NCPEDP - Javed Abidi Fellowship on Disability

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Baseline Report

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Shillong, Meghalaya

Needs and Measures on Accessible Transportation in Shillong, Meghalaya

Contents

1 Executive Summary

Access to transportation is the key to an inclusive society as transportation directly affects the ability of a person to hold down a job, gain access to education or even attend a social gathering. Therefore, having access to public transportation provides a way for people with disabilities who do not have access to private vehicles, a way to access essential services, healthcare, markets and entertainment.

In Meghalaya, the barriers to accessing public transportation for people with disabilities have increased post-COVID. People with disabilities are not able to find job opportunities in urban areas, pursue higher studies, get healthcare facilities and participate in social events that are directly related to transportation. While persons with disability constitute 1.4 percent of the state's population, accessible transport and its accompanying hurdles affect the independent mobility of senior citizens who constitute 6 percent of the population. Combined with the issues of safe and accessible transport for students via public transport, we are looking at a base population of 22 percent that is compelled to avoid independent mobility within the state.

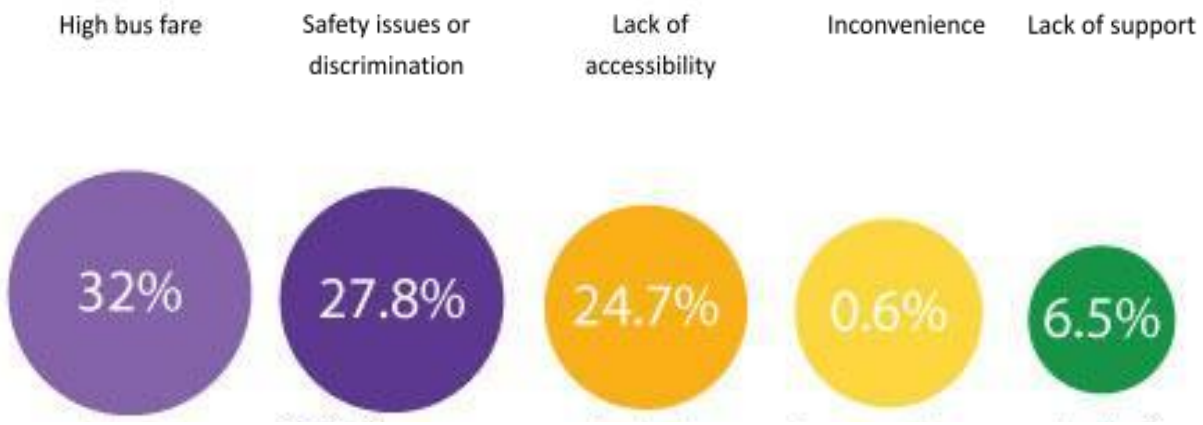
This research focuses on three localities (Laitumkhrah- educational area, IGP- office area and Police Bazaar- market area), where PWDs/CWDs travel daily. A primary survey was conducted in Google Forms format and sent to PWDs/DPO leaders. The findings reveal several gaps in the transportation system. The negative impact of inaccessible transport can be seen in the areas of education, work and recreational activities.

Data was collected from 97 persons with disabilities across Meghalaya, and 50 case studies and four focus group discussions were conducted with the help of purposive and snowball sampling techniques. The data gathered from the study was analysed on a descriptive level using percentage estimates. The data was also analysed using thematic analysis. Finally, the study incorporated a mixed-method approach to analyse the results.

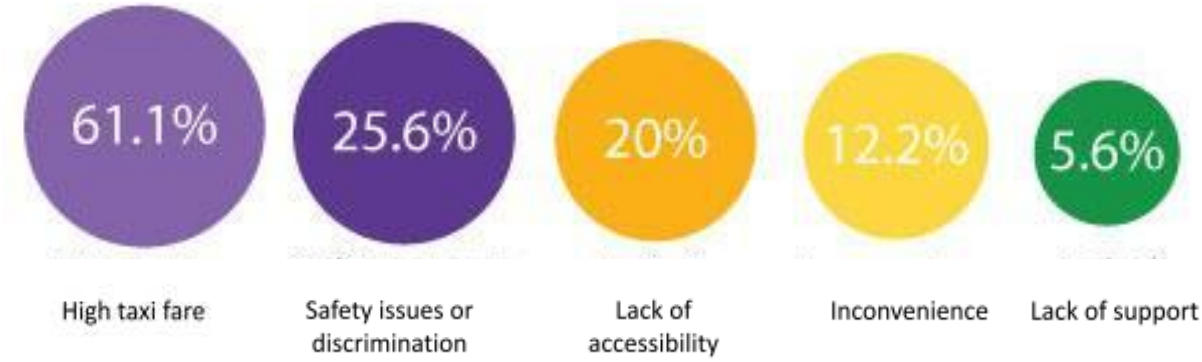
In the study, a structured, closed and open-ended questionnaire set was given to PwDs and DPO leaders. For the study, the questionnaire was shared to PwDs who fall under two age group categories. I.e. below the age of 18 years and above 18 years of age. Another part of the study involved focus group discussions (FGDs). Structured interviews were conducted with 50 PwDs (case studies) and parents of CwDs who were available during the case study interview of CwDs.

57.7 percent of the PwDs were female and 42.3 percent were male. The 21-30 age group had the most participants (59.8 percent). 40.2 percent were graduates. 69.1 percent were unemployed and 25.8 percent were employed full-time or part-time. Most of the participants (55 percent) reported having locomotor disability. 51.5 percent reported using public transportation daily.

The following are the limitations in public transportation owned by the government, as stated by the participants.



The following are the limitations in public transportation owned by private individuals, as stated by the participants.



In terms of needs, 30.9 percent of the respondents wanted accessibility, another 30.9 percent opted for affordability, 21.6 percent wanted comfort and 16.5 percent wanted public support.

In terms of accessibility, there were an equal number of responses for safety and discounted rates (34.8 percent), 27 percent wanted reservation of seats, 34.8 percent wanted safety and the rest wanted a low-ceiling bus.

There were many issues that PwDs, DPO leaders and parents of children with disabilities narrated during interviews, case studies and group discussions. Most of the PwDs mentioned the absence of reserved seats in buses, lack of accessibility and the unavailability of bus services to remote places. While traveling by bus, they faced traffic jams and the bus route was inconvenient for them. The cost of traveling was also very high, especially when traveling by taxi. Most PwDs have to hire a taxi when they travel around Shillong, and buses do not ply on inner routes. 16.5 percent of the PwDs stated that there was a lack of support from the public, bus conductors and drivers. They faced a lot of discrimination and were looked down upon by the public in general. They felt that the drivers took advantage of their disability and they had to pay extra fares at times. Those who use wheelchairs cannot travel by bus as they are not accessible, and they have to pay higher fares than other passengers for shared taxis.

Since the outbreak of COVID, bus and taxi fares have increased. Most of those who depend on their family for support felt they were a burden to the family as they were unemployed or still had to pursue their studies.

There are issues of safety in public transportation as the disabled are pushed, bumped or verbally harassed when they are not able to move quickly during rush hours due to over-crowding. Buses are only available for a limited period during the morning hours from 8 am and till 6 pm. Most of the PwDs – working or studying – must return home by shared taxi, if available, or book a taxi home at a high charge. Those who cannot afford to pay for taxis have to walk back home.

The PwDs also mentioned the poor conditions of footpaths and roads when they have to walk. The bus stops are not accessible and the footpaths are cramped with street hawkers, making it impossible for them to walk independently.

Multiple modes of transportation are available in Shillong. However, the barriers in transportation make it difficult for PwDs to access these services. The findings revealed that PwDs expect a safe, inclusive, profitable and multimodal experience, and personalised services. The study has important implications for tackling mobility issues PwDs face, whether they relate to geographical, physical or social conditions. Mobility must be a focus area for public transport companies and governments, as it is a key factor for economic and social integration.

2 Background

Meghalaya - meaning "abode of clouds" - is a state in northeast India. It was formed on 21 January 1972 by carving out two districts from the state of Assam; the United Khasi Hills, and Jaintia Hills and Garo Hills. The population of Meghalaya as of 2014 is estimated to be 3,211,474. Persons with disability constitute 1.4 percent of the population, accessible transport and its accompanying hurdles affect the independent mobility of senior citizens who constitute 6 percent of the population. Combined with the issues of safe and accessible transport for students via public transport, we are looking at a base population of 22 percent that is compelled to avoid independent mobility within the state. Meghalaya covers an area of approximately 22,429 sq. km, with a length-to-breadth ratio of about 3:1. The state is bound to the south by the Bangladeshi divisions of Mymensingh and Sylhet, to the west by the Bangladeshi division of Rangpur, and to the north and east by Assam. Shillong is the state capital. During colonial rule, the British authorities nicknamed it the Scotland of the East.

1.1 Geography

Meghalaya is one of the seven Sister States of northeast India. The state is mountainous, with stretches of valleys and highland plateaus, and it is geologically rich. The elevation of the plateau ranges from 150 m (490 ft) to 1,961 m (6,434 ft). The central part of the plateau comprising the Khasi Hills has the highest elevations, followed by the eastern section comprising the Jaintia Hills. The highest point in Meghalaya is Shillong Peak, which is a prominent IAF station in the Khasi Hills overlooking the city of Shillong. It has an altitude of 1961 m. The Garo Hills region in the western section of the plateau is nearly plain. The highest point in the Garo Hills is Nokrek Peak with an altitude of 1515 m.

1.2 Transportation and road networks in Meghalaya

Meghalaya has a road network of 7,633 km, of which 3,691 km is black-topped and the remaining 3,942 km is graveled. The partition of the country in 1947 created severe infrastructural constraints for the Northeastern region, with merely 2 percent of the perimeter of the region contiguous with the rest of the country. A narrow strip of land called the Siliguri Corridor or the Chicken's Neck, connects the region with the state of West Bengal. Meghalaya is a landlocked state with many small settlements in remote areas. Road is the only means of transport. While the capital Shillong is relatively well-connected, road connectivity in most other parts is relatively poor. A significant portion of the roads in the state are still unpaved. Most of the arrivals in Meghalaya take place through Guwahati in neighboring Assam, which is 103 km away. Assam has a major railhead as well as an airport with regular train and air services to the rest of the country. When Meghalaya was carved out of Assam as an autonomous state in 1972, it inherited a total road length of 2,786 km including 174 km of National Highways, with a road density of 12.42 km per 100 sq. km. By

2004, the total road length had reached 9,350 km, of which 5,857 km were surfaced. The road density increased to 41.69 km per 100 sq. km. by March 2011. Meghalaya is far below the national average of 75 km per 100 km2. To provide better services to the people of the state, the Meghalaya Public Works Department is taking steps for improvement and up-gradation of the existing roads and bridges in a phased manner.[1]

1.3 Disability Census

According to the 2011 census, there are 26.8 million persons with disabilities in India who constitute 2.13 percent of the total population. In Meghalaya, the number is 44,317, which constitutes about 1 percent of the population. This includes persons with visual, hearing, speech, locomotor, intellectual and mental disabilities. Nearly 80 percent of this population resides in rural areas. While the census figure is the basis for all policies and strategies, it is well accepted that the actual number of persons with disabilities in Meghalaya could be more.[2] According to the WHO, an estimated 1.3 billion people – or 16 percent of the global population worldwide – experience a significant disability today. Persons with disabilities have the right to the highest attainable standard of health as those without disabilities.[3]

1.4 Socio-economic data

The main tribes in Meghalaya are the Khasis, the Garos, and the Jaintias. Each tribe has its own culture, traditions, dress, and language. The majority of the population and the major tribal groups in Meghalaya follow a matrilineal system where lineage and inheritance are traced through women. The youngest daughter inherits all the property and she is the caretaker of aged parents and any unmarried siblings. In some cases, such as when there is no daughter in the family or for other reasons, the parents may nominate another girl such as a daughter-in-law as the heir of the house and all other property they own.

The Khasi and Jaintia tribesmen follow the traditional matrilineal norm, wherein the Khun Khatduh (or the youngest daughter) inherits all the property and responsibilities of the family. The male line, particularly the mother's brother, may indirectly control the ancestral property since he may be involved in important decisions relating to property, including its sale and disposal. In case a family has no daughters, the Khasi and Jaintia (also called Syntengs) have the custom of ia rap iing, where the family adopts a girl from another family, performs religious ceremonies with the community, following which, the adopted girl becomes ka trai iing (head of the house).[4]

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[1] https://en.wikipedia.org/wiki/Meghalaya

[2] https://censusindia.gov.in/nada/index.php/catalog/43386

[3] https://www.who.int/publications/i/item/9789240063600

[4] https://en.wikipedia.org/wiki/Meghalaya

In the Garo lineage system, the youngest daughter inherits the family property by default, unless another daughter is so named by the parents. She then becomes designated as nokna, meaning 'for the house or home'. If there are no daughters, a chosen daughter-in-law (bohari) or an adopted child (deragata) comes to stay in the house and inherit the property. This adopted girl-child is then the head of the house. Meghalaya has one of the world's largest surviving matrilineal cultures.[5]

Meghalaya is predominantly an agrarian economy. Agriculture and allied activities engage nearly two-thirds of the total workforce. This sector's contribution to the state's NSDP is about one-third. Agriculture in the state is characterised by low productivity and unsustainable farm practices. Despite the large percentage of the population being engaged in agriculture, the state imports food from other Indian states. Infrastructural constraints have also prevented the economy of the state from creating high-income jobs at a pace commensurate with that of the rest of the country. Meghalaya's gross state domestic product for 2012 was estimated at ₹16,173 crore (US$2 billion) at current prices. As of 2012, according to the Reserve Bank of India, about 12 percent of the state's population is below the poverty line (12.5 percent of the rural population and 9.3 percent of the urban population).

3 The journey Towards Accessible Transportation

In India, persons with disabilities must go a long way to prepare themselves for the challenges they face every day. There needs to be a shift from a charity-based approach to a rights-based approach. For something as prevalent as disability, the attitude of our society has been remarkably backward and slow to change. Issues relating to disability tend to be completely ignored, marginalised or subject to a condescending attitude of pity and reliance on charity. For far too long, this attitude was reflected in policies focusing only on institutional care, medical rehabilitation and welfare benefits. This traditional attitude is no longer acceptable.

Since 1992, every year, December 3 has been observed as the International Day of Persons with Disabilities by the United Nations. As per the United Nations, *"the aim behind the annual observance of this day is to promote the rights and well-being of persons with disabilities in all spheres of society and development; and to increase awareness of the situation of persons with disabilities in every aspect of political, social, economic and cultural life."*

[5] https://en.wikipedia.org/wiki/Meghalaya

4 Accessible Transportation in India

Persons with disabilities have an equal right to travel and use public and private transportation infrastructure with dignity and independence. Accessible transportation plays a critical role in the growth of a nation's economy. Inaccessible transportation restricts mobility and denies freedom of movement and active participation to much of the population. Accessible and safe transportation can mean an education, a job and equal opportunities that would otherwise be denied to them. Thus, it is mandatory to make public transport systems and pedestrian infrastructure accessible and provide connectivity to PWDs and those with reduced mobility. The RPWD Act, 2016 provides that "the appropriate government shall ensure that the PWD enjoys the right to equality, life with dignity, and respect for his or her own integrity, equally with others." The government is to take steps to utilise the capacity of the PWD by providing an appropriate environment.[6]

The revised National Urban Transport Policy (NUTP), 2014 includes universal accessibility in all the planning and implementation interventions. Indian Roads Congress code 103:2012 Guidelines for Pedestrian Facilities provides inclusive roads and street design standards.

Some of the key features related to transport infrastructure accessible:

- Well-lit streets and bus shelters
- Raised pedestrian crossings to facilitate barrier-free movement with differently-textured paving material to make the crossing more perceivable
- Footpaths with even surfaces for movement of mobility-aid users and continuous tactile pavers along the entire stretch for persons with visual impairment
- Special white lighting for footpaths that maintains colour contrast with the road and ensures that the tactile pavers are visible at night
- Audible light signals that beep when the light is green
- Bus shelters with barrier-free access having defined boarding gates with warning tiles
- Folding ramp inside low-floor buses to allow access to mobility-aid users
- Space to park wheelchairs with the provision of safety belts to secure during journeys inside the buses
- Provision of Braille signage and audible messages on signage panels
- Metro stations and coaches with accessibility features

Transportation is a vital component of independent living, and like others in society, PwDs rely on transportation facilities to move from one place to another. The term transportation covers several areas including air travel, buses, taxis, and trains.[7]

[6] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5419007/#:~:text=The percent20RPWD percent20Act percent2C percent202016 percent20provides,PWD percent20by percent20providing percent20appropriate percent20environment.
[7] http://accessibleindia.gov.in/content/makeaccessible/transport-systems.php

Ideally, these words should be put into action by governments all over the world. Some progressive countries have taken action to make life easier for their citizens with disabilities. India still lags in a big way when it comes to removing infrastructural, institutional and attitudinal barriers for persons with disabilities. Even now, most buildings in India are not disability-friendly, despite the Government of India, under the Accessible India Campaign, instructing all ministries to make their buildings accessible to persons with disabilities. It is a welcome step but it will take a lot of time for the needs of the population with disabilities to be kept in mind while building any infrastructure. Historically, people with disabilities as a community have been targeted and discriminated against across the world; the population with disabilities constitutes the world's largest 'unrecognised minority' group.[8]

4.1 Transportation System Accessibility

The Accessible India Campaign focuses on providing persons with disabilities an equal right to travel and use public and private transportation infrastructure with dignity and independence.[9]

4.2 Accessible Transportation Projects in India

1. Policy Advocacy on Accessible Public Transport Systems
   Samarthyam advocated for the National Urban Transport Policy after the first National Conference on Mobility for All held in New Delhi in 2006 resulted in the first transport policy in India with inclusive mobility sections.
   In 2014, the NUTP was amended again to comply with UNCRPD and the PWD Act 1995. It stipulates universal design and universal accessibility in its preamble.

2. Low-floor Buses
   To create an accessible bus, Samarthyam - in association with the Transport Research & Injury Prevention Programme (TRIPP) and Indian Institute of Technology (IIT) Delhi - worked with the bus manufacturer, TATA Motors. The design of the buses consisted of wide doors, transit ramps, designated wheelchair space, public information systems with audio and digital display, colour contrast handrails and stanchions, and illuminated destination and route signs.

3. Access Audits of Delhi Metro Infrastructure
   Delhi Metro Rail Corporation (DMRC) has set an example of being the most accessible public transportation system in India. Based on the accessibility standards recommended

[8] https://thewire.in/health/persons-with-disabilities-challenges-india)
[9] https://www.india.gov.in/spotlight/accessible-india-campaign#tab=tab-1

by Samarthyam, similar design standards are being replicated in other parts of the country. Samarthyam is an advisor to all the Metro Rail Corporation projects in India such as Bangalore, Kochi and Hyderabad.

4. Pedestrian Infrastructure
   To provide seamless journeys and last-mile connectivity between transit facilities and other services, Samarthyam revised the pedestrian guidelines and codes of the Indian Roads Congress with inclusive design standards for pedestrians and commuters.

5. Bus-Queue Shelters (BQS)
   Samarthyam's advocacy and sustained implementation strategies have resulted in universal access to public transport infrastructure. Samarthyam provides universal design elements to make buses and bus shelters accessible for people with disabilities, the elderly, children and women. Its collaboration with State and Central (federal) Governments, state transport authorities, service providers and public transit agencies has paved the way for the implementation of accessible bus shelters and low-floor buses in the country.

6. Indian Railways
   Samarthyam is working on accessible railway coaches with toilets and transit/boarding devices to bridge the gap between rail coach and platform. Partnerships with the Research Design Standards Organisation (RDSO), Rail Coach Factory (RCF), Integral Coach Factory (ICF), Ministry of Railways and Government of India are helping to conduct R&D projects to make Indian railways accessible.

7. Inclusive Design in Bus Rapid Transit (BRT) System
   Samarthyam provides planning, design and implementation of BRT systems to emphasise the need for platform-bus interface for level boarding; BQS with ramps, tactile paving, Braille route and information signage. Samarthyam's collaboration with BRT designers and service providers has resulted in state-of-the-art accessible and safe pedestrian infrastructure and BRT system bus stations.

8. First Conference on Accessible Transportation
   The conference was held in academic collaboration with TRIPP and IIT, Delhi during 17-19 March 2006. Its purpose was to bring the government, service providers, stakeholders and user groups on one platform and draft implementation policies and guidelines on the National Policy on Accessible Transportation addressing the concerns of PwDs and senior citizens. This national conference was the first endeavour of its kind

in the country, supported by the Union Tourism Ministry, the Ministry of Social Justice & Empowerment, the Government of India and the corporate sector.[10]

4.3 Policies

From the design plan to the implementation, various aspects of the built environment have focus shifts from creating a barrier-free environment to a more holistic approach covered under the new guidelines for universal accessibility recently drafted by the Centre.[11]

The Central Public Works Department (CPWD) released the Harmonised Guidelines and Standards for Universal Accessibility in India 2021 through its website in December 2021. However, an official associated with the project said a few tweaks were pending. The guidelines are a revision of the Harmonised Guidelines and Space Standards for Barrier-Free Built Environment for Persons with Disabilities and Elderly Persons released by the CPWD, under the Ministry of Housing and Urban Affairs (MoHUA) in February 2016.

Drafted by a team of the Indian Institute of Technology-Roorkee and the National Institute of Urban Affairs of the MoHUA, the revised guidelines aim to give a holistic approach. Professor Gaurav Raheja of IIT-Roorkee, who was the principal investigator and consultant of the project, said the biggest change lies in the name.

“Earlier, the guidelines were for creating a barrier-free environment, but now we are focussing on universal accessibility,” Prof. Gaurav Raheja told The Hindu.

The guidelines say ramps are extremely crucial for providing an accessible mobility option, but it is equally important to understand that ramps have to adhere to given guidelines. The guidelines provide the gradient and length of ramps — for example, for a length of six metres, the gradient should be 1:12. The minimum clear width of a ramp should be 1,200 mm, the guidelines say.

The guidelines are not just for PwDs, but also for those involved in planning projects, from the construction of government buildings to master-planning cities, Prof. Raheja said. While making public buildings and transport fully accessible for wheelchair users is covered in the guidelines, other users who may experience temporary problems have also been considered. For instance, a parent pushing a child’s pram while carrying groceries or other bags, and women wearing saris.

“Built environment needs for accessibility for women should consider diverse age groups, diverse cultural contexts and diverse life situations in which women operate. Diverse forms of clothing (saris, shalwar-kameez) and footwear (heels, Kolhapuri chappals) require a certain

[10] https://www.samarthyam.com/accessible-trans-project.html
[11] https://www.thehindu.com/news/national/government-releases-revised-universal-accessibility-guidelines/article38203288.ece

orientation to built environment elements and their detailing," the guidelines said, citing the example of uniform and low kerb heights.

The guidelines call for accessibility symbols for PwDs, family-friendly facilities and transgenders to be inclusively incorporated among the symbols for other user groups. The guidelines are meant for state governments, government departments and the private sector, as well as for reference by architecture and planning institutes.

The Smart Cities Mission (SCM) launched on 25 June 2015 is a joint effort of the MoHUA and all State and Union Territory (UT) governments. It was initially aimed to be completed by 2019-20 but has since been extended. One hundred cities and towns in different states and UTs of India have been selected under the SCM—they are home to more than a third of the country's population (see Figure 1). The Mission aims 'to drive economic growth and improve the quality of life of people by enabling local area development and harnessing technology, especially technology that leads to smart outcomes,' and ensure that these cities are 'liveable, inclusive, sustainable, (and) have thriving economies that offer multiple opportunities to people to pursue their diverse interests.' In other words, according to MoHUA, '*smart cities are cities that work for the people*.'[12]

The selection process began by identifying cities based on the urban population of the state/UT, as well as the number of statutory towns in them. A two-stage competition was organised, first among cities in each state, and subsequently for the winners in each round, at the national level. Finally chosen were those that scored the highest on existing service levels, institutional capacities, self-financing, track record and reforms, as well as on the quality of the smart city proposal they presented.

In the first round of the competition in January 2016, 20 cities were chosen; this was followed by another 13 in a fast-track round in May 2016. In September 2016, during the second round, 27 more cities were selected; in the third, in June 2017, another 30; in the fourth in January 2018, another nine. Meghalaya's capital, Shillong, was included as the 100th city in June 2018.

4.4 Accessible Transportation in Shillong

Why is it important to make public transport inclusive and accessible in Shillong?
In a structured interview, Teilanbok Mawblei, a visually-impaired person, speaks about his experiences when asked about the challenges he faces when traveling. "We (the interviewee and his wife) came to Shillong from our village since we had some work in Laitumkhrah. In

[12] https://www.orfonline.org/research/indias-smart-cities-mission-2015-2021-a-stocktaking/

our daily travels, we use a white cane to help us identify potholes and steps. Some drivers slow down their vehicles when they see the cane but some drivers have no regard for it and drive on at high speed without a care. There are also times when people see us on the road and offer their assistance but again there are others who make fun of us and laugh when we bump into objects or parked cars. Roughly half the people understand and help us.

Mr Teilanbok is just one amongst the 44,317 (2011 census) persons with disabilities in the state who experience challenges in one form or the other in moving about to perform their daily activities. These challenges often become barriers that restrict persons with disabilities from accessing necessities.

Vision: To provide access to safe, affordable, inclusive, accessible and sustainable integrated age-friendly transport systems.

4.5 Objectives

1. To explore the underlying factors that caused the emergence of the inaccessible/ barriers to transportation faced by persons with disabilities
2. To understand the needs and preferences of persons with disabilities about transportation
3. To realise the socio-economic exclusion faced by persons with disabilities due to inaccessible transportation
4. To evaluate transport staff in Shillong and ascertain whether they are trained for or sensitized to disabilities issues.
5. To propose recommendations to the Government to make transport information enabling passengers to plan and undertake their journeys available in accessible formats – at bus stops, stations, transport interchanges, on vehicles and in electronic/print media
6. To assess whether people feel comfortable and safe using public transport; this includes being free from hate crimes, bullying and harassment when traveling
7. To forecast the implications of social media on the public regarding transportation accessibility and affordability

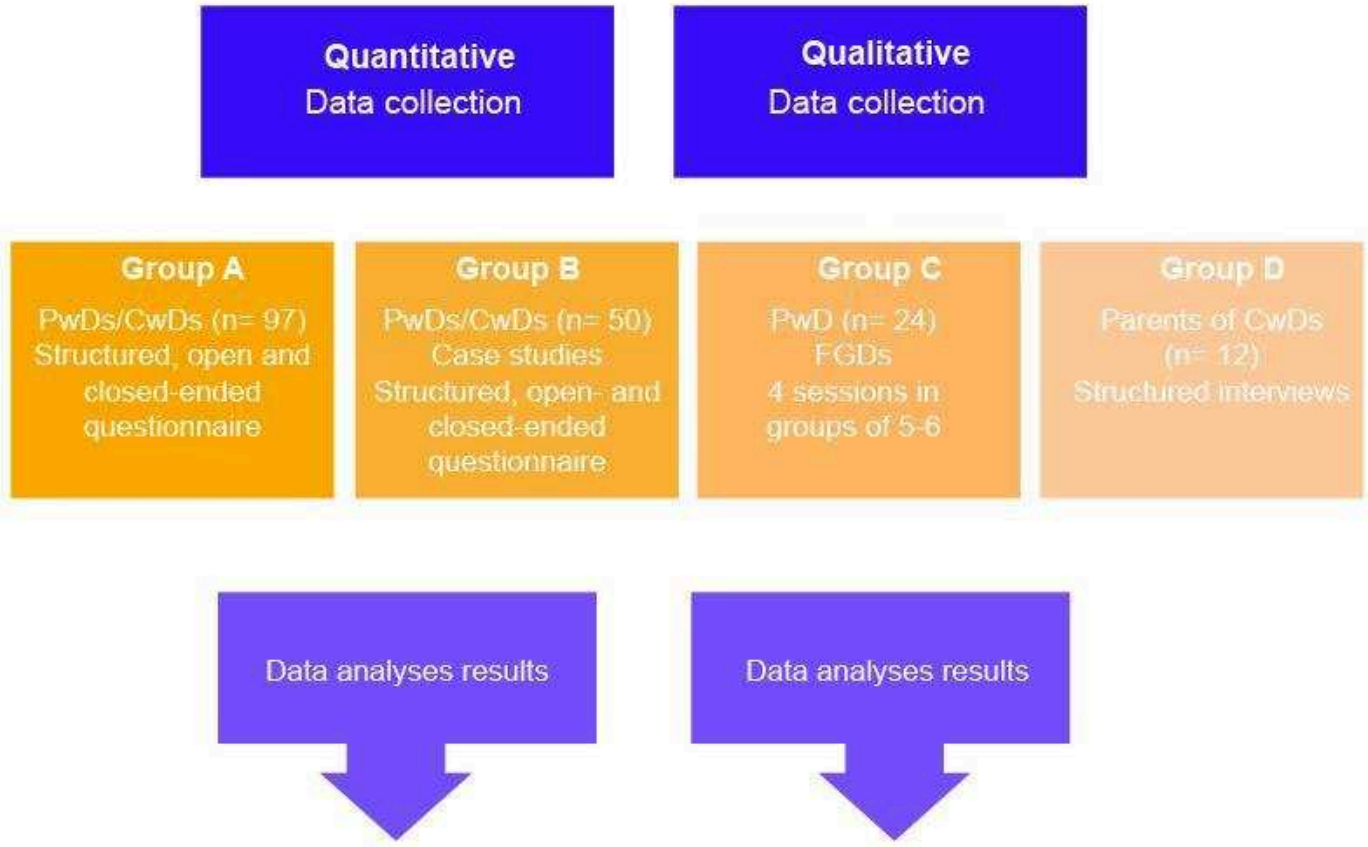
5 Methodology

5.1 Study sampling

For the present study, the areas selected are from three localities in Shillong: 1. Laitumkhrah 2. IGP area 3. Police Bazaar. These areas were selected as they are centers of education, offices and markets where PwDs/CwDs mostly travel. Data was collected from 97 persons with disabilities across Meghalaya, 50 case studies were selected with the help of purposive and snowball sampling techniques and four Focus Group Discussions were conducted (Figure 1). The 97 persons with disabilities including the children with disabilities interviewed during the case studies and FGDs gave consent when participating in the study.

To get the result of the study, a mixed-method triangulation study was conducted in which both the quantitative and qualitative data were obtained and analysed.

Fig 1: Research design: Mixed-method Triangulation Study



5.2 Measurement

For the quantitative part of the study, structured questionnaires were developed in Google Forms (Form 1: see Annexure) format and circulated among PwDs/CwDs from June 2022 to November 2022; 97 responses were collected. The questionnaires were typed in English. However, they were translated into Khasi verbally and also to sign language for the deaf and the hard of hearing. The questionnaires had two sections: Section A (Basic profile of the participant) and Section B (Utility of transportation).

For the qualitative part of the study, structured interviews were conducted with 50 participants for case studies. The case studies were conducted through phone calls, video calls, direct interviews, and unstructured interviews. Four focus group discussions involving PwDs were conducted and each group had 5-6 participants. The participants of the FGDs/ case studies were selected through DPO leaders and PWDs having disability certificates. For CwDs, only through the consent of parents and interviews of the parents were the case studies conducted.

5.3 Data Analysis

For the quantitative study, percentages were used to explain and summarise the data collected from Sections A and B of the Google Forms. However, for the qualitative study, thematic analyses were conducted for the case studies, FGDs and structured interviews of CwDs/parents of CwDs, to analyse the interview transcripts.

5.4 Research Tools Used

The study was conducted on paper and through self-constructed Google Forms. First, a questionnaire was drafted and submitted for mentor feedback. After amending the questionnaires based on the feedback of the mentor and partner organisation, the questionnaire was circulated through WhatsApp and email for PWDs and DPO leaders to fill out and circulate to other stakeholders. The case study was initiated by video calls/direct interviews, and structured and unstructured interviews of parents of CwDs. Case studies were also done indirectly with the help of a few DPO leaders. FGDs were conducted with the help of DPO leaders in four sessions and the data was recorded through video, audio and written in a standard format. (The questions are composed of personal details (Name, age, qualification etc.), general information about the family and questions related to transportation etc)

4.5 Data collection: Through both primary and secondary sources

The secondary sources were available in the form of:

- General documentation material (e.g., information from the departments)
- Monitoring data (e.g., lists of trained beneficiaries, workshop participants)
- Archive of materials (e.g., press releases, newspaper articles)
- Policy and/or expert publications

Primary data was collected through:

- Surveys of the selected areas
- Live documentation of the experiences of 10 percent of the selected target group
- FGDs with persons with disabilities / organisations of/for persons with disabilities/Taxi Drivers Association/Bus Drivers Association/Traffic personnel/ personnel from the departments of Social Welfare, Transport, PWD (Roads)/Media personnel/Office of the Commissioner for Persons with Disabilities/Police Department
- Key Informant Interviews (KIIs) of a few identified persons with disabilities, citizens, and parents of persons with disabilities

6 Findings

This chapter reports the results of the quantitative and qualitative analyses of the study. The data consisted of the basic profile and utility of transport from 97 responses received from the Google Forms, including the analysis from the 50 case studies and four Focus Group Discussions.

5.1 Quantitative Results

From the basic profile, of the 97 participants, 57.7 percent were female and 42.3 percent were male. 97.9 percent were persons with disabilities and 2.1 percent were non-disabled. Of the respondents, 54 percent were locomotor-disabled, 29 percent were hearing-impaired, 5 percent were visually-impaired, 10 percent were CP or other disabled and 2 percent were non-disabled.

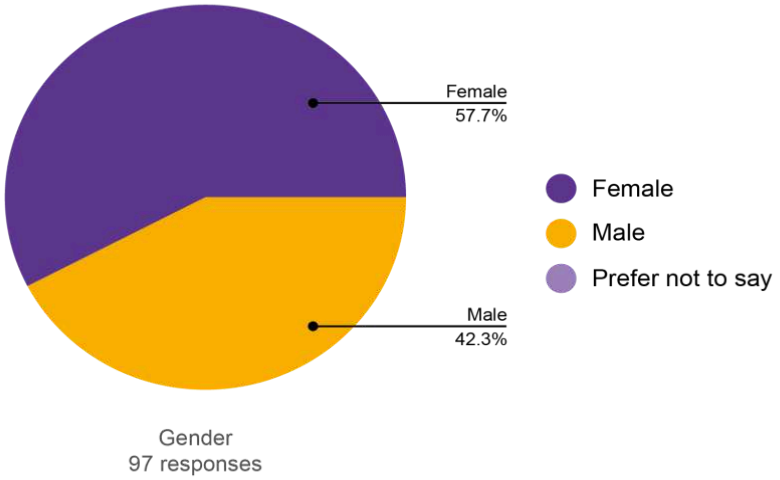
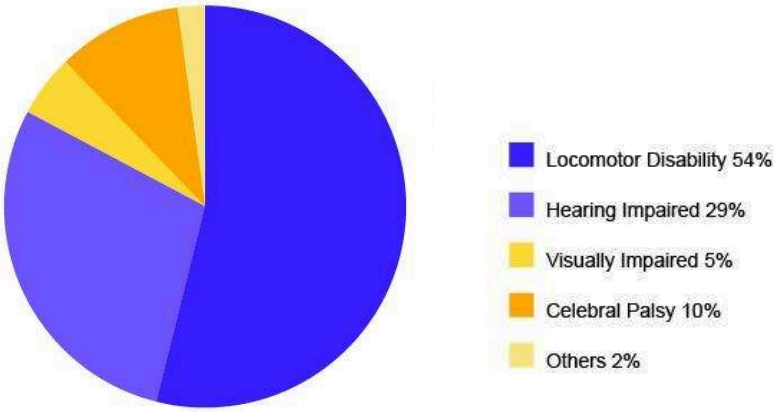


Fig.2 Gender of the Participants



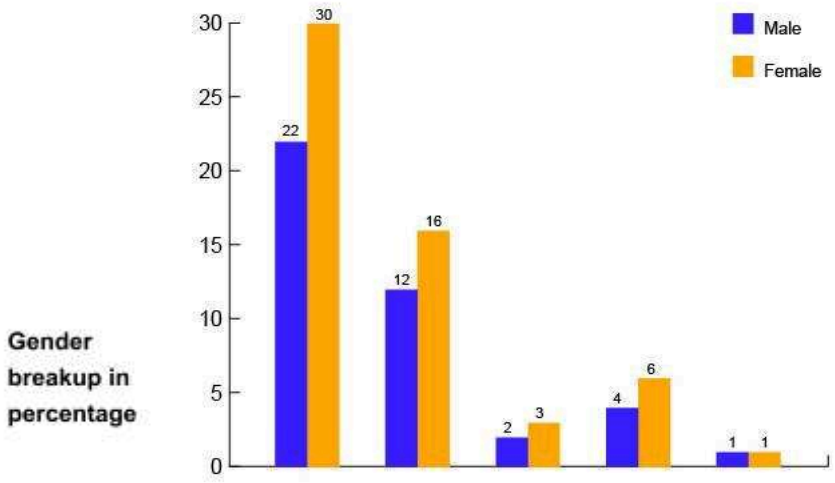


Fig.4 Bar Graph showing the Distribution of Males and Females among the different types of disabilities

Locomotor: Male – 22 percent, Female – 30 percent
Hearing Impairment: Male – 12 percent, Female – 16 percent
Visual Impairment: Male – 2 percent, Female – 3 percent
Cerebral Palsy: Male – 6 percent, Female – 4 percent
Others: Male – 1 percent, Female – 1 percent

The majority of the responses were between 21-30 years of age (58 percent), 24 percent were between 31-4, and 5 percent were between 10-20. 2 percent were between 40-50, 2 percent 23 years old, 2 percent 22 years old, and those aged 24, 25, 35 and 39 years consisted of 1 percent each.

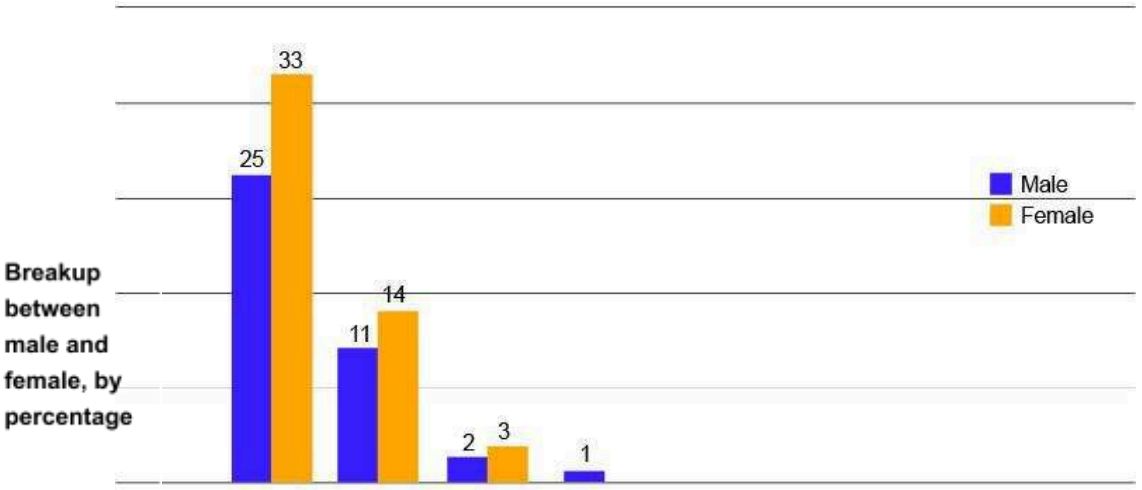


Fig.5 Age Differences of Participants

By qualification, 40.2 percent were graduates, 32 percent had completed Higher Secondary, 16.5 percent were postgraduates, 2 percent had completed secondary level, and 1 percent were B.Ed., B.A., M. Com, etc.) 2 percent were still pursuing studies.

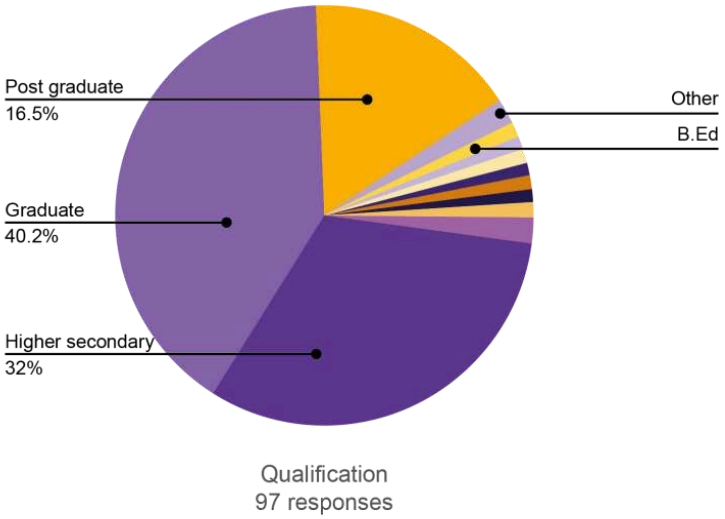


Fig.6 Pie chart showing the qualification of the participants

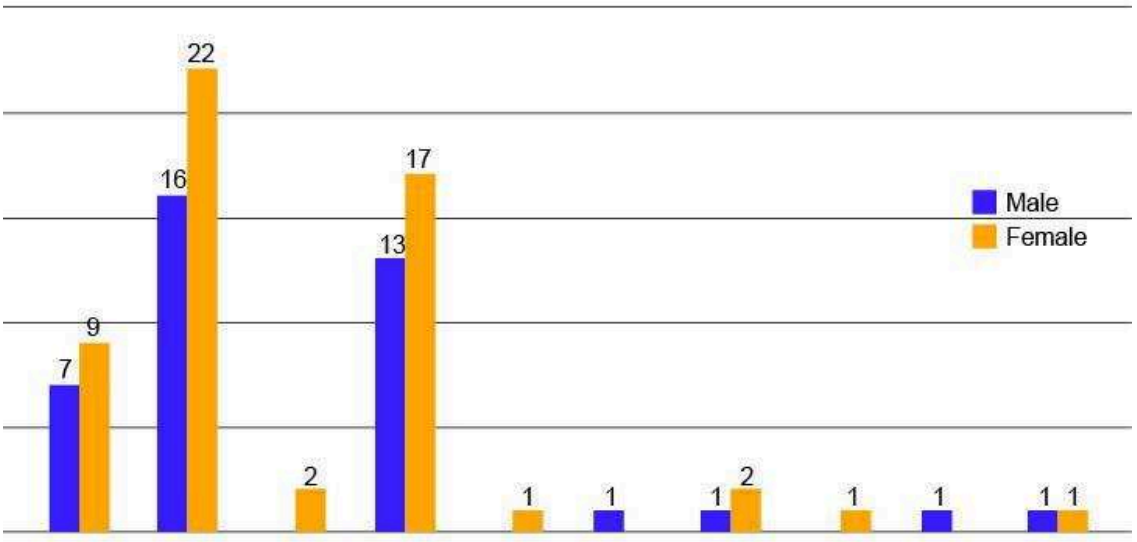


Fig.7 Qualification of participants according to their response

Post graduate: Male = 7 percent, Female = 9 percent
Graduate: Male = 16 percent, Female = 22 percent
Higher Secondary: Male = 13 percent, Female = 17 percent
Secondary: Male = Nil, Female = 2 percent
B.Ed: Male = Nil, Female = 1 percent
M.Com: Male = 1 percent, Female = Nil
10+2: Male =1 percent, Female = Nil
B.A: Male = Nil, Female = 1 percent
Student: Male = 1 percent, Female = 2 percent
Other: Male =1 percent, Female = 1 percent

According to their employment status, 69.1 percent are unemployed, 14.4 percent are in part-time jobs, 9.3 percent are in full-time jobs, 5.2 percent are students, and 2.1 percent responded as being employed. From the above data the distribution of employment status is shown in the given pie chart and the responses between males and females are shown in the bar graph below.

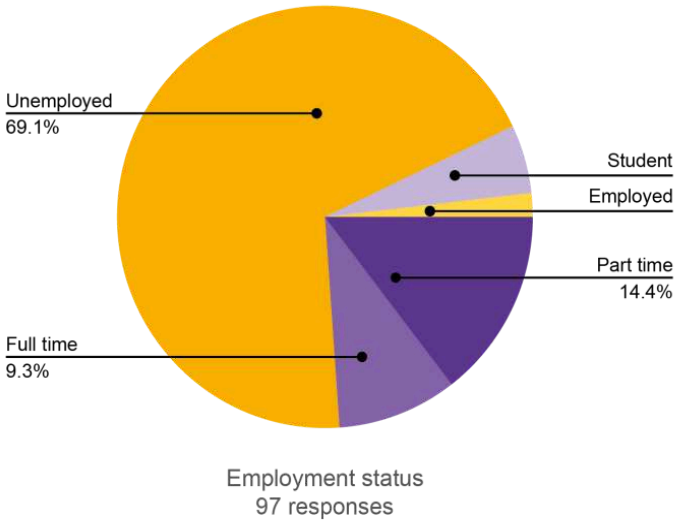


Fig.8 Pie chart showing the employment status of the participants

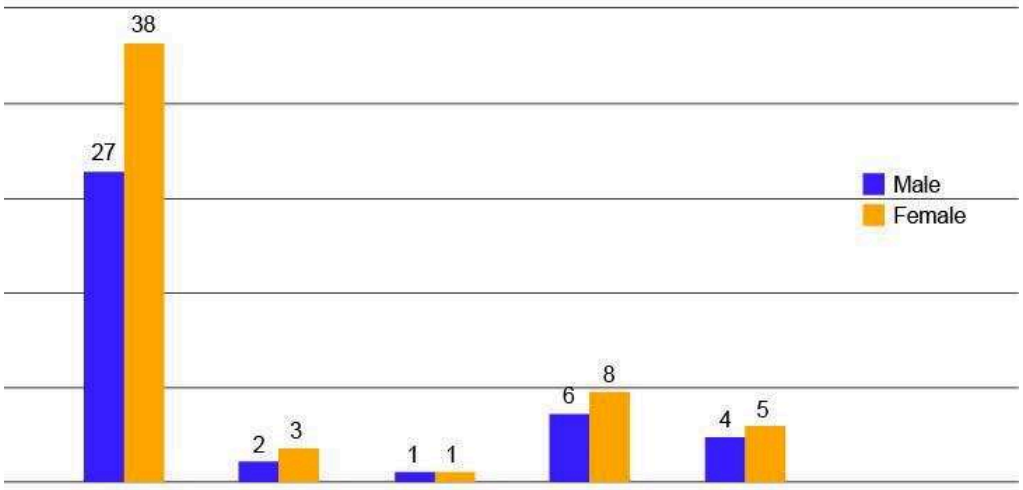


Fig.9 Pie chart showing the employment status of the participants

Unemployed male = 27 percent, Unemployed female = 38 percent
Student: Male = 2 percent, Female = 3 percent
Employed: Male = 1 percent, Female = 1 percent
Part-time: Male = 6 percent, Female = 8 percent
Full-time: Male = 4 percent, Female = 5 percent

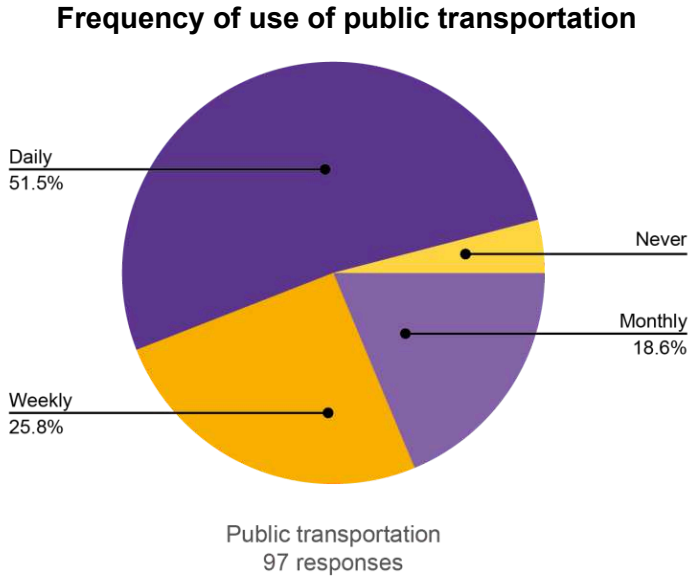


Fig.10 Use of Public Transportation between males and females according to daily, weekly, monthly or never use transportation

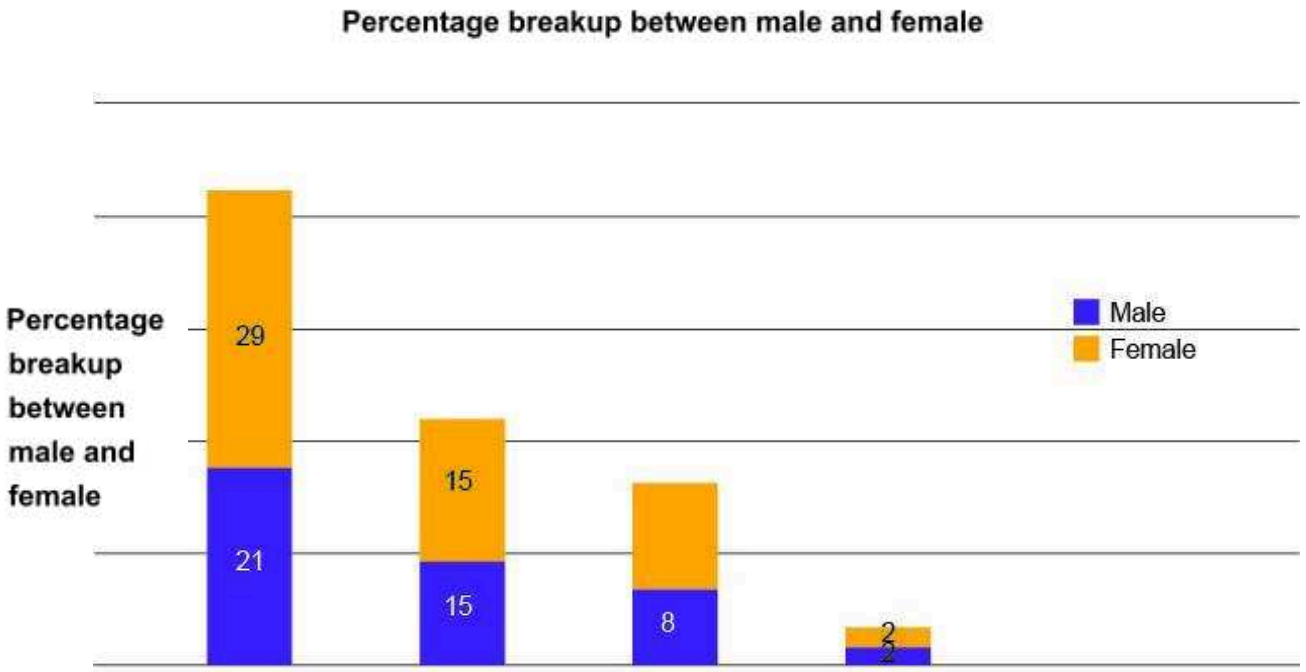
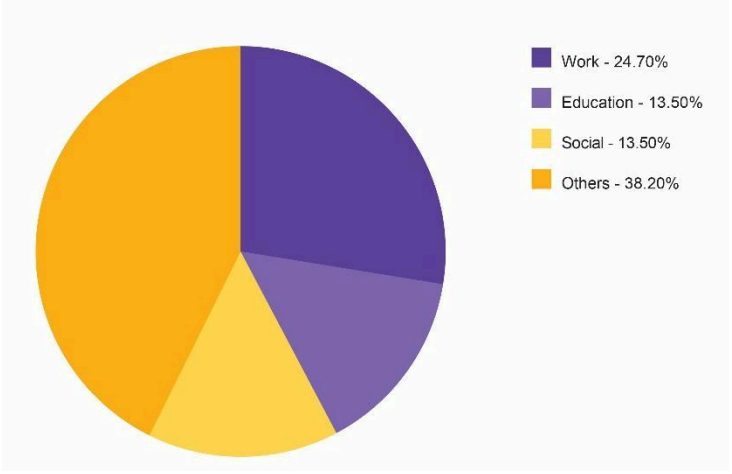


Fig.11 Preference of usage of Public Transport between Males and Females



Purpose of using public transportation:

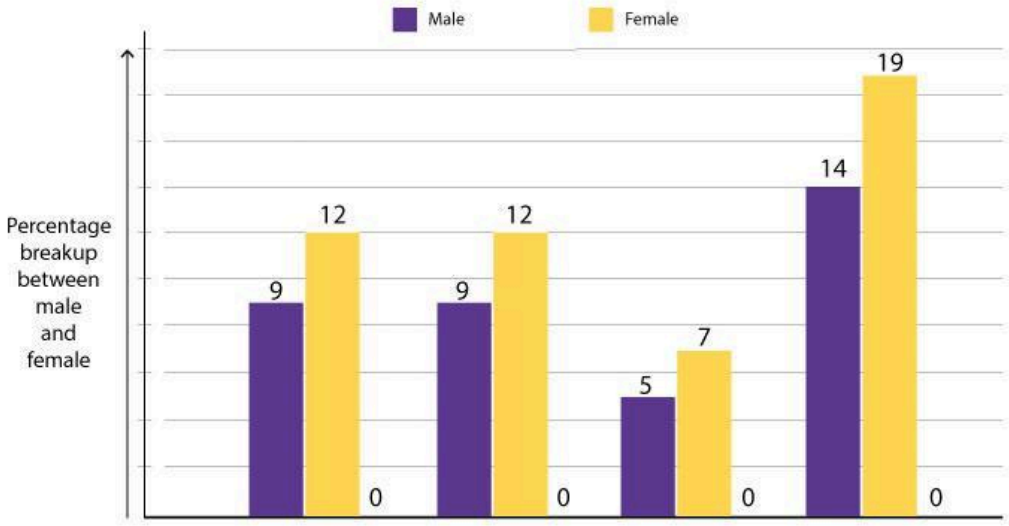


Fig.13 Differences of preference between males and females about work, education, social and other activities

87.8 percent still want to use transportation provided by the government or private individuals as they are not physically fit to drive on their own or do not have a family vehicle. 12.2 percent want to travel by their family vehicles because it is convenient for them.

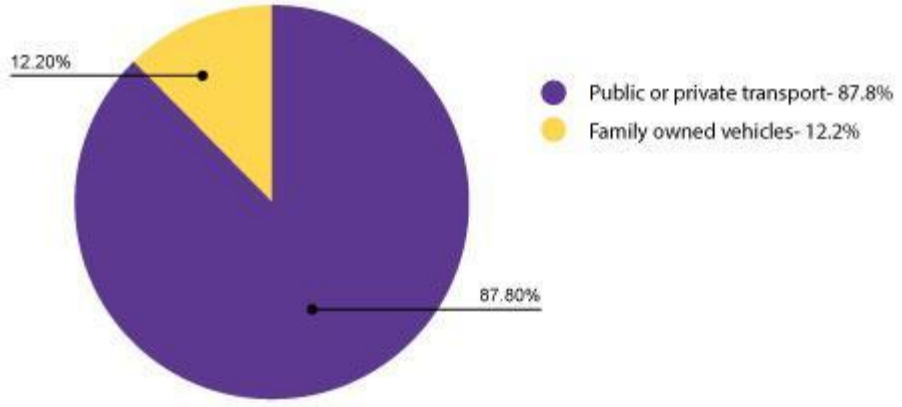


Fig.14 Preferred mode of transport used at the highest frequency

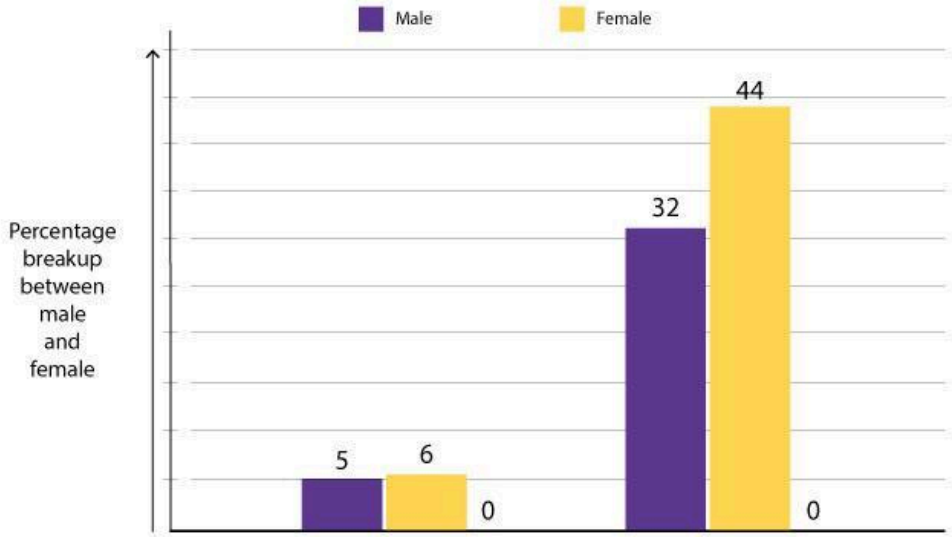


Fig.15 Preferred mode of transport used between Male and Female

Family-owned vehicle/transport: Male = 5 percent, Female = 6 percent
Public or private transport: Male = 32 percent, Female = 44 percent

For those who prefer to travel by their vehicle, 71.1 percent selected a car owned by the family, a bike 11.1 percent, a cycle 21.1 percent, and a tricycle 5.6 percent.

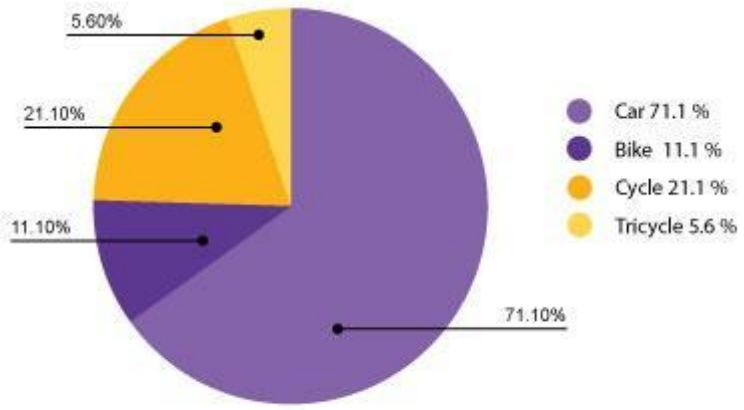


Fig.16 Mode of Family-owned transport preferences

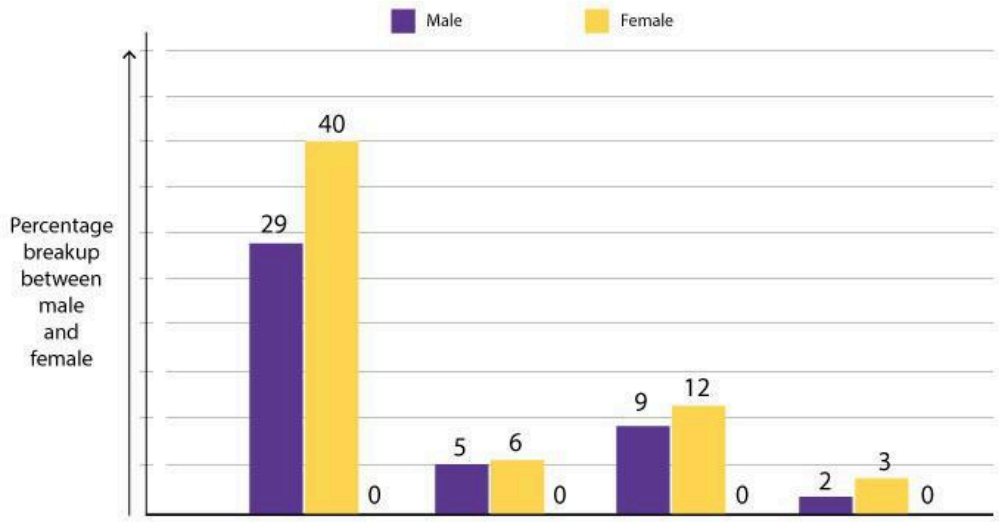


Fig.17 Preferred mode of family-owned transport between male and female

Preference of males: Car = 29 percent, Bike = 5 percent, Cycle = 9 percent, Tricycle = 2 percent
Preference of females: Car = 40 percent, Bike = 6 percent, Cycle = 12 percent, Tricycle = 3 percent

When questioned about other preferences of the mode of transportation apart from their own vehicle, the table below sums up their response.

What mode of transportation do you prefer apart from what is available in the household? (1 = highly preferred, 3 = least preferred)

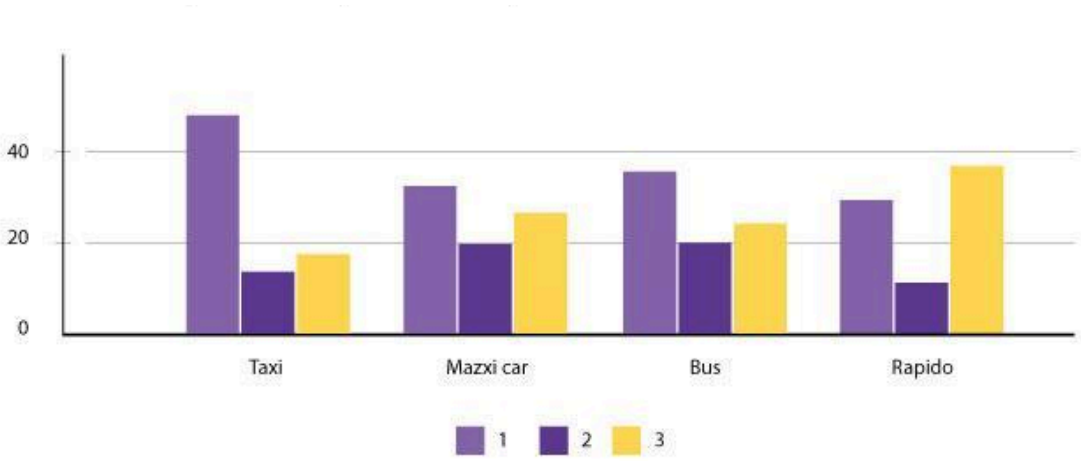


Fig.18 Mode of transportation preferred apart from what is available in the house

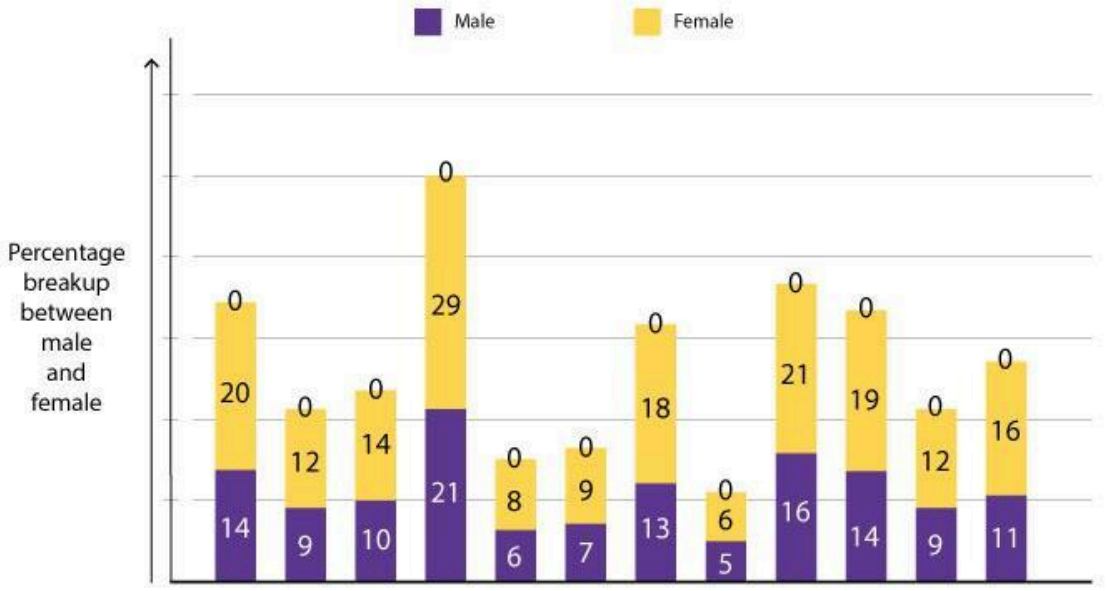


Fig.19 Category of preferences in the mode of transport usage between male and female

Preferences of males: Bus 1 = 14 percent, Bus 2 = 9 percent, Bus 3 = 10 percent; Taxi 1 = 21 percent, Taxi 2 = 6 percent, Taxi 3 = 7 percent; Rapido 1 = 13 percent, Rapido 2 = 5 percent, Rapido 3 = 16 percent; Maxi car 1 = 14 percent, Maxi car 2 = 9 percent, Maxi car 3 = 11 percent

Preferences of females: Bus 1 = 20 percent, Bus 2 = 12 percent, Bus 3 = 14 percent; Taxi 1 = 29 percent, Taxi 2 = 8 percent, Taxi 3 = 9 percent; Rapido 1 = 18 percent, Rapido 2 = 6 percent, Rapido 3 = 21 percent; Maxi car 1 = 19 percent, Maxi car 2 = 12 percent, Maxi car 3 = 16 percent

What is the reason for such preferences?

Accessibility (41.2 percent), affordability (39.2 percent), safety (26.8 percent), other unknown reasons (17.5 percent), and convenience (1 percent). 69 percent travel by taxi, 23 percent by bus, 12.2 percent by Maxi car and 4.4 percent by Rapido.

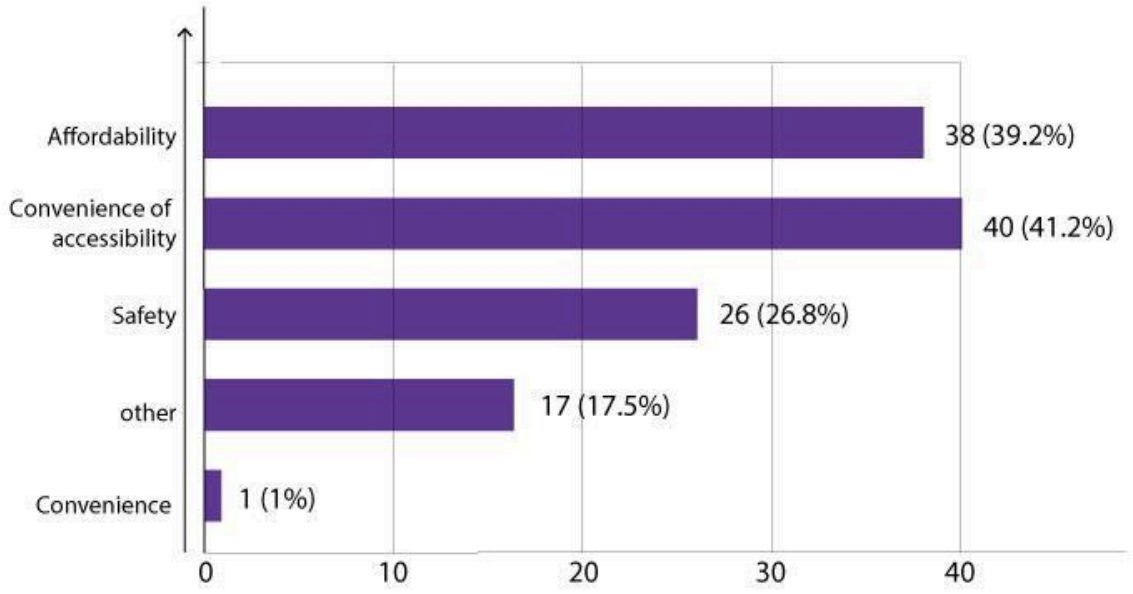


Fig.20 Reason for preferences opted for in the above question

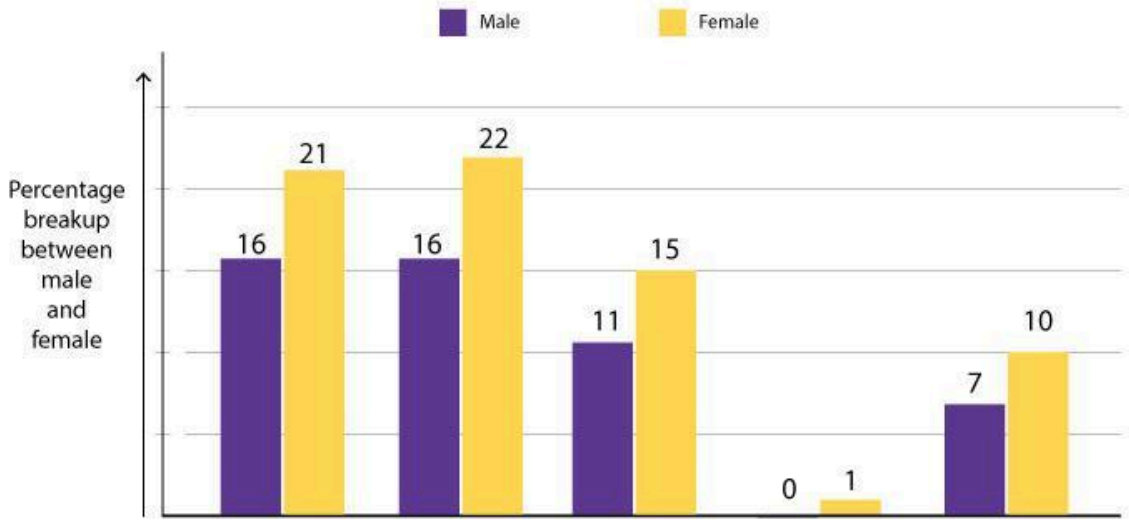


Fig.21 Reason for the above preferences between males and females

Preferences of males: Affordability = 16 percent, Accessibility = 16 percent, Safety = 11 percent, Convenience = Nil, Other = 7 percent

Preferences of females: Affordability = 21 percent, Accessibility = 22 percent, Safety = 15 percent, Convenience = 1 percent, Other = 10 percent

The issues faced by PWDs while traveling by government-owned public transport:

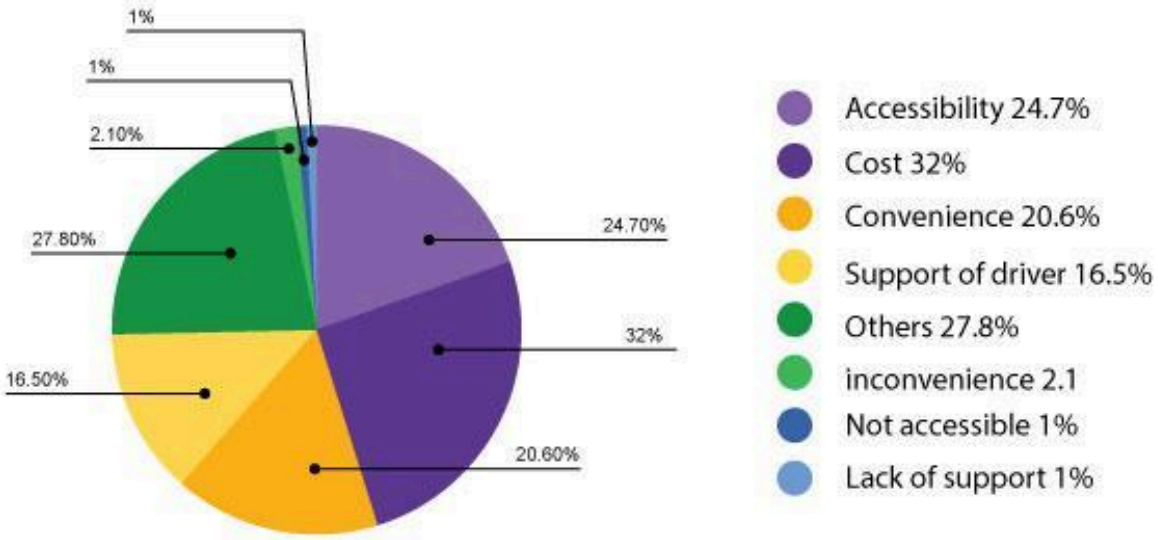


Fig.22 Issues faced when traveling by government-owned public transport

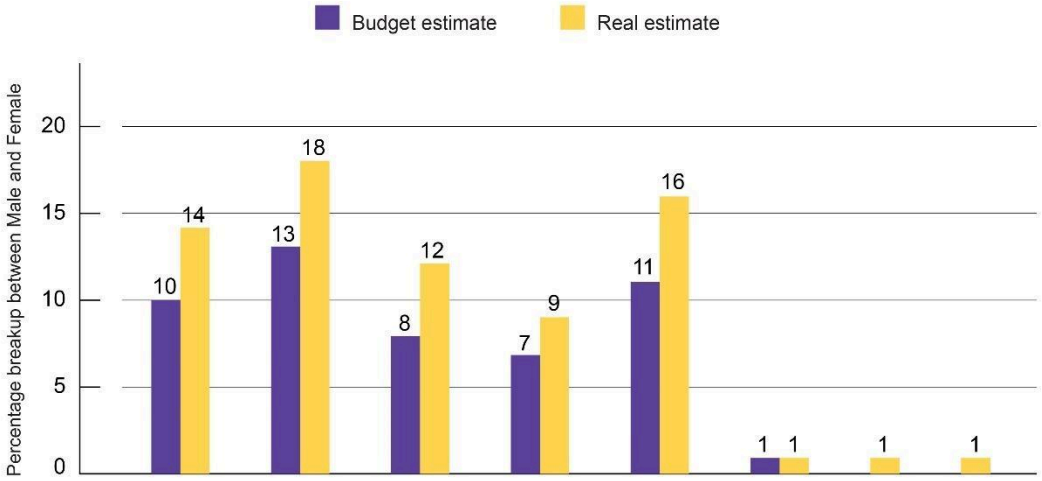


Fig.23 Issues faced when travelling by government-owned public transport

Issues faced by males: Accessibility = 10 percent, Cost = 13 percent, Convenience = 8 percent, Support of driver = 7 percent, Other = 11 percent, Inconvenience = 1 percent, Not Accessible = Nil, Lack of support = Nil

Issues faced by females: Accessibility = 14 percent, Cost = 18 percent, Convenience = 12 percent, Support of driver = 9 percent, Other = 16 percent, Inconvenience = 1 percent, Not Accessible = 1 percent, Lack of support = 1 percent

The issues faced by PWDs while traveling by public transport owned by private individuals:

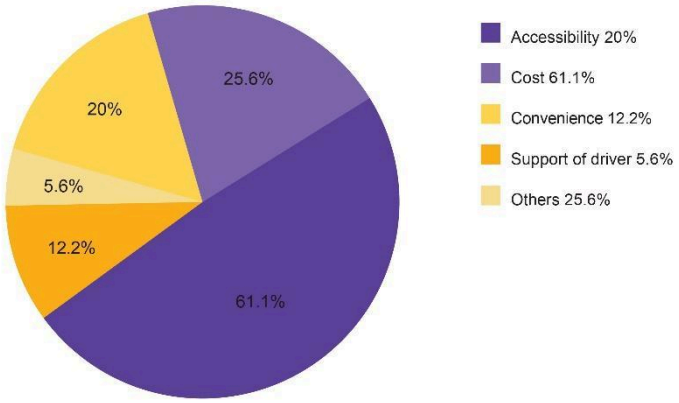


Fig.24 Issues faced while travelling by transport owned by private individuals

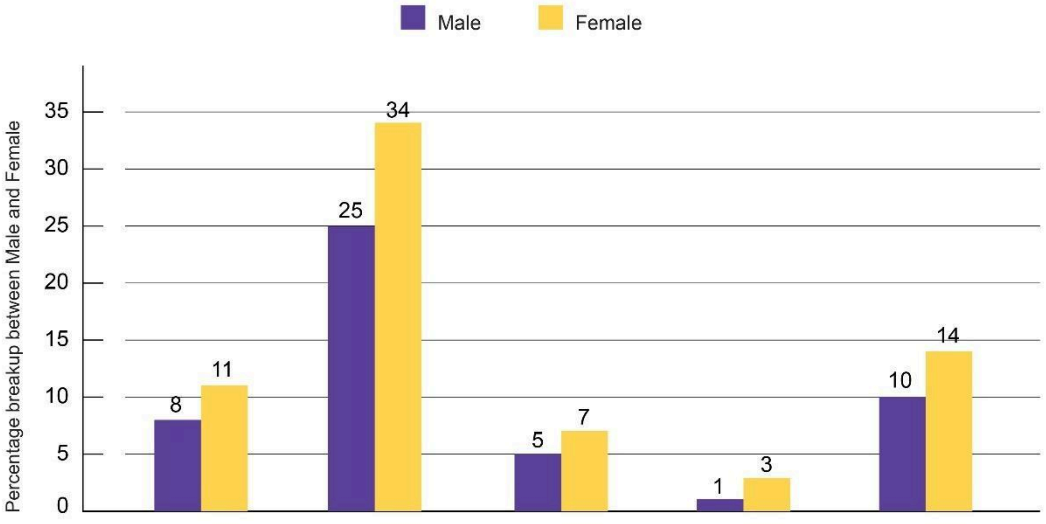


Fig.25 Issues faced when travelling by privately-owned public transport

Issues faced by males: Accessibility = 8 percent, Cost = 25 percent, Convenience = 5 percent, Support of driver = 1 percent, Other = 10 percent

Issues faced by females: Accessibility = 11 percent, Cost = 34 percent, Convenience = 7 percent, Support of driver = 3 percent, Other = 14 percent

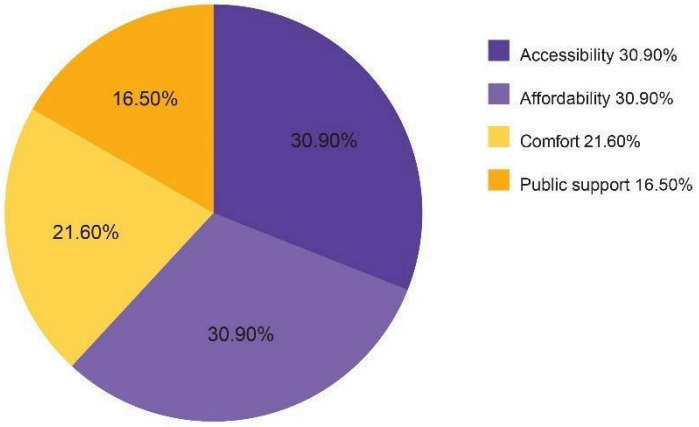


Fig.26 Needs in terms of public transportation

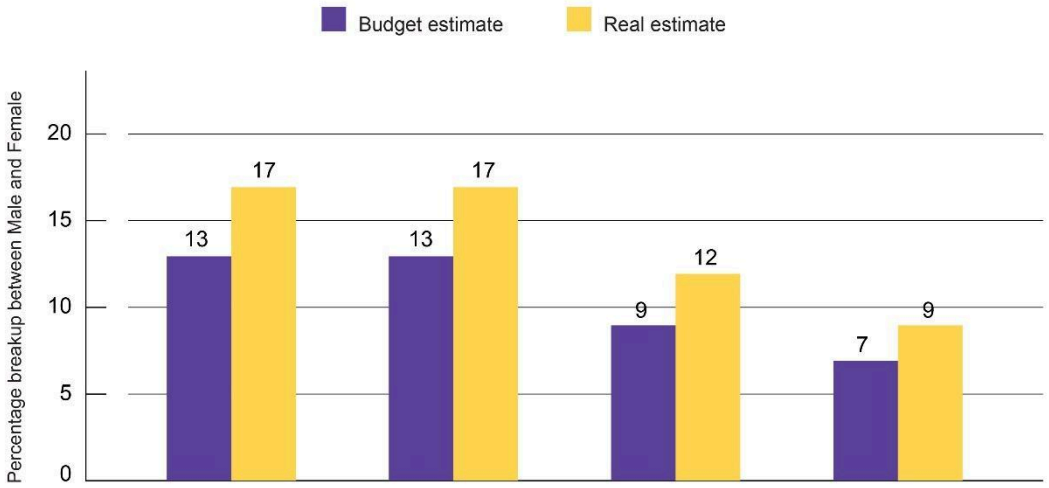


Fig.27 Needs when travelling by public transport

Preferences of needs of males: Accessibility = 13 percent, Affordability = 13 percent, Comfort = 9 percent, Public support = 7 percent

Preferences of needs of females: Accessibility = 17 percent, Affordability = 17 percent, Comfort = 12 percent, Public support = 9 percent

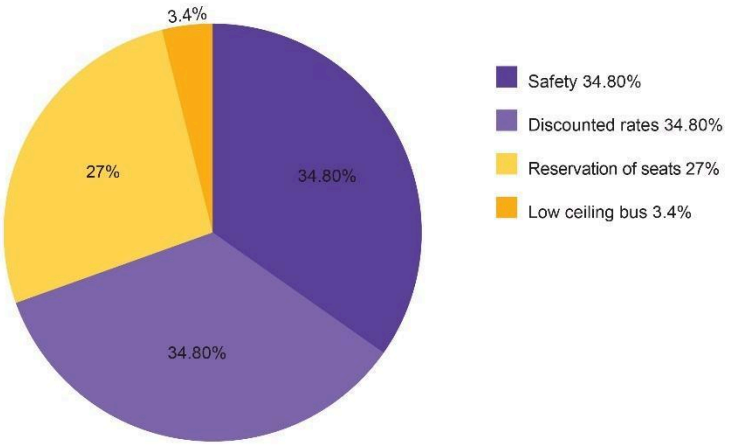


Fig.28 Needs in terms of Accessibility

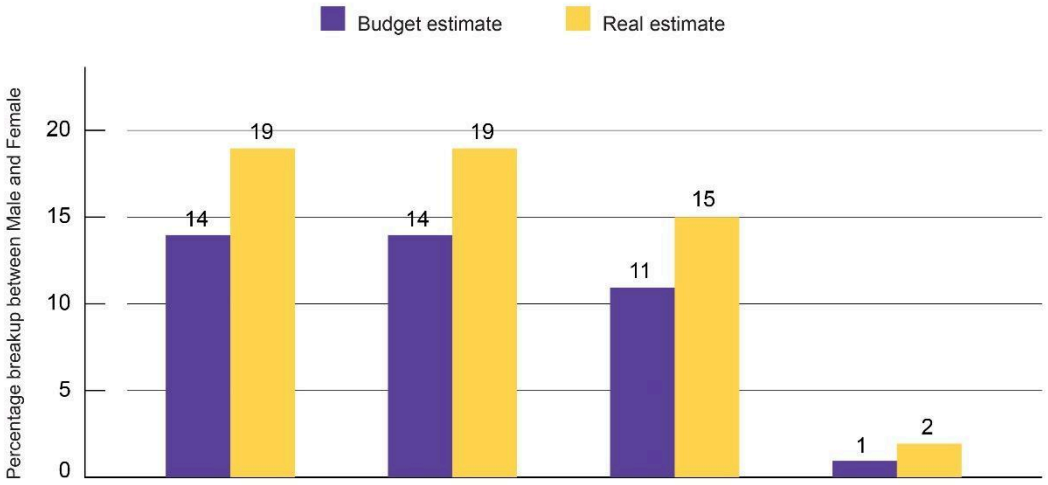


Fig.28 Needs in terms of Accessibility

Preferences of needs by males, in terms of accessibility: Safety = 14 percent, Discounted rates = 14 percent, Reservation of seats = 11 percent, Low-ceiling bus = 1 percent

Preferences of needs by females, in terms of accessibility: Safety = 19 percent, Discounted rates = 19 percent, Reservation of seats = 15 percent, Low-ceiling bus = 2 percent

There were many issues the PWDs identified in their responses. These issues of inaccessibility and the barriers they faced were reported to the government officials and

shared with the public during an awareness program.[13] This awareness program was a collaboration between many organisations of persons with disability, with an aim to make the public and government aware of the issues faced by PWDs in relation to public transportation.[14] They stated that there was no reservation of seats in buses and the cost of traveling was very high, especially when traveling by taxi. They also stated that there was a lack of support from the public, bus conductors and drivers. They also faced a lot of discrimination and were looked down upon by the public in general.

While traveling by bus, they faced traffic jams and the bus route was inconvenient for them. Most of them who must depend on family for support, felt as if they were a burden to the family as they were unemployed and still had to pursue their studies. They felt that the drivers took advantage of their disability and they had to pay extra fare at times. Those who use wheelchairs cannot travel by bus as it is not accessible and they have to pay more than other passengers. Since the outbreak of COVID, bus and taxi fares have increased but the government has remained silent over the issue.

There are issues of safety in public transportation as most disabled are pushed, bumped or verbally harassed when they are not able to move quickly during rush hours. Buses are only available for a limited period during the morning hours; there are no buses thereafter, and after 6 pm most of the PWDs who are working, must return home by shared taxi if available or book a taxi at a high fare. Those who cannot afford private transportation walk back home. The following are some of the case studies taken for the study.

1. Bandwina Khymdeit is a person with visual impairment from Umden Nongtluh Nongpoh Ribhoi district currently staying at Nongthymmai, Shillong. She is the second of five siblings the only one with a disability. Her eldest sister is married, two of her younger brothers are school dropouts working as daily labourers since the family could no longer support their education. The other two sisters are studying in school and supported by her parents who are also daily labourers. Bandwina completed her Class XII from Jyoti Sroat School in 2016 but discontinued her education as there was no one to support it. She wanted to be a teacher but since there was no one to support/guide her, she could not pursue her dream. At present, she works as an assistant secretary at Blind Lead Trust with a monthly income Rs 10,000. Her salary is delayed for months since the organisation is facing financial problems.
   Bandwina parents are not well-to-do and have been doing odd jobs to keep the family stable. Therefore, when the brothers came of age, they began to work to support the family. For Bandwina's education, they were not able to fully support her. She had to rely on school scholarships and other sources to support her education. When she completed her matriculation, it was difficult for the family to pay the fees for her to

[13] https://themeghalayan.com/pwds-demand-better-access-to-public-transport/?fbclid=IwAR3DFlJ4fARxaQwVv567bLAPHdN98YtguS5kzuZSPB9lQYi9WLdOSjwkTyU

[14] https://www.eastmojo.com/meghalaya/2022/02/18/meghalayas-disabled-seek-help-to-have-accessible-transportation/?fbclid=IwAR3o4pe_GaDWM0DZVsP5W5erxiD6cVs75o4f6H8FFiQhClINZr3ctqgr0c0

continue her education. She decided to discontinue her education as it would be a financial burden on the family.

During the interview, Bandwina stated that she faced a lot of challenges when traveling. As regards the use of a white cane, she said that it was difficult to use the technique taught in school as compared to the technique taught by Thomas, a person from Vietnam with visual impairment. She stated that, “The tapping technique taught in school doesn’t tell us if there is a rock, a hole or a drain in the ground, whereas the technique taught by Thomas is better because dragging the white cane on the ground indicates what is there.” She stated that it was easier to travel in groups rather than alone because they can reach their destination faster. She said, “When we travel in groups of three, only one of us carries a white cane and acts as a sighted guide because the footpaths are narrow and have lots of hawkers, which makes walking a challenge for us.”

She mentioned an incident about going to a government office alone to ask about her scholarship. The officer/staff working there were concerned that she had come alone, and advised her to always bring a sighted guide along. She replied, “I choose to travel alone to be confident, empowered and independent. I should not depend on others for such trifle matters.” When asked about the challenges she faced when walking, she said that, “the footpaths in Shillong are not accessible as there are many holes, drains and electric posts; in some areas the wires are so low that they hit my head. Therefore, when my friend and I walk around, we usually keep to the side of the road but it is risky because people drive fast.”

When asked about her experiences when traveling by bus, she replied, “Earlier, the bus conductors would overcharge us and some even took advantage when returning the change as we could not identify the denomination, but nowadays, they do not take any bus fare. At times when there are few passengers, we do have to pay the same amount as other passengers.” She also stated, “The buses are accessible for me because I do get a seat at the front so that I can alight easily. At times when there are no seats, the conductor makes sure that I have a place to stand comfortably. There are bus conductors who understand my challenges and help me get a seat while sometimes the passengers themselves offer their seat to me.”

2. Kanai Debnath is a person with visual impairment from Mawlong Ichamati village of East Khasi Hills District. He is the youngest of four siblings and the only one with a disability. He has two sisters and a brother. They are all married and have their own families but his brother does help him financially at times. He completed Class 8 from Jyoti Sroat School in 2014 and joined NIOS for cane and bamboo training at Roilang Livelihood Academy, a vocational training unit of Bethany Society. He completed two months of training and joined a computer course for the visually impaired. However, he has not been able to clear his board exams. He currently works at Blind Lead Trust as an office record keeper with a monthly income of Rs.3000 plus free food and lodging.

His mother is a housewife and his father is a farmer-cum-daily labourer. When he was a child, the sisters from the Santi Bhawa took him in and enrolled him in a special school for the blind at Shillong. Even though his family earns a meagre income, they support him occasionally. All his educational expenses and daily requirements were funded by government scholarships and foreign aid. Kanai likes musical instruments and plays the Indian classical drum. He wanted to pursue his passion but has had to stop due to financial constraints. He now aims to become a vocational instructor to teach other people with disabilities to make cane and bamboo products like mura, baskets, decoration items.

Kanai is confident of his mobility skills in his home environment. He does not dare venture on the roads without a sighted guide. Even though his mobility skills are good, walking around Shillong is a logistical nightmare as the footpaths are not accessible. There are areas of Shillong with no footpaths and he has had to walk on the road as a result. Once, a car drove over his white cane and broke it. He had to seek help to get him to his destination.

Kanai stated that if the footpath of Shillong were wider and with railings, it would be easier for the visually impaired to walk safely. He said, “The footpaths of Shillong are broken and there are lots of steps, which make it difficult for me to travel without the help of my sighted guide.” There are times when he has had to travel on his own but he prefers to travel in groups. He also stated, “When I travel by bus with my companions who are also visually impaired, we do not have to pay the fare but the challenge is that since we ride for free, the bus drivers never wait for us to board the bus.”

3. Ridamon Myrniah is a person with locomotor disability (club foot) from lower Smit village of East Khasi Hills District. She is the fourth of five siblings and the only one with a disability. Three brothers are elder to her and she has a younger sister. She completed her schooling at Jyoti Sroat School and completed her Bachelor’s (English Honours) at St. Anthony’s College in 2023.

   Ridamon’s mother passed away when she was still a child and her father was the sole bread earner until her elder brothers started working. However, when her brothers got married, they moved out of the house. Her father can work only to provide food for the family. Ridamon had to support herself to get through her education. Her younger sister dropped out of school as their father could no longer fund her education. During her school days, she stayed at Bethany Society hostel and was supported by the scholarship from the Government of Meghalaya to complete her secondary school education. However, when she began college, she had to work part-time as an interpreter in an inclusive school to earn Rs 250 a day for rent and food. Her educational expenses were also supported by a scholarship from Shishu Sarothi Assam. After she had completed her final exams, she went back home as she had to go for training in Indore before she could get a full-time job as an interpreter in the school. She aims to become an IAS officer or take up any civil-servant job to help her family.

   Ridamon faces challenges when traveling in Shillong because the footpaths are not accessible. Even commuting from one place to another becomes a challenge since

public transportation is not fully accessible. Commuting by bus is difficult because she doesn't get a seat to sit, especially during rush hours, and standing in the bus is a challenge. She is not able to hold the bus railings as these are beyond her reach. Standing for a long time hurts her legs, especially when she has to endure the pushing of other passengers during traffic hours. Traveling to her village is easier as people are familiar with her condition and the bus conductors always give her a seat. She expressed, "The buses in Shillong have steep steps and the hand railings are so high that I can never reach them. I prefer traveling by taxi even though the fare is very high." She made it a point to walk about 1.5 km from home to college and then to work to cut on traveling expenses, as she had no alternative. When walking around the streets of Shillong she said, "It is very difficult to walk on the footpaths as there are a lot of steps and holes. The footpaths are broken and have not been repaired for ages."

As Ridamon stays in a locality which does not fall within municipal limits, the footpaths are being made by residents through funding from MLA schemes. The people from the locality can write to the MLA concerned for schemes to get the footpaths repaired. The Disabled People's Organisation shared their experience with the government officials about issues faced while traveling.

4. Darlingston Marak is a person with visual impairment from Tura, West Garo Hills. He is the fourth of five siblings and the only one with a disability. He completed his schooling from Montfort Centre for Education, Tura, his Bachelor's degree from Don Bosco College, Tura, and Master's in Arts (English) from North Eastern Hills University, Tura in 2017. He also stayed in Shillong for a few years for training on disability rights/ Braille. He has been married for the past five years and has a five-year-old daughter.

   At present he is working as an unskilled laborer in the DC office, Tura. He is the only person with disability working at the DC office and has been at the Help Desk for the past three years. His role is to give people information about the different departments of the DC office and dispense application forms they require. He also has to check the application forms before sending them to the concerned department by using an app on the smartphone. As an unskilled daily laborer, he gets paid Rs 373 a day and he needs to travel a distance of 5 km from home to work. Although the auto rickshaw fare is high, there is no other means of transportation except for taxis, which are costlier. He usually travels to Shillong by bus to attend meetings, workshops and training programmes.

   Darlingston faced a lot of challenges while traveling in his hometown and in Shillong. While traveling by bus, it is very difficult for him to communicate with the bus conductors to get directions and to get the exact location for alighting. He also faces problems with the bus services as there is no fixed location for the bus stand. Without a sighted guide, it takes a long time to find a bus. Recently, while traveling to Shillong for a meeting, "The Tura bus stops at ISBT Mawiong, which is 10 km from central Shillong. There is no taxi service from the ISBT to Shillong. I had to hire a taxi at a high charge."

   While traveling on foot he said that, "There are no footpaths in my hometown and the road is in poor condition. The traffic police are not as supportive as the traffic police in Shillong." He also stated that people in his hometown are not aware of disability and not

sensitised about the issues. He said, “Roads and footpaths in Shillong are much better than those in Tura, however, in Shillong, there are problems with the street hawkers as they cram the footpaths and roads making it difficult for me to use the white cane.” During the high-level meeting held at the Secretariat in Shillong, leaders from different disabled people’s organisations shared their experiences of travel-related issues with the government officials. They urged the government to ensure that the footpaths were wide enough with tactiles, ramps, railings, signages and accessible bus stops.

5. John Kit Maring from Nongpoh Ri Bhoi district is hard of hearing. He is the eldest son in the family. He had lost his sense of hearing at an early age due to sickness. Between the ages of four and six, he went to school with other non-disabled children. The increasing loss of hearing affected his life and especially his education. His parents decided to send him to a special school at Ferrando Speech and Hearing Centre where he completed his Secondary School-Leaving Certificate exam. Thereafter, his parents sent him to Shillong to pursue higher education.

   He is in his final year of B.Com. at St. Anthony’s College. He said that transportation is important for education but the taxi fares in Shillong are expensive for him. He comes from a poor family and it is a burden not only on him but also on his family. He felt that the buses are not accessible in terms of communication, and signages do not work. Sometimes, he would reach the wrong location due to incorrect signage/information. He stated, “The buses do not go to the places mentioned in the signage and this has caused a lot of problems for me while traveling by public transportation.” During the high-level meeting, he shared his problem with the transport department and they are willing to look into the matter. The Commissioner for PWD has also mentioned that they will conduct training for the staff of the transport department, starting with drivers and bus conductors and going on to the traffic police and government officials.

   According to the RTI received from the office of the Commissioner for Persons with Disability, Meghalaya, 37 mini-SPTS buses are fully accessible to PWDs. Two seats are being reserved and manual assistance is being provided. However, during the high-level meeting, many leaders from the DPOs made it clear that this was not true and the issue will be looked into by the Department of Transport. The government officials might not always be aware of issues faced by persons with disabilities. It is up to the stakeholders facing the issues to bring them to the attention of the public and the government authorities. Problems need to be addressed and solutions to be taken into consideration. Positive actions from all stakeholders will result in a positive impact. It is not only the responsibility of the government to monitor the smooth functioning of the society and its infrastructure but also for every citizen to be responsible for checking if the services are being provided equally to all people irrespective of caste, creed, sex or disability. The state government and stakeholders must work together to provide accessible transportation to all, especially to PWDs.

   Training and sensitisation programmes are being planned by the Office of the Commissioner for persons with disabilities and will be conducted for all public services providers including bus drivers, conductors, taxi drivers and the traffic police. The

government will make sure that places for boarding and alighting of passengers will be labelled and accessible for people with disabilities. Government buses will also provide digital signage with voice mode showing/announcing places or locations that it will travel to. The government officials have also agreed to form a State-Level Action Committee including persons with disabilities to identify issues and provide solutions for them.[15]

According to the RPWD Act 2016 conclusion about the law in relation to accessible transportation is clearly mentioned in Chapter VIII 'Duties and responsibility of Governments'. The mandate on Accessible Transportation is also mentioned but due to lack of awareness of the government and the attitude of the people, many of these laws are not followed. Accessible India Campaign and Harmonised Guidelines (The Guidelines explicitly cover universal accessibility standards and responds to the varying needs of all users including elderly persons, those with reduced mobility and persons with disabilities) and space standards for barrier-free built environment for persons with disabilities and elderly persons has also mentioned accessibility to be mandatory to ensure that persons with disability are included in society.[16]

The results are further discussed below as per the objectives of the study.

- **To explore the underlying factors that caused the emergence of barriers to transportation faced by persons with disabilities**
  The majority of the participants stated that the cost of travel is very high. Since 51.5 percent of the PwDs use public transportation daily for work (24.7 percent) and education (13.5 percent), the participants stated that concessional rates for transportation can reduce the financial burden on their families. Further, 24.7 percent of the PwDs stated that public transportation lacks accessibility. There are no low-floor buses or buses with ramps in the state and information regarding the bus routes is not available. The buses do not travel on inner routes, requiring most of the PwDs to hire a taxi. However, the taxi fares are 20 times the bus fare. Bus routes and traffic jams make it inconvenient for PwDs to travel as it takes longer to reach their destination.

- **To understand the needs and preferences of persons with disabilities in relation to transportation**
  There are an equal number of participants who have chosen accessibility (30.9 percent) and affordability (30.9 percent) as a need. Remaining 21.6 percent selected reservation of seats as per their needs in public transportation and the service providers must follow the seating capacity accordingly as per the instructions given by the government.

- **To realise the socio-economic exclusion faced by persons with disabilities due to inaccessible transportation**

[15] https://www.instagram.com/p/CwUCJAmIalt/?igshid=MTc4MmM1YmI2Ng percent3D percent3D
[16] https://www.linkedin.com/pulse/driving-change-disability-rights-india-role-assistive-sudhakar/

38.2 percent of the participants have used public transportation for reasons other than education (13.5 percent), work (24.7 percent) and social activities (13.5 percent). Therefore, a majority of the PwDs who are not working, studying or attending social events face exclusion from society. Most of the participants use public transportation for traveling to the market, accessing healthcare facilities or for other personal reasons. Due to inaccessible transportation, they cannot travel long distances to meet their friends or relatives. Since taxi fares are expensive and buses are not accessible to PwDs, the participants faced a lot of socio-economic exclusion.

- **To evaluate whether the transport staff in Shillong are trained for or sensitised to disabilities issues**
  The participants stated that the transport staff are not trained for or sensitised to disability issues or their rights. They do not get reservation of seats, information about routes or concessional rates. They do not get support/help from bus drivers, bus conductors or taxi drivers. 5.6 percent of the PwDs had faced support issues from taxi drivers and 16.5 percent had faced support issues from bus conductors and drivers.

- **To assess whether PwDs feel comfortable and safe using public transport (including being free from hate crimes, bullying and harassment when traveling)**
  27.8 percent stated that they faced issues of safety and discrimination while traveling by public transportation owned by the government. 25.6 percent faced issues of safety and discrimination while traveling by public transportation owned by private individuals. Most of the PwDs are pushed, bumped or verbally harassed during the rush hours if they do not move quickly enough or are in the way of people who are in a hurry. Participants stated that they were looked down upon and insulted by other passengers in buses because of their disability. 34.80 percent of the participants stated that they need safety when it comes to accessibility.

- **To propose recommendations to the government to enable passengers to plan and undertake their journeys by making transport information available in accessible formats – at bus stops, stations, transport interchanges, on vehicles and in electronic/print media**
  A part from asking the government to make public transportation such as buses to be accessible with ramps and low ceilings, ensure reservation of seats for PwDs, provide concessional bus and taxi rates for PwDs, make bus stops and footpaths accessible with ramps, the participants wanted the Government /service providers to provide information about the bus traveling route to be available in the bus stops, taxis stands, embarkment/ disembarkment station and other stations (MTC) with proper signage. The information should be made accessible in print including in online mode.with audio, subtitles and ISL.

5.2 Qualitative Results

This chapter reports the results of the qualitative analyses of the study. There were three samples in this study; Group B consisted of 50 PwDs/CwDs for case studies, Group C consisted of 24 PwDs spread over four sessions of FGDs, and Group D consisted of both, structured and unstructured interviews of parents of CwDs. The overall aim was to understand their experiences and perceptions regarding accessible transportation for PwDs in the state.

(i) Case Studies

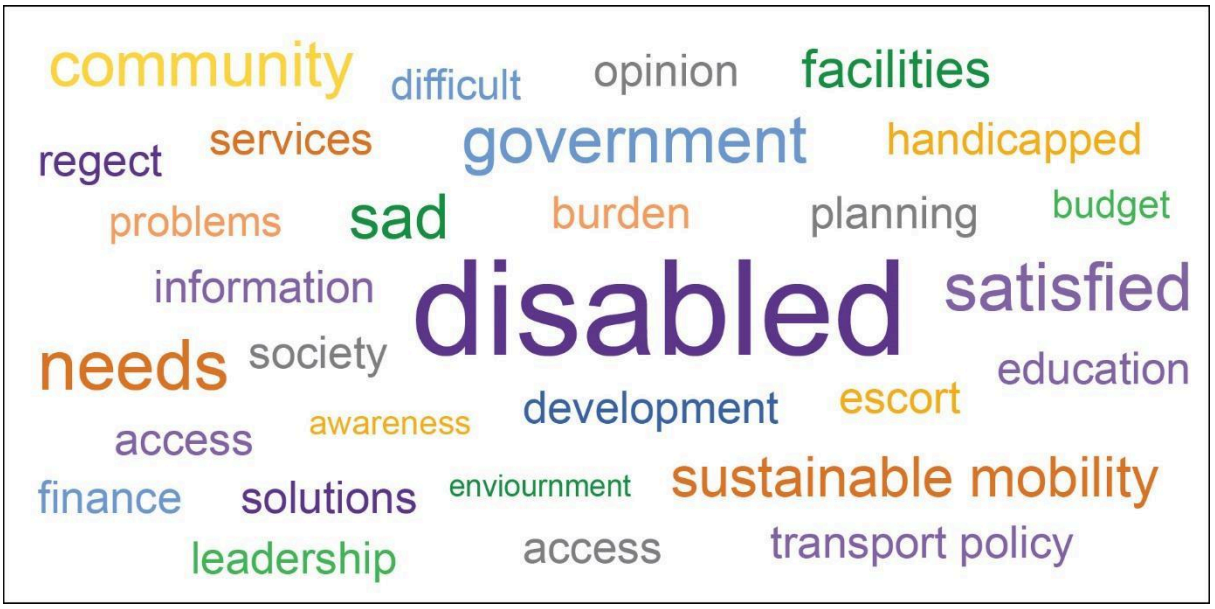
50 case studies were conducted with PwDs/ CwDs who had faced issues related to transportation in the state. The interviews were conducted mostly in Khasi and the transcripts were translated to English. Sign language and English were also used with some PwDs. Thematic analysis was conducted on the case-study transcripts to reveal three core areas. These are experiences related to transportation, complaints regarding transportation and suggestions.

It must be noted that some themes emerged to be more dominant due to them being mentioned or discussed more often during the case-study interviews. A word cloud featuring the dominant and less dominant themes is presented below.

Note: Larger the font, higher the frequency of it being mentioned or discussed in the interview.

(ii) Focus Group Discussion

Four FGDs were conducted within Group C, wherein each group had 5-6 participants (PwDs). The discussion was conducted in Khasi, English and sign language. A sign-language interpreter was assigned to help in translating and interpreting the discussion. 24 participants contributed to the data. The aim of these FGDs was to develop a basic understanding of the problems faced by PwDs when traveling, especially when using public transportation owned by both, the government and private individuals. Thematic analysis was conducted on the interview transcripts to reveal four core areas. These are complaints related to transportation, experience, dynamics of family and suggestions. The word cloud below shows the themes featuring the dominant and the less dominant.



Note: Larger the font, higher the frequency of it being mentioned or discussed in the interview.

(iii) Interviews with Parents of CwDs

Unstructured and structured Interviews were done with 12 parents of CwDs to collect data on the experiences and financial burden related to transportation. The interviews were recorded through audio, video and also written in a format prepared for the participants.

7 Budget

Sl. No.	Subhead code and description	Actual expenditure in 2021-22	Budget estimates for 2022-23	Revised estimates for 2022-23	Budget estimates for 2023-24
1	07 Sustainable Transport and Efficiency Mobility Society	-	-	98,261	2,00,000
2	31 (previously 27) Smart Cities Mission	6,80,000	6,64,946	16,60,000	10,00,000
3	76 Integrated Transport Development Programme	9,50,000	10,00,000	25,00,000	52,00,000
4	02 Estd of Secretary, State Transport Authority	8,788	10,727	10,232	11,260
5	33 Infrastructure Development for City Transport	-	-	-	20,000
6	01 Pooled Transport Organisation	35,781	37,359	36,585	38,900

Sustainable Transport and Efficiency Mobility Society

- There has been no budget since 2021; it was only in the revised estimate that an amount of Rs 98,261 was allocated for the purpose
- The current BE is 2, 00,000

Smart Cities Mission

- There has been a decline in the budget after 2021-22. It was later increased after being revised in 2022-23. However, the current BE has been reduced to 10,00,000.

Integrated Transport Development Programme

- There is an increase in the budget since the year 2021

Estd of Secretary, State Transport Authority

- The budget has increased slightly but was seen to slightly reduce in the revised estimate. However, for the current year the budget has increased from the AE

Infrastructure Development for City Transport

- There was no budget from 2021-22 to 2022-23

Pooled Transport Organisation

- There is an increase in the budget estimate from the actual budget but this was slightly reduced in the revised estimate. Actual expenditure for Pooled Transport Organisation is 35,781 and the current year budget (2023 - 24) estimate is higher 38,900

The budget analysis for the current fiscal year demonstrates an increase in budget as compared to the previous year. Except for the Smart City Project, there is a decrease in the budget. As seen in the comparison between the past three financial years, there is an increase in budget over the revised budget. This suggests a positive implementation of budget allocation and dedication by the government to develop transportation. However, without proper planning, transportation as a whole will not be accessible for people, especially PwDs/CwDs. The trends suggest proper monitoring of the budget allocated, proper planning of transport systems including modes of transportation, infrastructure and policy. To ensure that the funds are properly utilised to make transportation accessible as per the objectives, the government must follow the guidelines given in the PWD handbook, AIC and the bus-body code.

8 Limitations of the Study

This study has potential limitations. The findings of the study are based on the quantitative and qualitative data, primary and secondary study and prospective observational studies. Therefore, the study may be subject to biases and confounding that may have influenced my research estimates. However, the conclusion of the study is estimated from the systematic review of all the individual responses with confirmatory validity analyses. My estimate may be conservative and may underestimate the present transportation system in the state, as (1) my baseline scenario assumes that the transportation services may continue to decline in the future; (2) I only evaluated the transportation scenario based on the data collected from person with disabilities; and (3) A new policy might increase barriers in the existing environment and transportation services if the government does not include person with disabilities in policy-making.

9 Conclusions

According to the survey, transportation is not accessible for persons with disabilities in Meghalaya in terms of concession rates, safety, affordability, comfort and support from the public. There are no low-floor buses due to the region's mountainous terrain. The existing buses are not accessible with ramps and there is no reservation of seats for PWDs. The bus stops are not accessible with ramps and the narrow footpaths are not accessible for wheelchairs users. People with disabilities must pay higher fares and they are usually discriminated against in public places, especially by bus conductors. Therefore, the entire transportation system needs to be addressed for Accessible Transportation to be implemented in the state.[17]

However, the government and departments of transportation are willing and planning to provide a transportation system for people with disabilities. In order to make changes in transportation system and policy it requires the government officials, policy makers and persons with disabilities to collaborate, make plans, discuss about the barriers/gaps and provide with solutions that are universal for all people.The two key components of advancing accessibility in transportation are standard setting and funding. Stakeholders are required to take positive and progressive steps to achieve equality. The first step towards equal access to transportation services is for the service providers to develop accessible planning with the help of experts in the field. The policy should set out the steps and sort out unjustified hardship that transportation providers will take to achieve fully accessible transportation services.

Plans should be built on the principles of dignity, integration and participation, and individualisation. They should include timelines, performance measures and accountability. They should also be regularly reviewed and updated by authorised government officials. Therefore, Meghalaya needs to set up a state-level action committee which will include various stakeholders for the planning, execution, monitoring and sustainability of Accessible Transportation.

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17 https://www.syllad.com/ka-jingbym-biang-ka-rukom-shakri-haka-leit-ka-wan-ki-briew-kiba-kyrpang/?fbclid=IwAR1nfzn2ilf78CBZ7H8h-J7x_3nKANqq6CM_LC99OWGiQOdYqAamKG-8kXY

Transportation system was not accessible to people with disabilities. But the government provider in charge of transportation is planning to provide a transportation system for people with disabilities.[18]

10 Policy Recommendations

On 5 June 2023, a high-level meeting was held at the Secretariat where all the DPO leaders were invited, including the Commissioner and Secretary of Social Welfare, Commissioner and Secretary of Transport Department, Commissioner for Persons with Disabilities, Director of Social Welfare, Assistant Commissioner for Persons with Disabilities, and other officials of Social Welfare and Transport departments.

When all the stakeholders finished sharing their agenda, the Chairman of the Federation of Persons with Disabilities advised the Commissioner and Secretary of Social Welfare to form a State-Level Action Committee to take up action as per the suggestions in the meeting. On 11 August 2023, the government issued a notification about the formation of the State-Level Consultative Committee and its members. The function of the committee is to work out the programmes for stakeholders on the problems faced by Persons with Disabilities and monitor the implementation of concessions/benefits meant for Persons with Disabilities.[19]

9.1 List of government and other members to be included in the State-Level Consultative Committee are as follows:

Chief Secretary to the Government of Meghalaya (Chairperson)
Principal Secretary/Commissioner & Secretary, Social Welfare Department (Co-Chairperson)
Commissioner for Person with Disabilities (Member – Secretary)
Director of Social Welfare, Shillong (Member)
Superintendent of Police, Shillong (Member)
Superintendent of Police (Traffic), Shillong (Member)
Commissioner of Transport, Shillong (Member)
Director of Urban Affairs, Shillong (Member)
Chief Engineer, PWD (Roads), Shillong (Member)
Secretary, Meghalaya Urban Development Affairs, Shillong (Member)
Executive Director, Bethany Society, Shillong (Member)
President, Federation of Persons with Disabilities, Shillong (Member)

[18] https://highlandpost.com/accessibility-need-of-the-hour-for-shillong/?fbclid=IwAR23eH2bU0tWPXlS8QVGrkwyOYWsFGRZl-IhcPnXFff1Y70TRDgfv51ulZc

[19] https://www.instagram.com/p/CwUCJAmlalt/?igshid=MTc4MmM1YmI2Ng percent3D percent3D

11 Best Practices

The first best practice is to collaborate with government officials and policy makers, including networking with other stakeholders who support accessible transportation. Public awareness through social media, print media, and awareness-cum-signature campaign for the public/educational institutions is one of the advocacy tools necessary to help achieve the formation of the State-Level Consultative Committee.

12 Relevant News

1. Awareness-cum-signature campaign for the public at Police Bazar Shillong
2. https://themeghalayan.com/pwds-demand-better-access-to-public-transport/?fbclid=IwAR3DFIJ4fARxaQwVv567bLAPHdN98YtquS5kzuZSPB9lQYi9WLdOSjwkTyU
3. DPOs in collaboration with NGOs and other stakeholders organised an awareness campaign
4. https://www.eastmojo.com/meghalaya/2022/02/18/meghalayas-disabled-seek-help-to-have-accessible-transportation/?fbclid=IwAR3o4pe_GaDWM0DZVsP5W5erxiD6cVs75o4f6H8FFiQhCIlNZr3ctqgr0c0
5. The Social Welfare Department has formed a State-Level Consultative Committee
6. https://www.instagram.com/p/CwUCJAmIalt/?igshid=MTc4MmM1YmI2Ng percent3D percent3D
7. In a bid to advocate enhanced accessibility in transportation for disabled individuals
8. https://www.instagram.com/p/CwMbQW7IG-p/?igshid=MTc4MmM1YmI2Ng percent3D percent3D
9. Driving Change: Disability Rights in India and the Role of Assistive Technologies in Public Transportation
10. https://www.linkedin.com/pulse/driving-change-disability-rights-india-role-assistive-sudhakar/

13 Articles

1. An article in Khasi language about the lack of Accessible Transportation and its effects on Persons with Disabilities: https://www.syllad.com/ka-jingbym-biang-ka-rukom-shakri-haka-leit-ka-wan-ki-briew-kiba-kyrpang/?fbclid=IwAR1nfzn2ilf78CBZ7H8h-J7x_3nKANqq6CM_LC99OWGiQOdYqAamKG-8kXY

2. Accessibility needs of the hour for Shillong: https://highlandpost.com/accessibility-need-of-the-hour-for-shillong/?fbclid=IwAR23eH2bU0t WPXlS8QVGrkwyOYWsFGRZl-IhcPnXFff1Y70TRDgfv51uIZc

14 Annexures

Google Forms link (first primary study)

https://docs.google.com/forms/d/e/1FAIpQLSeOG4-VYlCqQajqM_5a1ieSq3SmrHHdWW8RFO5YMCLLVp3MKQ/viewform?usp=sf_link

Google Forms link (second primary study)
https://docs.google.com/forms/d/e/1FAIpQLSf2lLmHvuQcTCMNMHAzfkmzw22llCHy0sxE6w78iTCbL-LltQ/viewform?usp=sf_link

Consent form
https://docs.google.com/document/d/1eNWorZbDOSM6r5d5MjcdQFX0S5gO8VUhY-2uVJHAWaY/edit?usp=sharing

Video interview of Preska, a woman with locomotor disability
https://fb.watch/l1CZiGifcl/

Video interview of a special educator with multiple disabilities and a student with visual impairment
https://drive.google.com/file/d/1Smojf9IZvHkVRYKrftn3qIQzWiEfIu8u/view?usp=drive_link

Minutes of group discussion
https://docs.google.com/document/d/1HyK_NAH2_JdKOXCGGbD9Q9fyDL5m3rxd/edit?usp=drive_link&ouid=117133402724922003163&rtpof=true&sd=true

Photographs of footpath/roads in Laitumkhrah areas not accessible to PWDs
https://drive.google.com/file/d/1cVH05YsZ4RFIgItMolUs24xtHRpRVbau/view?usp=drive_link

Excel sheet data from the primary survey

https://docs.google.com/spreadsheets/d/1aSddRVXBfu_xEbi-In_YZjsyNjbu62gZu5pIEK5GJxY/edit?usp=sharing

Meghalaya Budget 2023-24: Administration of Transport Services
https://openbudgetsindia.org/dataset/d499be81-1314-41a3-8155-7695f6722888/resource/cb39bd1f-33ea-4549-9020-ba8424a3bb69/download/meghalaya-budget-2023-24-administration-of-transport-services.pdf

Meghalaya Budget Analysis 2023-24https://prsindia.org/files/budget/budget_state/meghalaya/2023/Meghalaya_Budget_Analysis_2023-24.pdf


NCPEDP