This is generally the time at which interviewees disclosed their disability to the drivers if they had not done so earlier, in the hope that drivers would oblige and pick them up.

Most noted that disclosing their disability resulted in drivers being more accommodating and in this case, traveling to their location to pick them up. While some had no concerns in disclosing their disability to the driver to receive assistance from them, others were wary of doing so citing how disclosing their disability to someone unfamiliar to them posed safety concerns. Many described how the drivers' assistance was central to the accessibility of ride-hailing services and when they did not receive help, it resulted in a loss of independence. As P16 explained,

"Many days back - I had booked a cab and had to wait almost half an hour to make out where he is and finally I could do it with someone's help. We don't want to depend on someone that's why we book cab but even after booking cab we have to seek someone's help to board. So when driver can help us I think we can definitely stop asking people and we can be on time." P16

Participants believed that taking sighted help from people around to find the cab reduced their sense of independence, one of the primary motivators of using ride-hailing services in the first place. For a lot of them using Uber and Ola cabs stretched their budget, but they were willing to do so as long as it afforded increased independence. Others found other modes of transportation, like, cars driven by drivers to be more convenient as ride-hailing was never door-to-door or on-demand enough.

Choosing and negotiating destinations

While the mobile apps were in and by themselves accessible, choosing and negotiating destination addresses was challenging for people with visual impairments. This was primarily because many addresses in the country are similar making the required address hard to identify. For instance, many roads in the country share the same names (6th cross or 4th main

are common street names) and there is not enough detail in the app to distinguish between similar addresses. For instance, P10 recalled an incident where he picked the wrong address while booking a cab for his sister.

"My sister was admitted to a hospital. It was named Peerless hospital and that is situated in a place called Bagajyothi... I searched Peerless hospital… I booked that. My sister is just standing there and suddenly the driver called me [and asked] where are you. I said, "Ya - my sister is standing there"… He was surprised - "Where, I am in Salt Lake". Salt Lake is far far away from Bagajyothi… then I came to know that there is a Peerless lab that is situated in Salt Lake and there is a Peerless hospital in Baagajyothi." P10

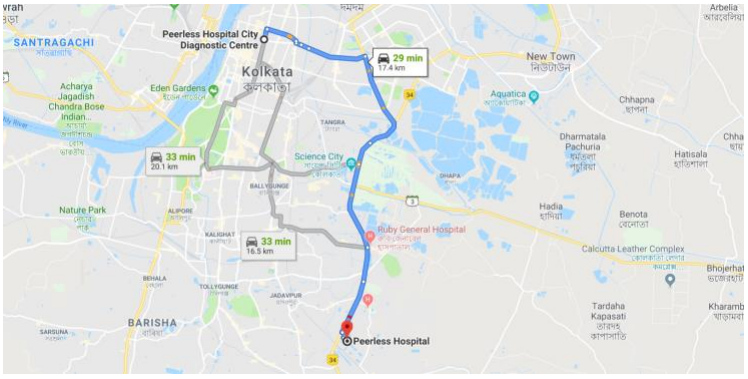

Fig: Peerless Hospital vs Peerless Hospital City Diagnostics center (Peerless Lab)

The insufficient addressing of maps in India is compounded by the inability of people with visual impairments to drag and drop a pin on an address in a map (in both Uber and Ola cabs) which also made picking precise residential locations very difficult. Our participants worked around this by identifying landmarks close to their final destinations and then navigating the final few meters on their own.

Driver Troubles

Finally, as mentioned earlier passengers relied on drivers to help them with certain aspects of the ride-hailing journey. However, drivers were a mixed bunch - our participants encountered drivers who were both accommodating and helpful and others, who cheated them and were less accommodating. Almost all participants noted instances where drivers did not know how to help or assist them, and that they had very little understanding of disability. Although riders could seek recourse from customer support this was not always possible and some participants noted how bad experiences with drivers in-fact dissuaded them from using ride-hailing altogether.

"A few drivers they don't give a damn about my vision impairment. Whatever I have given to them they just accept it and run away… Sometimes some drivers ask some shitty questions. And you are uncomfortable answering them, they begin from how do you study and go on and on… So sometimes you become uncomfortable answering them." P26

Discussion

Thus, we see that in spite of the many benefits of ride-hailing including the increased sense of independence, there are challenges to its use by people with visual impairments. There are opportunities to improve their overall ride-hailing experience and the onus here is on the ride-hailing corporations to take the necessary measures including improving access to technology features and by sensitizing drivers to the needs of people with visual impairments. The state too can play a role here and by creating appropriate incentive and penalty mechanisms, can ensure that ride-hailing corporations accommodate the needs of people with disabilities. In a recent example from the Global North, the New York City government passed a mandate which necessitated services like Uber and Lyft make at-least 25% of their services wheelchair accessible by 2023 (Ottaway 2018), a move which would ensure that wheelchair users are able to access and use the cabs to their benefit.

As suggested earlier some aspects of the technology were inaccessible to people with visual impairments who had to rely on sighted help and workarounds to use parts of the mobile app. For instance, many participants noted many unlabeled buttons in the Ola app which included the interface to choose cab-types and the interface to rate the driver – which they had to complete to book the next ride. Subsequently, they had to resort to seeking sighted help to circumvent these interface troubles. In this light, accessibility testing of the mobile apps prior to release which should include checks for unlabeled buttons and making clear the changes to navigation and workflows on software updates would represent a good first step. Overall, participants found Ola to be less accessible than Uber (which had fewer or no unlabeled buttons), resulting in a preference for the latter (over other factors like cost and availability). We attribute the accessibility of Uber to it being an international app – which has to adhere to accessibility standards in the USA (by conforming to the ADA). On the other hand, in India, the National Policy on Universal Electronic Accessibility (National Policy on Universal Electronic Accessibility 2019) only holds state-owned ICTs accountable to compliance measures and not private players. While the Rights of Persons with Disabilities Bill, introduced in 2016 (Rights of Persons with Disabilities Bill - 2016) does hold private players responsible for the non-implementation of compliance measures, the bill remains unimplemented in many states across the country (Narasimhan 2016; Kameswaran and Hulikal Muralidhar 2019) which in part explains why Ola, an Indian app was inaccessible to our participants. Furthermore, we also noted how the visual components of both these apps i.e. the maps posed several challenges to people with visual impairments (who had trouble distinguishing between locations and selecting destinations) and exploring enhancements that might make maps more screen-reader friendly can increase the overall accessibility of the apps.

Needless to say, any means to improve the ride-hailing experience of people with disabilities cannot solely focus on technical features and has to be “socio-technical”. Drivers are central to the ride-hailing experience and sensitizing, training and informing them about the needs of people with disabilities including those with visual impairments and ways to assist and accommodate them will improve the accessibility of the services. This, combined with a feature on the app which would allow people with disabilities to disclose their disability on the mobile app and intimate drivers will be beneficial, as it could reduce the work associated with explicitly

seeking help during the different junctures of a ride-hailing trip. Flexible policies by Uber and Ola cabs can complement these socio-technical efforts. For instance, incentivizing drivers (including in the case of shared/pool rides where they received a fixed amount) for any accommodations/assistance they provide could also result in an improved ride-hailing experience for people with visual impairments and disabilities to an extent. Ride-hailing is a growing market in India and the Global South, evidenced by the increasing market size of corporations like Uber and Ola cabs (Bhattacharya 2019) and our research suggests that for people with visual impairments the benefits of these services far outweigh the challenges resulting from their use. By paying attention to their needs and improving the usability of ride-hailing, Uber and Ola cabs can pave the way for inclusivity, which is particularly relevant in a Global South context like India, where people with disabilities are otherwise marginalized and excluded from everyday life.

Ride-hailing in India

This study is one of the few studies that examine ride-hailing outside the Global North context, and there are similarities and differences to what other studies find in the USA and Europe. Among the similarities are the motivations for using the services in the first place - the added flexibility and convenience of these services which are on-demand and door-to-door. However, in the USA ride-hailing in many locations happens to be cheaper than traditional taxis and is also one of the reasons why riders favor them (Glöss, Mcgregor and Brown 2016). On the other hand, ride-hailing in India is relatively not cheap, especially for our participants for whom mass transit access was available at no cost or subsidized rates. While not replacing their use of buses and trains we found that Uber and Ola cabs complemented them and were more than an effective plan b. Further, unlike the USA and Europe, door-to-door transport like auto-rickshaws and in many places even mass transit, especially buses operate under the informal economy. Here we see the benefits of a more formalized system for the likes of our participants, for instance - payment - which does away with the need to bargain and the associated emotional work. Likewise, addresses can pose challenges in India due to the insufficient addressing of digital maps in the country. Moreover, many addresses are also hard to distinguish as they are similar sounding, and here we see that participants have to work around the system by identifying and picking landmarks, which can be quite challenging and is also going to likely be different from ride-hailing experiences in the Global North. Finally, previous studies report on riders describing drivers as being “just like me” (Dillahunt *et al.* 2017; Kameswaran, Cameron and Dillahunt 2018), which we did not see in our study and as explained earlier unlike drivers in the Global North, Uber and Ola cab drivers in India work full-time, often for larger transportation corporations and many come from the working class often from villages. On the other hand, riders like our participants often happen to belong to the middle/upper-middle class. This class divide is a likely explanation for why our participants were comfortable seeking help and in-fact ‘expected’ the drivers to assist them when required as they felt that it was part of the Uber and Ola cabs ‘service’ offering (and seeking help from the driver did not impinge on their sense of independence). In contrast, studies examining the ride-hailing experiences of people with visual impairments in the USA find that riders carefully measured and in-fact limited the help they sought from the driver (Brewer and Kameswaran 2019).

Our qualitative study on the use of ride-hailing services by people with visual impairments in metropolitan India found that ride-hailing has several benefits for them including increased independence, flexibility and accessibility, and reduced emotional work. However, using these services was not without its challenges which included finding the precise location of the cab on arrival, in choosing destination addresses and in dealing with drivers. Although people at large, including those without disabilities, are likely to experience the benefits and challenges of ride-hailing, its relative advantages and disadvantages of ride-hailing are amplified for people with visual impairments, primarily because traditional modes of transportation are so much more inaccessible. Although largely accessible, improvements through accessibility testing, driver training/incentivization, and flexible policies can additionally improve these services for the likes of our participants.

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