

Perceptions on Public Transportation Safety Among Female Users in Malaysia

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ABSTRACT

Public transport in Malaysia has grown through government investment aimed at alleviating traffic congestion in urban areas. However, the safety of women using public transport is often viewed as less significant and is generally treated as a universal design issue. Ironically, past research strongly indicates that women face safety and security concerns in public spaces and while using public transportation services, traveling differently from men in terms of mobility and accessibility. These gendered and socio-economic inequalities affect women's choice of transportation mode, negatively impacting their overall health, safety, and well-being. These elements must be planned thoroughly to achieve inclusive planning and gender equality in transportation. The main challenges to women's mobility in Malaysia include gender-based violence and issues related to the safety and access to public transportation. This paper is based on a Focus Group Discussion (FGD) regarding public transport safety attitudes and perceptions among female users aged 15 to 70 in Malaysia, focusing on variables such as safety, women-friendly facilities, and expectations vs. perceptions. The findings highlighted gender-based issues such as sexual assault, harassment, and child trafficking as major concerns impeding women's access to public transportation services in Malaysia. Participation by stakeholders in the provision of a holistic and inclusive public transport infrastructure remains a bureaucratic obstacle in Malaysia's planning and implementation of public transport services. Public transportation strategies need to be holistic, ensuring that the physical design and other strategies employed prevent security breaches and provide a sense of safety, especially for women and children. Post-incident support by designated and relevant agencies is also crucial. Infrastructure improvements need to be accompanied by awareness campaigns and advocacy to cultivate a more secure environment for everyone in public spaces.

1.0 INTRODUCTION

Transport has traditionally been a male-dominated sector, both in terms of employment and the values it embodies (Turnbull, 2013). Most systems are oriented toward the travel needs of men, the traditional lead wage earners (United Nations, 2008). However, the different social roles of women contribute to their marginalization by their male counterparts (Lynch & Atkins, 1988). As such, existing transport networks (planned by men) often neglect women's needs, such as home and care duties that require multiple journeys (Borker, 2024), often accompanied by dependents with additional mobility needs. The design, planning, and strategies around access to mobility and public transportation need to consider the diverse needs of women and other users, addressing the risks of intersecting forms of discrimination that create transport poverty. Safety measures that address different types of vulnerabilities would make transport safer for a broader spectrum of users. Practical and realizable design changes are necessary to improve women's accessibility to public transportation and mobility on equal terms. Gender equality requires the right to mobility and freedom of movement. Access to public transportation increases women's productivity and has a direct impact on gender equality (United Nations, 2008).

Women in low and middle-income countries (LMICs) experience multiple levels of deprivation. Among other constraints, they face socio-cultural norms that deny them equal access to facilities and opportunities (ILO, 2018). They have limited access to resources, including transportation, restricted rights, limited mobility, and a muted voice in shaping decisions (ILO, 2018). Consequently, women are much less likely to participate in the labour market than men, and when they do, they are less likely to find employment and are more likely to be in informal employment with limited or no access to social protection systems (ILO, 2018). Across a sample of developed, emerging, and developing countries, women earn on average 20% less than men, mainly because they are overrepresented in sectors and occupations with a higher incidence of low pay (ILO, 2018). This phenomenon is captured in the concept of 'time poverty,' where women are burdened with unpaid domestic work and other activities outside the labour market (Rodgers, 2023), reducing their productivity and performance in the labour market.

Cycles of gendered and socio-economic inequality affect transportation choices, negatively impacting women's overall health and well-being. Transport improves quality of life and personal well-being by creating and enhancing access to healthcare, education, employment, and information exchange, leading to greater productivity growth and social cohesion (United Nations, 2008). A pleasant built environment and transportation system perceived as safe positively impact individual well-being (Lucchesi et al., 2020). Studies suggest a relationship between walkability and personal well-being, as compact urban forms that encourage walking increase physical activity and create more opportunities for socialization (Mouratidis, 2018). In most urban areas, women's travel destinations are more diverse as they make multiple stops for employment and household duties (Naffa et al., 2018; Borker, 2024). Madariaga & Roberts (2013) highlight that urban women commute using public transportation primarily for employment and transporting children to school and childcare. However, the risk of dealing with sexual harassment and safety threats in public spaces limits transportation choices for urban women, who are more likely to avoid such places and situations (Wang et al., 2020).

Public transportation in urban areas of Malaysia has improved through government investments aimed at reducing traffic congestion. However, these improvements generally address infrastructure and service issues, such as the number of buses and trains, their frequency, and accessibility, rather than women's safety and security. Women's safety in public spaces is still regarded as less pressing by the general public and in public transportation policies. Ironically, past research strongly shows that women face grave safety and security concerns using public spaces and public transportation services, and women travel differently from men in terms of mobility and accessibility. These subtle elements must be planned thoroughly to achieve inclusive planning and gender equality in transportation. Gender-based violence and safety issues, as well as access to public transport, are key barriers to women's mobility in Malaysia.

Malaysia ranked 101 out of 149 countries on the Global Gender Gap Index for 2018 (World Economic Forum, 2018). While Malaysia ranked well in terms of women's access to education and educational attainment, this did not translate to women's economic participation and opportunity (ranking 84) and women's political empowerment (ranking 131) (World Economic Forum, 2018). Much remains to be done. Public transit systems provide access to opportunities. Therefore, the interdependence between Malaysian women's mobility and access

to transportation has consequences for their economic participation, general well-being, and empowerment. Operationally, transport systems have numerous barriers that restrict their use by women and those with disabilities. For example, if bus steps are too high for women to get on or off, or if bus stops are perceived as unsafe, women are denied access not only to the bus but also to the destinations the bus could take them. Transit systems are designed to move vehicles and large numbers of people into and out of cities quickly and inexpensively, often overlooking the passenger experience and needs of those with reduced mobility. Women's voices and experiences are critical to understanding the challenges and strategies to counter obstacles to women's transit safety.

This paper explores the following areas:

1. The wider context of women's safety within gender equality, including public transportation and its impact on health and well-being.
2. Issues related to the safety of public transport among women and girls in Malaysia.
3. Recommendations to improve women's safety using public transport in Malaysia.

Access to transportation is an essential component of the right to equality and non-discrimination. Women's lower mobility compared to men's can be interpreted as evidence of inequality and a lack of access to opportunities (Hanson, 2010). Lack of access to basic opportunities is detrimental to women's social, economic, physical, and psychological well-being (Kerzhner et al., 2018; Miller, 2018). Providing equitable access to opportunities is crucial for reducing social exclusion.

Gender-related discrimination, abuse, and the complexities of transport insecurity and inequality must be considered in public transport planning. The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) obliges Malaysia to respect, protect, and fulfil women's rights to non-discrimination and equality (United Nations, 2010). This includes designing public policies, programs, and frameworks to meet women's specific needs. The state's obligation extends to preventing discrimination by private actors, including those providing public transportation services. Removing barriers to mobility caused by poor design or cultural factors is a step in this journey. This paper addresses safety-related barriers created by poor ergonomics and architecture (e.g., poor lighting).

1.1. Women and Safety in The Public Transportation System

Safety and security are fundamental needs (Stark & Meschik, 2018). A study by the Asian Development Bank in Azerbaijan, Georgia, and Pakistan found that women have greater personal safety needs than men and are more concerned about the safety and security of transportation (ADB, 2015). Malik et al. (2020) found that young women in Lahore, Pakistan, faced harassment at bus stations and on buses, suggesting the need for a gender-equality strategy to ensure safe and efficient urban mobility for women. Kunieda and Gauthier (2007) highlighted that safety and personal security are fundamental criteria for women's mobility and transportation choices.

A study in Austria reported that women experience two to three times higher levels of fear of crime than men, with insecurity linked to the external environment's conditions (Stark & Meschik, 2018). Women feel more insecure in dark car parks and public parks, tending to avoid or postpone trips in the evenings or at night without "shielded" alternatives such as a car (Stark & Meschik, 2018). In developing countries, women avoid public transportation and spaces perceived as dangerous, preferring to use a car if possible (Kunieda & Gauthier, 2007). Other studies framed women's fear differently, focusing on gender-based violence on public transport, a broader public health issue (Jain et al., 2019).

Everyday women are required to employ multiple strategies to avoid victimisation and navigate safely through unsafe spaces including how they use public transport (Ceccato, 2017). Central to the design of public spaces and transportation is the creation of safe environments so that the public can move freely and without fear (Stark & Meschik, 2018). Table 1 shows some of the literature on this subject referenced in this paper. The right to mobility and freedom of movement, is a crucial component of women's right to access public spaces. However, this right is not one that women are able to fully realise and enjoy due to safety and security challenges. These challenges described in Table 1 are discussed in the subheadings within this paper.

Table 1. List of Literature and Research on Women's Safety in Transportation

Year	Author	Title of Publication	Location
2007	Kunieda, M., & Gauthier, A.	Gender and Urban Transport: Smart and Affordable.	Review of studies focussed in cities in developing countries
2010	Hanson, S.	Gender and mobility: new approaches for informing sustainability	Global, including examples from North America, Bangladesh, Benin, Brazil, China, Northern India, and Guatemala.
2011	ILO	Decent Transport for Working Women.	Pakistan
2013	Dunckel-Graglia, A.	Women-Only Transportation: How “Pink” Public Transportation Changes Public Perception of Women’s Mobility	Mexico City
2013	Yusoff, M. F. M., Mohamad, N. A., Abidin, N. Z., Nor, N. G. M., & Salleh, H.	The Value of Statistical Life in Fatal Injury Among Drivers and Riders in Malaysia: Conjoint Analysis Method.	Malaysia
2014	Chiu Chuen, O., Karim, M. R., & Yusoff, S.	Mode Choice between Private and Public Transport in Klang Valley, Malaysia.	Malaysia
2015	ADB	Policy brief: A safe public transportation environment for women and girls	Azerbaijan, Georgia and Pakistan
2015	Romli, F., & Rashid, H.	Point-to-point Transportation Analysis for Domestic Travel in Malaysia	Malaysia
2017	Ceccato, V.	Women’s transit safety: making connections and defining future directions in research and practice.	Global, including India, France, and Brazil.
2017	Liew, S., Hamidun, R., & Mohd Soid, N. F.	Differences of Driving Experience and Gender on Traffic Offences Among Malaysian Motorists	Malaysia
2018	Hutson, A. C. F., & Krueger, J. C.	The Harasser’s Toolbox: Investigating the Role of Mobility in Street Harassment.	New York city and Chicago
2018	Stark, J., & Meschik, M.	Women’s everyday mobility: Frightening situations and their impacts on travel behaviour.	Survey of 402 women in Austria, aged 18 years and above
2018	Souza, A. C. S., Bittencourt, L., & Taco, P. W. G.	Women’s perspective in pedestrian mobility planning: the case of Brasília.	Brazil

2018	Sham, R., Muhamad Hussein, M. Z. S., & Ismail, H. N.	Crime and Safety among Women Travellers in Kuala Lumpur City	Malaysia
2019	Shariff, N.	Private Vehicle Ownership and Transportation Planning in Malaysia.	Malaysia
2022	Araya, A. A., Legesse, A. T., & Feleke, G. G.	Women's safety and security in public transport in Mekelle, Tigray	Tigray, Ethiopia
2023	Yusoff, M. Z., Yusak, F. H. M., Adnan, N. A., Shariff, S. S. R., Tarudin, N. F., & Purnama Jaya, G. N.	Female users and level of safety at light rail transit station, Petaling Jaya, Selangor	Malaysia
2024	Forsdike, K., Ison, J., Hooker, L., Henry, N., & Taft, A.	God, whatever you do, don't tell people it's unsafe": Public transport service providers' perspectives on women's safety from sexual violence on public transport	Australia
2024	Borker, G.	Understanding the constraints to women's use of urban public transport in developing countries	Global, Sub-Saharan Africa and the Middle East and North Africa, East Asia and Pacific, Latin America and the Caribbean, North America, Europe and Central Asia.

1.2. Health in the Context of Public Transportation

Public transportation has been associated with increased physical activity that involves walking to and from transportation stops or between transportation modes (Passi-Solar et al., 2020). The increase in physical activity through active transportation such as buses, cycling and walking has been linked to health benefits such as reduced obesity, hypertension, diabetes, cardiovascular risk and increased mental wellbeing, when compared to passive transportation such as private motor vehicles (Scheepers et al., 2014; Tajalli & Hajbabaie, 2017). Active transportation also reduces air pollution, which consequently can help reduce cancer risk in urban areas (Rabl & de Nazelle, 2012).

The literature review has shown global concern for issues around gender inequalities in transport, the effects of this on women's lives and their increased likelihood of suffering from gender-based attacks when travelling. The Health Belief Model (HBM) has been used to measure perceived safety threats, which employs the theory that individuals who perceive unsafe situations are more likely to engage in behaviours to prevent the situation from occurring (Wang et al., 2020). These unfavourable conditions and situations decrease the active travel mode of mobility choice for women who perceive public transportation systems and public spaces as unsafe, which consequently affects the physical health and well-being of the user. Women are more likely to prefer private and passive modes of transportation, over long walking routes if they perceive the routes as unsafe. Providing safe pedestrian routes with adequate lighting and security features between bus stations can encourage users to walk longer distances (Malik, et al., 2020). Transportation policies and systems that prioritize public transportation and active travel such as walking and cycling have been shown to encourage more physical activity (Bartels et al., 2012). Gaining further insight into these issues, using qualitative research methods provides an evidence base on which solutions can be proposed.

Women, as transport users, are not a homogenous group; they may also be of different ethnicity, age and social group, which may lessen or increase their levels of vulnerability in transit (Ceccato, 2017). Although fear about personal safety affects society as a whole, some groups are more vulnerable than others, such as children, elderly persons, persons with disabilities, ethnic minorities, persons from sexual minorities, and other

underprivileged groups (Stark & Meschik, 2018). Fears and concerns over personal security and safety have a direct impact on women's mobility and travel behaviour (Hanson, 2010; Stark & Meschik, 2018). Changes in behaviour include, avoiding certain routes, stops, destinations or modes of travel, carrying personal protection such as repellents or keys, travelling at different times, seeking safer, though more costly modes of transport, and even forgoing trips (Hanson, 2010; Kunieda & Gauthier, 2007; Stark & Meschik, 2018). For example, a study in Brazil found that over 50% of women change their walking path in spaces inhabited exclusively by men (Souza et al., 2018). In Malaysia, in a study involving 300 respondents in urban areas in Penang, women reported that they felt unsafe taking public transport in urban areas at any time, despite a declining trend in the number of reported crimes (Sham et al., 2012). When planning for the security needs of passengers, it is important to look at the journey as a whole, i.e., a 'whole journey' approach (Ceccato, 2017). Safe transit for women therefore needs to also consider the reality of women's travel patterns, i.e., gender and other components of a woman's identity, and how she navigates through public spaces and transport as a result (Bowstead, 2020). Taking a door-to-door approach (variously called 'origin to destination' and 'point-to-point' (Romli & Rashid, 2015), which includes walking to and from the bus/railway/subway, waiting for and riding on the transport, allows us to identify and locate the most critical moments in which women feel at risk (Ceccato, 2017). This is valuable information for policy makers, suppliers of service delivery, as well as users of the system (Ceccato, 2017). In general, women will use a car for most trips if they have the opportunity, where there is a chance of violation or danger (Kunieda & Gauthier, 2007).

In Malaysia, private vehicle ownership has increased sharply over the past decades (Romli & Rashid, 2015; Shariff, 2019). In 2010, Malaysia recorded the highest number of passenger car ownerships, at 311 per 1000 people, compared to 91 in 1990, 133 in 1996, and 210 in 2002 (Onn et al., 2014). Vehicle ownership in the Klang Valley (an area encompassing Kuala Lumpur, and adjoining towns and cities in Selangor) goes far beyond that of the national average, at 247 vehicles per 1,000 persons in 1990, 546 in 1996 and 994 in 2002 (Shariff, 2019). There is an over-reliance and preference for private vehicles as a mode of transportation for various reasons. Private vehicles provide flexible, point-to-point travel at the time desired, even if the overall costs and total time expenditure may be higher than public transportation (Romli & Rashid, 2015). A study in 2010 in Klang Valley, found that almost 83% of the 7.23 million trips daily in Klang Valley were made via private vehicles, most of which were single occupancy (Onn et al., 2014). That means only 17% of trips each day were completed using public transport.

Female ownership and usage of private vehicles have traditionally been lower than men's, and women make use of more sustainable forms of travel (Kunieda & Gauthier, 2007). In the United Kingdom, in terms of female vehicle ownership rates, 75% of women have no or restricted access to a car, while only 15% of men face the same levels of restriction (Kunieda & Gauthier, 2007). In Malaysia, research on gender shows that there are more male drivers than female drivers, approximately 53% male and 47% female (Liew et al., 2017; Yusoff et al., 2013). In a society where productive or income generating trips are more valued than trips for reproductive or other domestic purposes, men may give stronger priority to the use of private vehicles (Kunieda & Gauthier, 2007). This is exacerbated in countries with no gender equality, where men's needs always come first, and they take the form of transport with the highest status and most convenience (Kunieda & Gauthier, 2007). Therefore, women tend to depend more on public transportation, are less likely to own or have priority use of a private vehicle (ADB, 2015), or have agency over their mobility (Iqbal et al., 2020)

Considerations of safety and security for women must consider the entire journey, from lighting at stations and in transport vehicles, to the walk to the station (Iqbal et al., 2020). Land use and landscaping for pedestrians is also a crucial part of the perception of safety on the streets (Kunieda & Gauthier, 2007), with graffiti and poorly maintained areas most noted by women (Woodcock, 2017).

1.3. Women Friendly Transportation Developments and Their Limitations

Some countries, including Malaysia, have introduced "women-only" public transportation as a means of enabling women to travel safely (ADB, 2015). While these may provide short term relief for women seeking safety in transit, they are a limited response that may, in the long run, deepen gender divisions, instead of promoting women's independence and self-determination (Stark & Meschik, 2018). Segregation is problematic as it does not address the underlying and structural root causes of gender biases and discrimination against

women (Ceccato, 2017; Hutson & Krueger, 2018). Such initiatives fail to recognise deeper gender inequalities and are exclusionary. Pink carriages do not accommodate all persons who experience harassment, including women who are perceived to be not heterosexual or cis-gender, i.e., whose gender identity is perceived as ambiguous, to be non-normative or non-binary (Hutson & Krueger, 2018). Thus, it would be preferable to create a safe environment for women (and everyone else) instead of providing limited and exclusive, women only spaces. Women-only transportation can have a positive impact on women's mobility, provided it is part of wider solutions to address the root causes of violence against women in public transportation (Dunckel-Graglia, 2013). A recent study on the Light Rail Transit (LRT) female users in Malaysia indicates that they feel unsafe using the LRT as the bus stop location and security measures such as lighting and design contribute to this issue (Yusoff et al., 2023). Sham et al. (2018) indicated that female users of the public transportation system felt dissatisfied with the infrastructure design and provisions of bus stops, which led to a feeling of being unsafe while walking to and waiting at the bus stop area.

E-hailing services such as UBER or Grab-Car form part of the sharing economy (International Finance Corporation and Uber Technologies, 2018). E-hailing can be defined as services ordered via electronic devices for a car, taxi, limousine or any other form of transportation (IDEAS, 2018). It proposes to "enhance women's independence by allowing them to fulfil specific transportation requirements guided by household management responsibilities" and "helps them accomplish historically impossible locations or sleep through the night" (International Finance Corporation and Uber Technologies, 2018). Although these systems tend to offer a better solution to mainstream public transport, they continue to increase congestion and have detrimental environmental effects (Kunieda & Gauthier, 2007).

"Shielded" alternatives such as cars are usually more expensive, they may provide women with a higher perception of safety (Stark & Meschik, 2018), and privacy, but they do not address gender equality or provide long term solutions to sustainable transportation (ADB, 2015). The rise in rideshare taxis and motorcycle taxis may be seen as indicative of the failure of mass transit to meet the needs of the population (Kunieda & Gauthier, 2007) and entrepreneurs are filling the demand gap.

2.0 METHODOLOGY

A phenomenological approach was used based on Focus Group Discussions (FGD) which sought to uncover personal and professional perceptions and experiences of the safety and security of female public transport users in Kuala Lumpur. The results are organised in terms of emergent themes and cross referenced against existing literature, to provide strategies and recommendations to address women's safety and security issues when using Malaysian public transport.

2.1. Focus Group Discussion Approach

The Focus Group Discussions (FGDs) aimed to understand safety issues with respect to the use of public transport and the degree to which gender-based abuse was associated with them. FGD is a participatory tool that can be used to test the motivation of people's meaning expressions in environmental assessment (Christie et al., 2012). They have a semi-structured format that takes place in a group setting with discussions focused on current, rather than deliberated, opinions. A facilitator introduces the topics, leads the discussions and stimulates interaction between participants. This can be used to benefit socially marginalised groups (Kidd & Parshall, 2000; Schaafsma et al., 2017), in this case women.

The approach was exploratory as it aimed to identify the problems, thoughts and feelings of women who use public transport. The interaction between participants allowed for more flexibility in the assessments of values, beliefs and perceptions of situations and past experiences, and may be seen as more accurate and detailed descriptions than household surveys (Schaafsma et al., 2017). In this case, the FGD was used to investigate the in-depth ideas, attitudes, perceptions, values, and priorities of women who use public transport.

2.2. Background of the FGD

The Focus Group Discussion (FGD) was held in 2018 at the Faculty of Built Environment, University of Malaya. Participants included representatives from the Kuala Lumpur City Hall, the Town and Country Planning Department, and the Royal Malaysian Police. Additionally, representatives from non-governmental organizations (NGOs) and local female university students. The session provided participants with the opportunity to share their opinions and experiences related to women's mobility in Malaysia. Participation was voluntary and the researcher did not set any specific criteria for the representative to avoid bias in the sampling. The FGD discussed issues related to women's perception of safety in public spaces, monitoring processes, environmental issues related to safety, and strategies to improve women's safety in public spaces. The main variables focused on in this research were safety, women friendly facilities and expectations versus perception, against the parameters of the findings discussed in the FGD and the literature listed in Table 1.

There were 25 participants (21 women and 4 men) aged from 15 to 70 years and were divided into three groups:

- Group 1: policy makers, comprising representatives from the Town and Country Planning Department, Kuala Lumpur City Hall, Royal Malaysian Police, Thinkcity, National Council of Women's Organization Malaysia (NCWO) and All Women Action Society (AWAM)].
- Group 2 and Group 3: public transport users from both public and private agencies, female secondary school students, teachers, housewives, and postgraduate students.

3.0 FINDINGS

3.1. Safety

In general, participants felt relatively safe in public areas such as shopping malls. They agreed that walking in public during the day is safer than at night, but they felt unsafe in the confined spaces, especially in lifts where there is no CCTV provided. Students reported sexual incidents such as public masturbation and sexual harassment within the school compound or nearby, on the way to school, these were reported to the police. Follow up actions taken by the school and police included a safety campaign at the school with safety awareness talks and demonstrations on self-defence.

Women believed that they fell victim to crimes when they stopped being vigilant or self-aware in public places (e.g., through the use of their mobile phones) and forgot that there may be predators. This view is concerning as it places the burden of safety on the individual instead of society, laws and infrastructure. The victim is at fault for not being mindful of her circumstances or behaviour. The Royal Malaysia Police (Polis Diraja Malaysia - PDRM) highlighted efforts to engage the community in creating a safe environment for all, as the community can look out for each other, and report crime which allows the PDRM to identify hotspots.

One of the outcomes of the discussion was the need to ensure the mobility, health and well-being of all the population, especially vulnerable groups such as women. Participants agreed that urban design plays an important role in ensuring the safety of users, and poor conditions of infrastructure such as pavements may lead to accidents. This required investment in the physical environment to address safety and security concerns such as the design of pedestrian walkways and lanes, better lighting as women feel unsafe in dark spaces, creating active spaces by bringing in commercials and businesses to create more eyes on the street. Technology is also part of the solution, and suggestions include high resolution CCTV, real time integrated bus timetables so users know what time busses will arrive. These measures will consequently encourage more active modes of transportation, which will promote physical activity and its associated health benefits.

The policy maker group discussed four (4) current issues related to women, gender specific considerations and strategies, safety strategies for women in public transportation, and recommendations for improvement. The group discussed the importance of recognising gender in urban planning, and the need to ensure that design benefits everyone. The concept of gender was discussed, with the idea that gender is a spectrum that is beyond the binary of woman and man. There were divergent views on whether the consideration of gender in urban transport and planning should move beyond the binary. This was resolved with the point that design and policies should be inclusive enough to include all persons, including minority groups. The issue of harassment of

transgender persons was highlighted and the Royal Malaysia Police (PDRM) noted that they would not discriminate against transgender persons.

3.2. Availability of Women Friendly Facilities

The majority of participants are aware of the provision of Ladies Oriented Facilities such as Women Coach, Ladies Parking and Ladies Waiting area. However, they felt unsafe when bus stops were crowded and fully occupied by men. Respondents also reported that male commuters used the designated women-only railway coach and walked through it.

Respondents made recommendations to improve women's safety which included the provision of a panic button inside bus/train coaches and stations, the design of enclosed bus stops for crime prevention, the need to use bus stop areas as a focal point for business activities to increase activity and liveability in the area, and locating parking facilities for women near lift lobbies. Respondents also suggested that smartphone apps such as Google Maps, Waze and RakanCop could be enhanced by showing the nearest police stations; bus/train stations/stops should be equipped with Wi-Fi for easy internet connection and provide real-time schedule updates. Furthermore, respondents highlighted the importance of instilling respect regardless of gender as one of the recommendations that can be taught in schools.

3.3. Expectations Versus Perceptions

The group discussed the issue of sexual harassment as an impediment for women, and the need for a comprehensive law, as well as public education on the issue. Another issue raised was child trafficking. This fear results in children not being allowed to use public transportation to go to school. According to a 2012 report by the Child Rights Coalition Malaysia, there is a need for greater information on the nature and magnitude of the issue of child trafficking in Malaysia. The Malaysian government confirmed that between 2008 and 2012, a total of 122 children who were survivors of human trafficking were rescued and placed under a Protection Order. However, the Coalition found that in general, statistics on the number of children trafficked into and out of Malaysia are not publicly available, thus obscuring the magnitude of the issue (Child Rights Coalition Malaysia, 2012).

Across both the user and policy groups, one common issue was that of enforcement. While there are some good laws and policies for women in Malaysia, one issue is that of enforcement and implementation. One example is the lack of enforcement of the women-only coach on KTM Komuter railway, as men also use these coaches. Policies and initiatives such as these require enforcement. It is important to recognize that resources need to be set aside for the enforcement and maintenance of facilities, so that they can function accordingly.

4.0 DISCUSSION AND RECOMMENDATIONS

There is no single initiative or solution to address women's transit safety. Instead, holistic, multi-disciplinary approaches and strategies, at various levels, are needed in the short, medium and long term. Women's safety in transit requires joint responsibility, intersectoral action and partnership between local and federal governments, women's groups and other community partners (Ceccato, 2017). When developing urban planning policies, it is crucial to have an intersectional framework to understand how discrimination can impact access. Public transport planning and delivery requires a gender-lens perspective from the overarching leadership to ensure sustainable action and delivery of safe public transport for women (Forsdike et al., 2024). It takes political will and vision, to take steps to integrate gender into transportation systems. When transportation systems are accessible, efficient, reliable, safe and affordable, it benefits not only women, but commuters and users as a whole. The following recommendations for Kuala Lumpur emerged from the Focus Group Discussion and have been backed up by the literature.

4.1. Urban Design and Planning Strategies to Enhance Safety and Security

To enhance the safety and security of strategic locations, design and layout should be informed by consultations with commuters and vulnerable user groups, and through the monitoring and surveillance of

identified insecure spaces. Infrastructural changes can include crime prevention through physical and environmental design (CPTED) measures such as:

- Increasing surveillance includes closed circuit television in buses, trains, as well as train and bus terminals and stops.
- Providing emergency buttons or telephones; and increasing visibility through lighting, especially in dim areas of public transportation terminals, as well as car parks (Ceccato, 2017; Kunieda & Gauthier, 2007; United Nations, 2006).

Public transportation service operators can also prevent overcrowding through foot traffic analysis and traffic control protocols, and by providing larger coaches or busses, to ensure efficient surveillance services (Ceccato, 2017; Kunieda & Gauthier, 2007; United Nations, 2006). Other strategies include incorporating the use of technology in transportation services such as mobile apps for online and real-time maps of incidences or hotspots, including sexual harassment and apps for various means of reporting through hotlines, social media and real-time tracking apps. These strategies and recommendations were highlighted by the students as key methods for addressing safety and security during their transit experience.

Systems for reporting sexual harassment and other forms of violence against women in public spaces, must be secure and confidential, with measures to protect complainants from any possible acts of retaliation. On-going funding and good maintenance of these facilities are also crucial to ensuring no lapse in all services pertaining to safety and security. This support system will hopefully make it easier for victims of sexual harassment or sexual violence to report their cases.

Ideally, public transportation should provide active spaces where women and other commuters do not feel isolated and more vulnerable to attack, through mixed land use, landscaping and lighting. As stated by Jane Jacobs, the city planning principle of “eyes on the street” is one of the best deterrents to crime (Jacobs, 1961). This can be done by integrating businesses and services at public transportation stations, such as grocery stores, convenience stores, and child care. In Tokyo, rail stations include facilities such as day care, and are integrated with many convenience stores which stock essentials, as well as a range of other commercial stores on the platforms. These stores cater to busy commuters, especially women, who combine their trips with other responsibilities (Kunieda & Gauthier, 2007).

The creation of more active spaces can also be achieved by changing a car-oriented city to one that favours public transit, walking and cycling to increase people on the streets. For example, Seoul was transformed from a car-oriented city to one that favours public transit, walking and cycling. A 6 km elevated expressway running through the heart of the city was demolished, and replaced with a reclaimed river, walkways and public spaces. Some of the bridges over the river were prioritised for the exclusive use of pedestrians and bicycles. Exclusive busway corridors were retrofitted in more than 80 km of congested streets to provide faster transit services (Kunieda & Gauthier, 2007).

4.2. Laws and Policies for Women’s Public Safety

Various examples of laws and policies to ensure women’s safety in the public space are available internationally and recommendations can be made for Malaysia, including:

- The first and foremost is the promulgation of a comprehensive sexual harassment law.
- Requiring public transport operators to have public safety policies and initiatives to combat sexual harassment (ADB, 2015; Bramley, 2016; Young, 2014). This includes advertising about the issue and what to do. A well-publicised anti sexual harassment policy empowers targets to report, and bystanders to provide support, with the full understanding that such behaviour is unacceptable, and steps and systems are in place to address it (ADB, 2015; Bramley, 2016; Young, 2014).
- Creating databases to track sexual harassment and sexual assault at public transport stations and vehicles, to provide on the ground data that can lead to better decision making and development of mitigation strategies (ADB, 2015; Bramley, 2016; Young, 2014).

Data collection is integral to the formulation of good and sound policies, particularly in addressing women's concerns about safety, including sexual harassment. The reporting of incidents creates a picture of where incidences are occurring, and where additional resources need to be deployed. This was also raised as part of Project Guardian by the British Transport Police, "unless we keep reporting incidents on the tube network, the police will be slower at tracking offenders and knowing where and when to best deploy extra officers" (Bramley, 2016). Harassmap, a volunteer initiative in Egypt, uses crowdsourcing data to collect incidents of sexual harassment, and provides this data on a map. Identifying hotspots with frequent instances of sexual harassment, allows for informed decision making as law enforcement has data as to where to allocate personnel more efficiently (Young, 2014).

4.3. Public Education and Awareness

Holistic campaigns and policies should focus on developing behaviour change. Developing awareness raising materials can be used to raise awareness of women's rights and unacceptability of violence against women and to increase sensitivity to sexual harassment in public spaces and transportation. Messages should include the role commuters can play to improve safety, and encourage men to stand up for women who are being harassed (ADB, 2015). Communicating these campaigns through advertising on buses, trains, bus stands and train platforms, as well as on television, radio and social media (ADB, 2015; Ceccato, 2017; United Nations, 2006). Although communication products (e.g., posters, videos, social media campaigns, mobile phone applications) empower passengers to act and discourage sexual harassment perpetrators, they may simply put the onus back on the public to be more vigilant if they are not accompanied by a gender mainstreaming and gender action planning in transport and law enforcement institutions.

Therefore, a more holistic approach is needed, in which transport company officials, security personnel and other staff (drivers, etc.) are sensitised to issues of gender inequality and harassment through trainings and workshops on how to respond, report and document sexual harassment and assault cases. This will enable them to be more equipped to handle these cases sensitively, which in turn will encourage survivors to be more confident in reporting an offense. At the same time, integrating strategies and improving coordination between local government, transport security and local police is vital in ensuring public safety. This joint coordination in monitoring, responding to and tracking sexual harassment and sexual assault cases, as well as joint trainings on anti-sexual harassment legislation.

Gender and diversity mainstreaming in companies are proven ways of not only getting women's and other users' needs on the table, but also increasing the performance, creativity and satisfaction of the work force. A shift is needed in the culture of the organisations which allows women and those from diverse backgrounds to have a voice and senior roles as decision makers. Current approaches to challenging and eradicating gender stereotypes to address gender-based violence issues can be done in schools by eliminating gender-based stereotypes in educational curricula; providing gender-sensitivity training for teachers; creating a school environment that rejects violence; and offering specialized courses on human rights, including women's rights (ADB, 2015; Ceccato, 2017; United Nations, 2006). However, without a more holistic and braver approach, expectations will be raised. The onus for making change cannot simply be placed on young people. They will seek change and have high expectations, only to graduate into a society where there is still gender inequality, violence against women and where women are not decision makers.

5.0 CONCLUSION

Women are critical agents in building more equitable, safer and more sustainable societies. Their experiences and voices bring ground root realities to policy making as well as design and planning strategies. Understanding women's needs and concerns will allow for better service delivery for not just women but all transport users, as the biggest issue with public transportation in Malaysia is safety and security and addressing these issues will benefit everyone.

This study highlighted that gender-based violence issues such as sexual assault, harassment and child trafficking are the main mobility barriers to women's access to public transportation services in Malaysia. Stakeholder participation in providing a holistic public transportation service also remains a bureaucratic barrier

as the planning and implementation of public transportation services require the successful integration of various agencies such as Ministry of Transportation, private transportation company, and local authorities along the transportation service line. The FGD findings underlined the issue of enforcement of strategies and policies that were designed for women's safety in the public sphere, especially with regards to women only provisions such as coaches and parking, which were misused by men and not effectively enforced. Suggestions were made to provide more panic buttons within the public transportation spaces, within coaches, bus stops and lift lobbies to provide a sense of security and public deterrent for crime and harassment against women. Additionally, upgrading the whole transportation system using smart technology and Wi-Fi to provide real-time data, live feed, the location of the nearest police station and/or panic button could also provide more security for female users.

Participants agreed that urban design plays an important role in ensuring the safety of users, and poor conditions of infrastructure such as pavements may lead to accidents. This required investment in the physical environment to address safety and security concerns such as the design of pedestrian walkways and lanes, better lighting as women feel unsafe in dark spaces, creating active spaces by bringing in commercials and businesses to create more eyes on the street. Technology is also part of the solution, and suggestions include high resolution CCTV, real time integrated bus timetables so users know what time busses will arrive. These measures will consequently encourage more active modes of transportation, which will promote physical activity and its associated health benefits.

Public transportation strategies need to be holistic to ensure that the physical design and other strategies employed should prevent security breaches and are able to provide a sense of safety especially for women and children, but also include post incident support by designated and relevant agencies. Improvements to the infrastructure need to go hand in hand with awareness campaigns and advocacy, to cultivate a more secure environment for all in the public space.

Data availability

All data, models, and code generated or used during the study appear in the submitted article.

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