

Towards Inclusive Campus Mobility: Strategic Challenges Faced by Students with Disabilities at UiTM Seremban

**Muhammad Aiman Awalluddin^{1*}, Farhana², Mohd Ramlan Mohd Arshad³,
Jasmin Irdina Jefri⁴, Zamimie Fatin Amiera Radzuan⁵**

^{1,2,3,4,5} Faculty of Administrative Science and Policy Studies, Universiti Teknologi MARA, 70300
Seremban, Negeri Sembilan, Malaysia

Authors' Email Address: ¹mdaiman@uitm.edu.my, ²farhanajet97@gmail.com,
³mramlan2957@uitm.edu.my, ⁴2021868188@student.uitm.edu.my,
⁵2021809856@student.uitm.edu.my

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*Corresponding Author

ABSTRACT

This study explores the transportation barriers faced by university students with disabilities (PWDs) in Malaysian universities, particularly at Universiti Teknologi MARA Seremban, highlighting how these challenges impact their mobility and social inclusion. Despite policy efforts aimed at promoting inclusivity, lived realities reveal systemic infrastructural, attitudinal, and financial constraints that continue to marginalize PWD students. Utilizing a qualitative phenomenological approach, semi-structured interviews were conducted with five students with diverse disabilities in UiTM, Seremban. Findings indicate three major themes: inadequate transport infrastructure (e.g., non-functional elevators, lack of universal design), negative societal perceptions (e.g., stigma, lack of staff training), and high transport costs especially for e-hailing services used as alternatives to inaccessible public transit. These barriers disrupt students' independence, punctuality, and participation in academic and extracurricular activities. The study underscores that transportation access is not merely a logistical concern but a matter of social justice, closely linked to educational equity and national development goals under the MADANI framework. It calls for collaborative interventions between universities, transport authorities, and policymakers to implement universal design standards, conduct disability sensitivity training, and provide financial support for accessible mobility. The study offers empirical insights to inform inclusive campus planning and national transport policies that reflect the lived experiences of students with disabilities.

Keywords: PWDs, social justice, strategic issue, sustainability

INTRODUCTION

National development in Malaysia has gradually embraced a more inclusive and equitable framework, emphasizing the centrality of human dignity, empowerment, and access to opportunity for all segments of society. The recent launch of the MADANI framework in 2023 marks a significant evolution in this discourse, emphasizing six core values, sustainability, care and compassion, respect, innovation, prosperity, and trust. Among these, the pillar of care and compassion stands out as a moral imperative

to ensure that no individual or community is left behind in the pursuit of progress, including persons with disabilities (PWDs) (Anisma Zulfiani, 2019 in Azman & Abdul Rahman, 2023). This approach aligns with global calls for inclusive development and echoes Malaysia's commitment to the United Nations Convention on the Rights of Persons with Disabilities (CRPD), ratified in 2010.

Despite these ambitious policy declarations, the lived realities of PWDs in Malaysia, particularly within higher education settings remain characterized by systemic challenges and exclusion. One critical yet underexplored dimension of this marginalization is transportation accessibility for university students with disabilities. While efforts have been made to improve accessibility on campuses, the link between transportation infrastructure and student mobility, participation, and academic success remains inadequately addressed. This oversight is especially troubling, given that access to reliable and inclusive transportation is fundamental to ensuring equal educational opportunities (Kamarudin et al., 2023; Alston, 2020).

University life is inherently mobility intensive. Students must navigate campuses, attend off-site activities, access healthcare and counselling services, participate in extracurricular programs, and connect with the broader community. For students with disabilities, these basic expectations are often disrupted by physical and systemic barriers in transportation infrastructure. According to the World Bank (2017) and Abd Aziz et al. (2023), transportation access is not merely a convenience, and it is a critical determinant of quality of life, economic participation, and social inclusion. For PWD university students, it is a gateway to independence, self-development, and full academic engagement.

Moreover, transportation accessibility is intricately tied to Malaysia's aspirations for inclusive economic growth. The education sector plays a pivotal role in shaping future human capital, and universities serve as key incubators of innovation, critical thinking, and leadership. Excluding students with disabilities from equitable access to these spaces undermines the national agenda of shared prosperity as outlined in the MADANI framework. Inclusive transportation systems, as highlighted by Best et al. (2022) and Bannister (2008), are not only socially just but also economically prudent, enabling broader participation in the labour market and reducing dependency on social support systems.

The barriers encountered by PWD students are not solely infrastructural. They are also attitudinal and systemic, often shaped by a lack of awareness, insufficient policy enforcement, and a culture that still views disability through a charitable rather than rights-based lens (Ramli et al., 2023; Abdullah et al., 2017; Kaur et al., 2015). These challenges intersect with broader social issues such as stigma, lack of institutional support, and weak enforcement of accessibility standards under the Persons with Disabilities Act 2008. Consequently, university students with disabilities frequently find themselves marginalized from full academic and social participation, which may negatively affect their academic performance, mental health, and long-term career prospects.

The need for research that centres the voices and experiences of PWD university students is therefore urgent. While previous studies have examined general accessibility issues faced by PWDs in public spaces (Jani et al., 2020; Zainol et al., 2018), few have focused specifically on the higher education environment, a setting that is both uniquely demanding and transformative. The transition from secondary education to university often represents a critical juncture for students with disabilities, requiring greater independence, complex navigation, and integration into diverse academic and social settings.

This study proposes to investigate the transportation barriers faced by PWD university students in Malaysia, aiming to understand how these challenges affect their mobility, autonomy, and educational engagement. The focus on university students is justified by their unique developmental stage and the strategic role of higher education in national development. Unlike other social groups, university students are in a critical life phase where mobility can directly influence their identity formation, academic success, and future societal contributions. Addressing their mobility constraints is not only

an educational concern but a broader social justice issue that reflects Malaysia's commitment to inclusive, human-centred development.

By centering this research on PWD university students, this study aims to generate empirical insights that can inform the development of inclusive transportation policies and campus planning strategies aligned with the aspirations of the MADANI framework. Ultimately, such research contributes to creating a university ecosystem and, by extension, a nation that values dignity, participation, and opportunity for all.

LITERATURE REVIEW

Person With Disabilities (PWDs)

Persons with Disabilities (PWDs) are individuals who experience significant difficulties in functioning and participation in society due to physical, mental, sensory, or intellectual impairments that significantly limit their ability to participate fully in societal activities. The World Health Organization defines disability as a complex, multidimensional experience that can be congenital or acquired through illness, injury, or age-related conditions, with impairments potentially affecting mobility, communication, and cognitive functions (World Health Organization, 2011). Disability is broadly categorized under three types: physical, which includes motor and mobility impairments; sensory, which includes visual and hearing impairments; and intellectual or developmental disabilities, which impact learning, reasoning, and adaptive skills (World Health Organization, 2011). According to the European Union (EU), a disability is any "long-term physical, mental, intellectual or sensory impairment" that hinders a person's full participation in society on an equal basis with others (European Union Agency for Fundamental Rights, 2014). The EU emphasizes that disabilities can arise from various factors, such as genetic disorders, accidents, or chronic conditions, and that the environment often plays a crucial role in determining whether an impairment becomes a disability due to physical or social barriers (European Disability Forum, 2020).

The nature and extent of disability vary widely among individuals; for instance, some PWDs may require assistive devices or modifications to their environment, while others may have more profound support needs that impact daily functioning and social integration. In scholarly research, disabilities are frequently explored through the lens of the social model, which asserts that disabilities are primarily caused by societal attitudes and environmental barriers, rather than the impairments themselves (Oliver, 1996). This approach contrasts with the medical model, which views disability as an individual's medical issue needing treatment or rehabilitation (Shakespeare, 2006). By understanding disabilities from both individual and societal perspectives, frameworks such as the WHO's International Classification of Functioning, Disability and Health (ICF) provide a comprehensive view, acknowledging the interaction between health conditions and contextual factors in shaping experiences of disability (World Health Organization, 2001).

PWDs Transportation Challenge

PWDs encounter a range of obstacles that hinder their ability to fully participate in society, while they require varying degrees of support, the challenges they face are often compounded by social and environmental barriers that affect their access to public services, employment, and transportation, and can prevent them from achieving independence and equal opportunities. PWDs in Southeast Asia, particularly Malaysia, Singapore and Indonesia face notable barriers in accessibility, affordability, and social acceptance, compounded by varied government policies. The Malaysian law, Persons with Disabilities Act 2008, acknowledges the rights of PWDs but lacks enforceable mandates on accessibility, leading to uneven implementation across regions (CodeBlue, 2023; Kamarudin et al., 2023).

Singapore's Enabling Masterplan has taken proactive measures by prioritizing accessibility in public spaces and services, yet challenges remain in areas like private sector accessibility and affordable assistive technology (Pei et al., 2021). In Indonesia, although the Disability Law No. 8/2016 establishes the right to accessibility, public infrastructure remains largely inaccessible, and transportation affordability is a significant barrier especially when lack of awareness and funding is involved (Hardi & Murad, 2023; Wahyuni et al., 2016). These policy differences highlight the need for more comprehensive frameworks across Southeast Asia that prioritize accessibility standards as a means of fostering inclusivity for PWDs.

One significant issue for PWDs is accessibility, particularly concerning transportation and infrastructure, which remains a global primary barrier to their independence and societal inclusion. Various discussions highlight that accessibility of public transit for individuals with disabilities has been a longstanding and complex problem, which is indicative of larger issues with inclusivity and societal frameworks; particularly motioned by Mwaka et al. (2024); Jackson (2018) the argument that public transportation often lacks essential features like ramps, elevators, and designated wheelchair spaces, making it difficult for people with mobility impairments to board and exit.

Currie and Delbosc (2010) identified several environmental design flaws such as uneven surfaces, the absence of tactile paving, and poor signage, all of which contribute to mobility challenges for individuals with visual or cognitive impairments. These issues are echoed across Southeast Asia. For example, Malaysia often lacks transport infrastructure that addresses the needs of persons with disabilities (PWDs), resulting in restricted access to education, healthcare, and employment opportunities (Kamarudin et al., 2023). Indonesia faces similar systemic barriers, as only a few cities have adopted accessibility standards in public transportation. The absence of ramps, elevators, and other accessible features at bus and train stations limits independent travel for individuals with mobility impairments, leading to social isolation and reduced economic participation (Hardi and Murad, 2023; Wahyuni et al., 2016). In contrast, Singapore stands out as a regional leader, having invested significantly in accessible transport systems that include tactile paving, designated wheelchair spaces, and priority seating. These efforts reflect the positive impact of proactive policies in fostering a more inclusive society (Subramaniam, 2021).

Although Singapore made strides in improving accessible transport systems, with buses and trains fitted to accommodate mobility aids; however, affordability remains a concern, especially for PWDs from lower-income backgrounds (Pei et al., 2021). In addition to these arguments, the availability of trained drivers and inclusive practices in public transport also vary widely, with limited support services in Malaysia and Indonesia compared to Singapore. Social perceptions of PWDs further shape the inclusivity landscape and play a role in shaping their experiences. Scholarly discussions reviewed these aspects, for instance, Lucas (2012) provided empirical evidence that stigma and discriminatory attitudes from transportation staff and passengers can make people with disabilities feel isolated and uncomfortable. Morris (2001) highlights the impact of negative attitudes on their travel experience. Policy gaps, such as weak legislation and lack of enforcement, further worsen these challenges, as shown in Sierra et al. (2018). Additionally, insufficient training for transport staff on disability awareness limits their ability to offer inclusive services (Jackson, 2018).

In many Southeast Asian cultures, disabilities are often stigmatized, leading to social exclusion and limited community support for accessible infrastructure (Chou et al., 2023). Meanwhile in Malaysia, social stigma toward PWDs remains a barrier, often limiting employment opportunities and social interactions (Abdul Nasir, 2020). This stigma is similarly present in Indonesia, where societal misconceptions can lead to marginalization of PWDs in education and work (Ariansyah et al., 2025). Singapore has actively engaged in campaigns to improve public awareness, contributing to a more accepting social environment, though gaps still exist in workplaces and schools (Pei et al., 2021). In all three countries, affordability of assistive devices and accessible transportation options limits the independence of PWDs, highlighting the need for subsidized programs and policy reinforcement to improve the quality of life for these individuals' raising concerns that their cost can be prohibitive for

many PWDs, further exacerbating disparities in access. Addressing these issues requires a multi-faceted approach that includes not only government intervention but also community-driven initiatives to shift perceptions, improve accessibility, and promote equal opportunities for PWDs. By comparing policies and practices, it becomes evident that countries prioritizing accessibility and public awareness contribute significantly to the social and economic inclusion of PWDs, a standard that Malaysia and other nations can strive to achieve.

Social Model Disability

The Social Model of Disability, conceptualized by British sociologist Mike Oliver in 1983, represents a significant departure from the traditional medical model of disability. Rather than viewing disability as an outcome of individual impairments or medical deficiencies, this model positions disability as a socially constructed phenomenon, shaped by environmental and structural barriers (Oliver, 2013). This paradigm emphasizes that it is not the physical or mental impairments themselves that restrict individuals, but rather the societal frameworks, infrastructure, and attitudes that fail to accommodate diversity in human ability. Thus, the model reframes disability as a matter of rights and inclusion rather than charity or care.

Oliver (2013) argued that societal barriers rather than individuals' medical conditions are the primary causes of disability. His model introduced a framework comprising four central types of barriers: attitudinal, informational, financial, and physical. These elements offer a comprehensive understanding of how exclusion is perpetuated across multiple domains of social life. The Social Model has since served as a foundational lens through which scholars and advocates evaluate accessibility, inclusion, and equity for persons with disabilities (PWDs).

Attitudinal Barriers

Attitudinal barriers refer to the societal perceptions and assumptions that view PWDs as inherently less capable, often stemming from cultural prejudices and lack of awareness. Shakespeare (2013) elaborated on this element by emphasizing how deep-seated biases influence interactions and policy decisions. These barriers frequently manifest as discriminatory practices or paternalistic behaviours that undermine the autonomy of PWDs. Alçura (2025) found that individuals with disabilities are routinely subjected to mistreatment and exclusion, ranging from denial of services to verbal abuse. Such experiences generate psychological distress and reinforce social isolation, particularly in contexts such as public transportation (Alçura, 2025).

In the Malaysian context, Islam (2015) critiqued the dominant welfare-oriented approach to disability, arguing that it reinforces dependency rather than promoting rights and inclusion. This perspective positions PWDs as recipients of charity rather than holders of equal citizenship. As Ramli et al. (2023) and Abdullah et al., 2017 observed, misperceptions of PWDs as burdensome or unproductive exacerbate exclusion, limiting their access to education, employment, and healthcare. Such views impede inclusive development and contribute to structural discrimination (Abdul Nasir, 2020).

Informational Barriers

Informational barriers involve the lack of accessible communication, which can prevent PWDs from participating fully in society. Shakespeare (2013) identified these as mental or cognitive obstacles perpetuated by the misconception that disability is synonymous with intellectual inferiority. These barriers often result in inaccessible signage, absence of real-time information, and lack of inclusive communication formats, which collectively hinder autonomy and mobility (Jani et al., 2020). Strategies to address these issues include providing information in various formats such as Braille, audio announcements, and multiple language translations as well as ensuring clarity in public signage and digital interfaces.

Abdul Nasir (2020) noted that digital platforms, including mobile applications and ticketing systems, are often inaccessible to PWDs, creating further exclusion in public transport systems. Ramli et al. (2023) highlighted how language limitations in public transit particularly the lack of multilingual announcements affects those with visual or cognitive impairments. Khoo et al. (2013) added that workplace discrimination is exacerbated by public administrative practices that neglect to support or adequately communicate with PWDs. These issues are compounded by the state's insufficient efforts to integrate PWDs into the labour market. The absence of inclusive informational infrastructure thereby perpetuates isolation and dependency, particularly among marginalized groups within the PWD community (Zainol et al., 2018).

Financial Barriers

Financial barriers encompass the economic constraints that limit PWDs' access to essential services and opportunities. Shakespeare (2013) emphasized that financial exclusion is socially constructed through inequitable policies and a lack of support systems. Kamarudin et al. (2023) criticized the Malaysian context for failing to offer affordable and inclusive resources to PWDs, thereby compounding their social and economic marginalization. Ramli et al. (2023) and Abdul Nasir (2020) noted that the high costs of specialized transport services such as paratransit and accessible taxis render regular travel infeasible for many individuals.

Abdul Nasir (2020) further explained that owning or modifying a vehicle for accessibility, including the installation of ramps and adaptive controls, involves prohibitive expenses that are often beyond the means of low-income PWDs. Though some financial assistance programs exist, they are often constrained by strict eligibility criteria and limited outreach, excluding those who need them most (Abdullah et al., 2017). Financial burdens also extend to healthcare costs, assistive technologies, and daily living aids many of which are not fully covered by insurance or public schemes. As a result, these barriers reinforce cycles of dependency and hinder efforts to promote self-sufficiency and social participation.

Physical Barriers

Physical barriers relate to the design of the built environment, including infrastructure and public facilities that do not accommodate the needs of PWDs. Shakespeare (2013) emphasized that such barriers are often the most visible yet are frequently neglected in planning and development. These include buildings without ramps or elevators, narrow walkways, and transportation systems lacking wheelchair-accessible features. In Malaysia, numerous studies have highlighted the inadequacy of physical infrastructure. Khoo et al. (2013) noted challenges such as steep ramps, poorly maintained pedestrian pathways, and inaccessible signage. Ramli et al. (2023) found that a significant portion of PWDs expressed dissatisfaction with public transportation, citing problems with the design of vehicles (15.99%), transportation buildings (13.95%), and standard operating procedures (24.12%).

Public buses, for example, are often unusable for wheelchair users due to the absence of ramps or designated boarding areas. Even when boarding is possible, the lack of interior space and secure anchoring systems can make the journey unsafe (Abdullah et al., 2017). The limited availability of accessible taxis and paratransit services, often coupled with erratic schedules and high costs, further exacerbates the issue (Zainol et al., 2018). These barriers confine many PWDs to their homes, cutting them off from employment, education, and community participation thus reinforcing systemic exclusion and dependency (Ramli et al., 2023).

Conceptual Framework of Study

The study framework adopts a qualitative, explanatory approach guided by the Social Model of Disability to explore the transportation challenges faced by students with disabilities. This framework

aims to understand how various transportation barriers financial, informational, physical, and attitudinal affect the students' ability to achieve independent mobility and participate in society. The Social Model of Disability, which forms the theoretical foundation of this study, asserts that disability is not simply a result of individual impairments but is the outcome of environmental and societal barriers that restrict full participation. This perspective aligns with the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), which emphasizes the role of societal and environmental factors in disabling individuals rather than their impairments.

The four types of transportation barriers identified in this framework financial, informational, physical, and attitudinal serve as key factors that shape the experiences of students with disabilities, limiting their access to public transportation and, consequently, their independence and social participation. Financial barriers pertain to the costs associated with accessible transportation, while informational barriers involve the lack of accessible or timely transport-related information. Physical barriers include infrastructural challenges such as inaccessible vehicles or poorly designed transport stations, and attitudinal barriers reflect societal misconceptions and negative perceptions towards individuals with disabilities.

The framework positions independent mobility and social participation as the outcomes that result from addressing these barriers. By examining the interplay of these factors and their effects on students' lives, the study aims to uncover how changes in transportation systems, policies, and public attitudes could enhance accessibility, independence, and social inclusion for students with disabilities. This framework thus provides a basis for understanding the systemic nature of transportation inaccessibility and its implications for the social and academic engagement of students with disabilities.

METHODOLOGY OF STUDY

This study adopts a qualitative research design with a phenomenological approach to explore the lived experiences of students with disabilities in navigating transportation barriers. Phenomenology, as described by Creswell (2013), aims to understand the essence of experiences shared by individuals, making it particularly relevant to explore how transportation constraints affect students' independence and participation. As qualitative research places the researcher as the primary instrument (Creswell, 2013), this design allows for an in-depth understanding of the social and psychological dimensions involved. Five students (R1, R2, R3, R4, and R5) with diverse types of disabilities were purposively selected to ensure varied mobility-related perspectives. Data saturation was achieved with this sample, as thematic consistency emerged by the fifth interview. Participants were recruited through university networks and student organizations, ensuring that those selected had direct, lived experience relevant to the study's aims.

This study aimed to explore the strategic issues related to transportation accessibility experienced by university students with disabilities, particularly in relation to their mobility and social inclusion both within and beyond the campus environment. To achieve this, a set of semi-structured interview questions was designed to gather in-depth insights into the lived experiences, challenges, and perspectives of the participants.

Participants were asked the following questions:

- What are the main challenges you face when using public transportation?
- Have you experienced any specific incidents or recurring issues while using public transport?
- How do transportation barriers affect your daily life and routine, both on campus and when travelling outside the university?
- How do you currently travel within and outside the university campus (e.g., campus shuttle, public transport, ridesharing, private vehicle)?

- What specific features or services would make campus and public transportation more accessible for you?
- What changes or improvements would you suggest to make transportation more inclusive for students with disabilities within the university environment and for commuting beyond it?

These open-ended questions were intended to elicit detailed responses, allowing participants to express their views on structural, operational, and social barriers, as well as to propose improvements that could enhance inclusive mobility and participation in campus life and beyond.

Ethical considerations were rigorously observed throughout the research process. Participants were fully informed about the purpose and scope of the study, and informed consent was obtained prior to data collection. Confidentiality was strictly maintained, and participants were assured of their right to withdraw from the study at any stage without any consequences.

All interviews were transcribed verbatim to ensure the accuracy of the data and then analysed using thematic analysis supported by NVivo software. The analytical process began with open and axial coding, incorporating both pre-determined codes derived from the conceptual framework and emerging themes grounded in the participants' narratives. NVivo facilitated the systematic organization of data into hierarchical nodes, with parent and child categories used to capture major themes and sub-themes, respectively. This approach enabled a nuanced understanding of the transportation-related challenges and strategic issues encountered by students with disabilities in the university context.

Triangulation was applied to enhance the credibility and rigor of the findings. Investigator triangulation involved multiple researchers independently reviewing the transcripts and identifying key themes before collaboratively discussing and refining the final codes. This process helped to minimize individual bias and ensure consistency in interpretation. Data triangulation was also conducted by comparing the emerging findings with past studies and relevant literature. This comparison provided additional context, reinforced thematic validity, and highlighted areas of convergence or divergence with existing research. Once themes were fully developed, NVivo's visualization tools supported deeper analysis by mapping patterns and relationships between concepts. This analytical phase allowed the study to present a comprehensive understanding of the transportation challenges faced by students with disabilities and to propose informed recommendations grounded in participant narratives.

FINDINGS AND DISCUSSION

Thematic analysis of the interview data revealed three major strategic issues affecting transportation accessibility among university students with disabilities: accessibility challenges, social perception, and affordability. These themes represent interconnected barriers that hinder students' ability to move independently, access educational resources, and participate fully in campus and social life. Accessibility challenges were primarily related to physical infrastructure and communication barriers. Social perception involved negative public attitudes and exclusionary behavior, while affordability referred to the high financial cost of alternative transportation options when public transport was insufficient or inaccessible. These key themes and sub-themes are summarized in Table 1 below.

Table 1: Summary of Themes

Main Themes	Sub-Themes
1. Accessibility Challenges	- Inadequate infrastructure (e.g., ramps, elevators, signage)
	- Maintenance issues and poor universal design
	- Communication barriers for sensory impairments
2. Social Perception and Stigma	- Public and staff attitudes
	- Emotional and psychological burden
	- Social withdrawal and isolation
3. Affordability Constraints	- Cost of e-hailing services (e.g., Grab)

	- Limited financial resources of students
	- Inaccessibility forcing reliance on expensive transport options

Accessibility Challenges in Public Transportation among University Students with Disabilities

Accessibility in public transportation is critical for ensuring the mobility, independence, and social inclusion of persons with disabilities (PWD), including university students. As defined by the World Health Organization (1996), accessibility involves the design of services, environments, and infrastructure that accommodate the needs of individuals with diverse abilities. In the context of public transport, essential features include ramps, elevators, tactile indicators, visual and auditory guidance systems, and staff trained in inclusive communication. Findings from interviews with university students with disabilities ($n = 5$) reveal that accessibility continues to pose a major barrier to their daily mobility, particularly in navigating the Klang Valley public transport system. Participants shared that insufficient infrastructure and lack of inclusive design often result in delays, discomfort, and dependence on others.

One participant (R1) remarked, "There's a lack of facilities like ramps and elevators, especially at older train stations... buses don't always have working wheelchair lifts, and sometimes the wheelchair space is taken up by other passengers." Another student (R2) explained, "It's really hard when it's crowded, especially on the LRT or bus... one time the elevator was broken, and I had to go all the way around, which was exhausting." Such responses reflect how infrastructural limitations, combined with poor maintenance, disrupt students' ability to travel independently and on time for academic activities.

Students with sensory impairments also reported communication-related challenges. For instance, R4 shared, "The bus drivers or station staff often don't know sign language... and sometimes the signs are either unclear or not there at all." Similarly, R5 noted the lack of accessible signage for visually impaired students: "Some signs are too small or don't have braille... and not all stations have clear sound indicators to guide me." These findings highlight a lack of universal design features, which can significantly impede the educational access and participation of students with disabilities.

These issues align with earlier studies that point to persistent gaps in transport accessibility in Malaysia and other urban regions (Zainol et al., 2018; Kaur et al., 2015). Inadequate facilities such as ramps, elevators, and communication aids continue to restrict the mobility and autonomy of PWD, which can contribute to academic stress and reduced participation among university students.

Social Perception and Its Impact on Transportation Use Among University Students with Disabilities

Social perception refers to the attitudes, stereotypes, and societal norms that influence how individuals with disabilities are perceived and treated within their social environments. Gehlbach & Mu (2023) defines it as "the process through which people interpret and understand their social world." In the context of public transportation, negative social perceptions can manifest as stigma, lack of empathy, and exclusionary behaviour, further compounding the physical and logistical challenges experienced by persons with disabilities (PWD).

Among university students with disabilities, social perception emerged as a critical yet often invisible barrier to mobility and inclusion. Data gathered from interviews ($n = 5$) revealed that participants frequently encountered dismissive attitudes from both the public and transportation personnel, which undermined their sense of independence and dignity.

One respondent (R2) explained, "I always have to plan my trips carefully and have a backup plan because I fear unexpected problems... It makes me feel less free and more stressed. Sometimes, it affects my punctuality and makes me look unprofessional." Similarly, R3 shared, "The bus driver didn't

wait for me and drove off quickly. I feel anxious about bumping into people during peak hours. It's stressful." These responses reflect how social attitudes often marked by impatience or disregard create psychological barriers that influence students' confidence and willingness to engage with public transportation.

Communication barriers also play a role in reinforcing social exclusion. R4 stated, "I rely on people around me for information, which makes me feel less independent. When I ask staff for help, many don't know how to communicate with me, and that leaves me feeling frustrated and excluded." Meanwhile, R5 emphasized the emotional toll of isolation: "Sometimes I just don't go if the place is hard to reach by public transport. It makes it harder to maintain friendships and social connections." These lived experiences echo broader research indicating that negative societal attitudes and lack of inclusivity in public spaces contribute to the marginalization of PWD (Emerson et al., 2021). Poor treatment and lack of empathy from others can deter students with disabilities from participating fully in academic, social, and professional environments further deepening the divide between them and their peers.

Affordability and Its Impact on Transportation Use Among University Students with Disabilities

Affordability, in the context of transportation for persons with disabilities (PWD), refers to the ability to access transport services without experiencing significant financial hardship. The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) emphasizes the need for transport services to be available at a reasonable cost, including the provision of necessary support and assistance (United Nations, 2006). For university students with disabilities, many of whom rely on limited financial resources, affordability becomes a pivotal factor influencing their mobility and access to academic and social opportunities. Findings from the interviews (n = 5) revealed that affordability is a recurring concern among students with disabilities. Many respondents noted that while public transportation is often their only viable option, it is not always financially feasible, particularly when alternative services like e-hailing (e.g., Grab) become necessary due to inaccessibility or inconvenience in conventional routes.

R1 noted, "I use public transport because I don't have my own car, but Grab or taxis are quite expensive, especially during peak hours." Similarly, R4 shared, "Sometimes I park near the LRT and use public transport, but if I need to be somewhere quickly, I have to use Grab and it's not cheap." R5 echoed this concern: "If a place is hard to reach by public transport, I use e-hailing services. But the price is just too expensive for me."

These responses reflect broader systemic issues. E-hailing and taxis, although more direct and flexible, are financially burdensome, especially during peak hours or for long distances. This situation aligns with existing literature that highlights the disproportionate financial strain transportation costs impose on individuals with disabilities. Friedman (2014) assert that high costs of mobility often contribute to the social exclusion and economic vulnerability of PWD, particularly when affordable and accessible alternatives are lacking.

CONCLUSION

This study sheds light on the ongoing accessibility challenges faced by university students with disabilities (PWD) in Malaysia, particularly in navigating public transportation. The findings underscore the critical importance of inclusive transportation systems in enhancing the mobility, independence, and social participation of students with disabilities. Persistent infrastructure gaps, negative social perceptions, and affordability concerns continue to impede the ability of students with disabilities to fully engage in academic and social environments. These barriers not only affect their academic performance and mental well-being but also limit their broader participation in society.

To advance transportation inclusivity, universities must adopt a proactive role in policymaking, planning, and collaboration with key stakeholders. Institutional policies should mandate comprehensive accessibility audits to ensure that all intra-campus transport systems, walkways, and transit points comply with universal design standards. Universities should also engage with local governments and transit agencies to improve external transportation connectivity between campus and surrounding areas, particularly for students with disabilities. An important structural step is the establishment of a Disability Inclusion Unit within the university administration. This unit, comprising staff and students with disabilities, can lead continuous policy review, inclusive staff training, feedback collection, and budget allocation for accessibility improvements. Such initiatives align with the Malaysian Persons with Disabilities Act 2008 and the United Nations Convention on the Rights of Persons with Disabilities, while also reflecting the university's commitment to equitable educational access.

Addressing these challenges further requires a multi-pronged strategy. First, universal design principles should be implemented across all transportation services and facilities. This includes installing ramps, elevators, tactile indicators, accessible signage, and providing inclusive communication training for transport personnel and campus staff. Second, public awareness campaigns are necessary to combat negative social perceptions and foster a more empathetic and inclusive environment. Finally, to alleviate financial burdens, transportation subsidies or fare discounts should be offered to students with disabilities. Additionally, a more affordable pricing structure for e-hailing services can serve as a viable alternative when conventional public transport is inaccessible.

This study contributes valuable insights into the intersection of transportation accessibility and the lived experiences of university students with disabilities in Malaysia. By identifying key barriers, such as infrastructure limitations, social stigma, and affordability issues, this research informs the development of targeted policies and interventions that could improve the mobility and quality of life for PWD. The study also emphasizes the need for a holistic approach to inclusion, which takes into account not only physical accessibility but also the social and economic factors that affect students with disabilities.

One limitation of this study is the small sample size ($n=5$), which limits the generalizability of the findings. A larger and more diverse sample of students with disabilities across different regions of Malaysia would provide a broader understanding of the issues at hand. Additionally, the study predominantly focuses on qualitative data gathered through interviews, which, while rich in personal insights, may not capture all aspects of the problem. However, the strength of this study lies in its in-depth exploration of the real-world challenges faced by students with disabilities, providing a nuanced understanding of the barriers to accessibility in public transportation.

Future research should explore the effectiveness of proposed solutions, such as the implementation of universal design features and social inclusion campaigns, in improving transportation accessibility for students with disabilities. Longitudinal studies could also examine the impact of these interventions over time, assessing their influence on academic performance, social participation, and mental health. Furthermore, expanding the study to include the perspectives of transportation providers, policymakers, and advocacy groups would provide a more comprehensive view of the challenges and potential solutions for inclusive transportation in Malaysia.

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AUTHORS' CONTRIBUTION

Muhammad Aiman Awalluddin: Responsible for conceptualising the research design, formulating and overseeing the overall research methodology, and provided expertise in qualitative analysis and assisted in interpreting the results. Farhana, Jasmin Irdina Jefri and, Zamimie Fatin: Conducted literature review, designed the interview instruments, and collected data. They also assisted in drafting and revising the research findings. Mohd Ramlan Mohd Arshad led the development of the conceptual framework and assisted in interpreting the results. He also contributed to designed interview questions, thus playing a pivotal role in reviewing and editing the manuscript for clarity and coherence.

CONFLICT OF INTEREST DECLARATION

The authors agree that this research was conducted without any self-benefits or commercial or financial conflicts and declare the absence of conflicting interests with the funders. We certify that the article is the Authors' and Co-Authors' original work. The article has not received prior publication and is not under consideration for publication elsewhere. This research/manuscript has not been submitted for publication, nor has it been published in whole or in part elsewhere. We testify to the fact that all Authors have contributed significantly to the work, validity and legitimacy of the data and its interpretation for submission to Jurnal Intelek.

REFERENCES

- Abd Aziz, A., Jani, R. & Hanafi, H. (2023). Determinants of Quality-of-Life Person with Disabilities in Malaysia. *E-Bangi Journal of Social Sciences & Humanities*, 20 (3), 178 - 188. <https://doi.org/10.17576/ebangi.2023.2003.15>
- Abdul Nasir, M. N. (2020). The Socio-Economic Situation of Disabled Persons in Malaysia. *International Journal of Business, Economics and Law*, 23 (1), 74 - 82. <https://www.ijbel.com/wp-content/uploads/2020/11/IJBEL23-220.pdf>
- Abdullah, N., Hanafi, H. & Mohd Hamdi, N. I. (2017). The Rights of Persons with Disabilities in Malaysia: The Underlying Reasons For Ineffectiveness of Persons with Disabilities Act 2008. *International Journal for Studies on Children, Women, Elderly and Disabled*, 1, 127 - 134. <https://www.ijcwed.com/wp-content/uploads/2016/12/IJCWED-165.pdf>
- Alçura, G. A. (2025). On the Road to Inclusion: A Multifaceted Examination of Transportation Challenges Faced by Individuals with Disabilities. *Sustainability*, 17(1), 81. <https://doi.org/10.3390/su17010081>
- Alston, P. (2020). Human Rights Council. World Bank Open Data. https://data.worldbank.org/indicator/SI.POV.NAHC?end=2018&most_recent_value_desc=false&start
- Ariansyah, K., Takariani, C. S. D., Sari, D., Setiawan, A. B., Budhirianto, S., Ardison, Nugroho, A. C., Hidayat, D., Hikmaturokhman, A. (2025). Transportation accessibility for people with disabilities: Examining preferences for conventional public transport and ride-hailing services in Indonesia. *Case Studies on Transport Policy*, 20, 101451. <https://doi.org/10.1016/j.cstp.2025.101451>
- Azman, M., & Abdul Rahman, N. (2023). Penerapan Konsep Malaysia MADANI dalam Dasar Awam: Membudayakan Harmoni dalam Kepelbagaian. *International Journal of Advanced Research in Education and Society*, 5 (4), 29-43. <https://myjms.mohe.gov.my/index.php/ijares/article/view/24522>
- Bannister, D. (2008). The sustainable mobility program. *Transport Policy*, 15, 73-80. <https://doi.org/10.1016/j.tranpol.2007.10.005>

- Best, K. L., Noreau, L., Gagnon, M.-A., Barthod, C., Hitzig, S. L., & Routhier, F. (2022). Housing, transportation and quality of life among people with mobility limitations: A critical review of relationships and issues related to access to home- and community-based services. *Disabilities*, 2(2), 204-218. <https://doi.org/10.3390/disabilities2020015>
- Chou, Y. C., Toshiyuki, U., Bo-Wei Chen, B. W., Kittawan Sarai, Nguyen, L. D., Chou, C. J., Supornum Mongkolsawadi & Nguyen, T. T. (2023). Assessing disability rights in four Asian countries: The perspectives of disabled people on physical, attitudinal and cultural barriers. *Political Geography*, 108, 103027. <https://doi.org/10.1016/j.polgeo.2023.103027>
- CodeBlue. (November 2023). "How Far Behind Regional Countries Is Malaysia in Its Disability Legislation? —The OKU Rights Matter Project". *CodeBlue*. <https://codeblue.galencentre.org/2023/11/06/how-far-behind-regional-countries-is-malaysia-in-its-disability-legislation-the-oku-rights-matter-project/>
- Creswell, J. W. (2013). Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.). Sage Publications.
- Currie, G. & Delbosc, A. (2010). Modelling the social and psychological impacts of transport disadvantage. *Transportation*, 37, 953–966. <https://doi.org/10.1007/s11116-010-9280-2>
- Emerson, E., Fortune, N., Llewellyn, G., & Stancliffe, R. (2021). Loneliness, social support, social isolation and wellbeing among working age adults with and without disability: Cross-sectional study. *Disability and Health Journal*, 14(1), 100965. <https://doi.org/10.1016/j.dhjo.2020.100965>
- European Disability Forum. (2020). European comparative data on Europe 2020 and persons with disabilities Summary and conclusions. <https://op.europa.eu/en/publication-detail/-/publication/1f1a8b2c-e44d-11eb-895a-01aa75ed71a1>
- European Union Agency for Fundamental Rights. (2014). Fundamental rights of persons with disabilities. Publications Office of the European Union. <https://fra.europa.eu/en/publication/2014/fra-publications-2014>
- Friedman, S. (2014). The price of the ticket: Rethinking the experience of social mobility. *Sociology*, 48(2), 352-368. <https://doi.org/10.1177/0038038513490355>
- Gehlbach, H., & Mu, N. (2023). How we understand others: A theory of how social perspective taking unfolds. *Review of General Psychology*, 27(3), 282-302. <https://doi.org/10.1177/10892680231152595>
- Hardi, A. Z. & Murad, A. A. (2023). Spatial analysis of accessibility for public transportation, a case study in jakarta, bus rapid transit system (Transjakarta), Indonesia. *Journal of Computer Science*, 19 (10), 1190 - 1202. <https://doi.org/10.3844/jcssp.2023.1190.1202>
- Islam, M. R. (2015). Rights of the people with disabilities and social exclusion in Malaysia. *International Journal of Social Science and Humanity*, 5(2), 171 - 177. <https://doi.org/10.7763/IJSSH.2015.V5.447>
- Jackson, M. A. (2018). Models of disability and human rights: Informing the improvement of built environment accessibility for people with disability at neighborhood scale? *Laws*, 7(1), 10. <https://doi.org/10.3390/laws7010010>
- Jani, R., Alias, A. A. & Tumin, M. (2020). Persons with disabilities education and quality of life: Evidence from Malaysia. *International Journal of Inclusive Education*, 26(8), 753–765. <https://doi.org/10.1080/13603116.2020.1726511>
- Kamarudin, H., Abdul Kadir, S., Alias, R., & Othman, R. D. (2023). Transportation barriers confronted by mobility-challenged travellers in Klang Valley. *Journal of the Malaysian Institute of Planners*, 21(2), 240 - 251. <https://doi.org/10.21837/pm.v21i26.1274>
- Kaur, G., Tan, P. L., Jamaliah Mohd. Yusof & Singh, D. (2015). Perception of People with Disability in Creating Sustainable Public Policy. *Procedia - Social and Behavioral Sciences*, 168, 145 – 155. <https://doi.org/10.1016/j.sbspro.2014.10.220>
- Khoo, S. L., Tiun, L. T., & Lee, L. W. (2013). Unseen challenges, unheard voices, unspoken desires: Experiences of employment by Malaysians with physical disabilities. *Kajian Malaysia*, 31(1), 37 - 55. [http://web.usm.my/km/31\(1\)2013/KM%2031\(1\)%20ART%203%20\(37-56\).pdf](http://web.usm.my/km/31(1)2013/KM%2031(1)%20ART%203%20(37-56).pdf)
- Lucas, K. (2012). Transport and social exclusion: Where are we now? *Transport Policy*, 20, 105–113. <https://doi.org/10.1016/j.tranpol.2012.01.013>

- Morris, J. (2001). Impairment and Disability: Constructing an Ethics of Care That Promotes Human Rights. *Hypatia*, 16(4), 1–16. <http://www.jstor.org/stable/3810780>
- Mwaka, C. R., Best, K. L., Cunningham, C., Gagnon, M., & Routhier, F. (2024). Barriers and facilitators of public transport use among people with disabilities: A Scoping Review. *Frontiers in Rehabilitation Sciences*, 4, 1336514. <https://doi.org/10.3389/fresc.2023.1336514>
- Oliver, M. (1996). Understanding Disability: From Theory to Practice. Macmillan.
- Oliver, M. (2013). The social model of disability: thirty years on. *Disability & Society*, 28(7), 1024–1026. <https://doi.org/10.1080/09687599.2013.818773>
- Pei Y. L., Kong, P., Cornet, H., Frenkler, F. (2021). Facilitating independent commuting among individuals with autism – A design study in Singapore. *Journal of Transport & Health*, 21, 101022. <https://doi.org/10.1016/j.jth.2021.101022>
- Ramli, R., Zainol, R. & Yaacob, N. (2023). Perception of Persons with Disabilities Groups on Accessibility and Connectivity of Public Transportation Infrastructure in Kuala Lumpur, Malaysia. *International Journal of Property Sciences*, 13(1), 65 - 91. <https://doi.org/10.22452/ijps.vol13no1.5>
- Shakespeare, T. (2006). Disability Rights and Wrongs. Routledge. <https://doi.org/10.4324/9780203640098>
- Shakespeare, T. (2013). Disability Rights and Wrongs Revisited (2nd ed.). Routledge. <https://doi.org/10.4324/9781315887456>
- Sierra, L.A., Yepes V., and Pellicer, E. (2018). A review of multi-criteria assessment of the social sustainability of infrastructures. *Journal of Cleaner Production*, 187, 496 - 513. <https://doi.org/10.1016/j.jclepro.2018.03.022>
- Subramaniam, M., Koh, Y. S., AshaRani, P. V., Devi, F., Saleha Shafie, Wang, P., Abdin, E., Vaingankar, J. A., Sum, C. F., Lee, E. S., & Chong, S. A. (2021). The Prevalence and Correlates of Disability in Singapore: Results from a Nationwide Cross-Sectional Survey. *International Journal of Environmental Research and Public Health*, 18(24), 13090. <https://doi.org/10.3390/ijerph182413090>
- United Nations. (2006). Convention on the Rights of Persons with Disabilities. OHCHR. <https://www.ohchr.org/en/instruments-mechanisms/instruments/convention-rights-persons-disabilities>
- Wahyuni, E. S., Murti, B., & Joebagio, H. (2016). Public Transport Accessibility for People with Disabilities. *Journal of Health Policy and Management*, 1(1), 1 - 7. <https://doi.org/10.26911/thejhpm.2016.01.01.01>
- World Health Organization. (2001). International Classification of Functioning, Disability and Health (ICF). WHO Geneva. <https://iris.who.int/bitstream/handle/10665/42407/9241545429.pdf?sequence=1>
- World Health Organization. (2011). WORLD REPORT ON DISABILITY. <https://www.who.int/teams/noncommunicable-diseases/sensory-functions-disability-and-rehabilitation/world-report-on-disability>
- World Bank. (2017). GLOBAL MOBILITY REPORT 2017: Tracking Sector Performance. World Bank Publications. <https://openknowledge.worldbank.org/server/api/core/bitstreams/4b5af9d3-3abd-5393-8d93-1be0eba48572/content>
- World Health Organization. (1996). What quality of life? WHO Quality of Life Assessment Group. World Health Forum 1996. <https://apps.who.int/iris/handle/10665/54358>
- Zainol, H., Mohd Isa, H., Md Sakip, S. R., & Azmi, A. (2018). Social Sustainable Accessibility for People with Disabilities at Public Transport Stations through Sustainable Development Goals in Malaysia. *Environment-Behaviour Proceedings Journal*, 3(9), 89 - 94. <https://doi.org/10.21834/e-bpj.v3i9.1499>