

Gender Sensitive Urban Design in Asia: Lessons from Public Transport Security in Hong Kong, Tokyo, and Seoul

Wenhui Lyu¹, Huixuan Yuan^{2*}, Jia Tang³

¹*School of Architecture, South China University of Technology, Guangzhou, China*

²*School of Architecture and Design, Beijing Jiaotong University, Beijing, China*

³*Human Geography and Urban Planning, Hebei Normal University, Shijiazhuang, China*

**Corresponding Author. Email: hxyuan2004@outlook.com*

Abstract. Urban transportation in East Asia is significantly influenced by gender dynamics, and women often face violations of their safety in public transportation systems. Gender-Sensitive Urban Design (GSUD) has emerged as a framework to address these issues by integrating safety, inclusivity, and participation into urban planning. This study adopts a literature-based comparative case study approach to examine GSUD practices in Hong Kong, Tokyo, and Seoul. Drawing on academic scholarship, government policy documents, NGO and international reports, and local media sources, the analysis focuses on three dimensions: infrastructure and design, policy and governance, and public awareness and participation. Findings reveal that while each city has introduced targeted interventions — such as women-only carriages, digital safety applications, and participatory planning initiatives — gender neglect still exists, with gaps in monitoring, inclusivity, and cultural adaptation. The latent discipline of East Asian culture and hierarchical governance structures further constrain effectiveness. The study concludes that advancing GSUD in East Asian public transport requires a dual-track approach that combines physical infrastructure improvements with governance reforms and culturally sensitive participatory mechanisms. Policy recommendations are proposed to enhance women's mobility security and promote more inclusive urban environments across the region.

Keywords: Gender-sensitive urban design, mobility security, public transport

1. Introduction

1.1. Background

1.1.1. Development and connotation of GSUD

Gender is just one of a multitude of interconnected dimensions that form an individual's identity, and shape how a person is treated in society. Gender is a social and cultural concept that refers to the way a person lives and interacts with the world [1]. Urban design principles and practices are generally considered to be gender neutral, not distinguishing between how either men or women

experience and use public space. In Asia cities, it is pertinent to examine public transport and mobility security through the lens of gender-sensitive urban planning

1.1.2. Mobility security and public transport in East Asia

In rapidly urbanizing East Asia, efficient public transport systems are fundamental to urban functionality and economic vitality. However, the experience of urban mobility remains markedly divided along gender lines. Drawing on C. Moser's framework of gender roles—particularly the reproductive, productive, and community activities predominantly undertaken by women—female travel is frequently linked to destinations such as educational institutions, healthcare facilities, shopping areas, and administrative offices. Consequently, women's mobility patterns and their public transport choices significantly shape daily urban life [2].

Studies indicate that women across the region consistently express heightened concerns regarding personal security when using public transportation or moving through public spaces. These perceived and real security challenges not only infringe upon women's right to equal mobility but also restrict their full and equitable participation in the public life of the city.

1.1.3. GSUD & public transport

This article examines the application of Gender-Sensitive Urban Design (GSUD) in the public transportation systems of three East Asian cities: Hong Kong, Tokyo, and Seoul. Focusing on mobility security and gender-sensitive design, it evaluates the potential and challenges of implementing GSUD principles. The analysis aims to illustrate the current state of GSUD in the region and provide policy recommendations for developing more women-friendly urban infrastructure and enhancing women's participation in urban planning decision-making.

1.2. Gender Sensitive Urban Design (GSUD)

1.2.1. Original

Gender-sensitive urban design (GSUD) is a theory established by the ACT government, as well as a framework and toolkit identified as an action in the ACT Women's Plan 2016-26.

The theoretical underpinnings of Gender-Sensitive Urban Design (GSUD), as presented in the framework, are derived from an interdisciplinary synthesis of global gender and urban studies scholarship, critical design theory, and localized community engagement. This theoretical basis establishes that urban design is not neutral but a powerful factor that can either perpetuate or mitigate gender inequalities, impacting safety, accessibility, health, participation, and a sense of legitimacy in public space.

1.2.2. Theoretical frameworks

The GSUD framework itself is structured around six core principles:

FEELING Safe & BEING Safe: Emphasizes that perceived safety is as critical as statistical safety in enabling the use of public space.

BEYOND Design: Advocates for gender mainstreaming across the entire project lifecycle, from policy and procurement to management and evaluation.

Being HEARD: Stresses the necessity of inclusive participation and amplifying the voices of women and gender-diverse people in decision-making to combat unconscious bias.

PLACE Specific: Rejects one-size-fits-all solutions, insisting on empathetic, context-specific responses to unique local challenges.

Scale Matters: Requires the application of a gender lens at all scales, from macro-level metropolitan planning to the micro-level of human-scale design details.

RIGHT to the CITY: Asserts the right for everyone, especially vulnerable groups, to feel legitimate, confident, and welcome in public spaces [1].

2. Methodology

2.1. Research design

This study adopts a literature-based comparative case study approach to analyze gender-sensitive urban design in public transportation and women's safety across three East Asian cities: Hong Kong, Tokyo, and Seoul. The research design [3] integrates theoretical perspectives from the existing body of literature on gender-sensitive urban design with selected case studies. In this way, the study seeks to provide a comprehensive understanding of both the current practices and the challenges of ensuring women's safety in urban transport systems [4].

Specifically, the research focuses on three analytical objectives: first, to identify the current practices related to women's safety in public transportation; second, to examine the gaps and challenges in the implementation of gender-sensitive urban design; and third, to explore potential directions for improvement within the urban contexts of East Asia. This design not only highlights the distinct urban experiences of Hong Kong, Tokyo, and Seoul but also provides insights into the broader applicability of gender-sensitive design principles across East Asian cities [5].

2.2. Data collection

This research used a systematic literature review to collect data across the three case cities. We searched academic databases such as Google Scholar, JSTOR, Scopus, and ResearchGate, as well as government portals from Tokyo, Seoul, and Hong Kong. Keywords included “gender-sensitive urban design,” “public transport safety,” and “inclusive planning.” To ensure quality, we focused on works published after 2010, prioritizing peer-reviewed studies, official policy documents, and statistical reports. Local media (e.g., Southern Metropolis Daily, Tokyo Weekender, Reuters) and NGO publications were also included to give more context. Using these sources together ensured the study combined reliable data with practical perspectives.

The selection of Hong Kong, Tokyo, and Seoul as case cities is based on three main criteria: their typicality in representing East Asian urban contexts, cultural similarity shared by cultures within the East Asian cultural sphere, and the relative accessibility of information. For data collection, we rely primarily on government policy documents, official reports, and mainstream media coverage, complemented by secondary academic literature that provides city-specific insights. This approach ensures both the reliability of sources and the comparability of data across the selected cases.

2.3. Data analysis

The analysis will be conducted in two stages. The first stage focuses on case-specific analysis for each of the three cities. In this phase, relevant literature will be systematically reviewed and organized to extract information along three analytical dimensions: (1) infrastructure and design, such as lighting, surveillance, and transport planning; (2) policy and governance, including laws, municipal programs, and institutional frameworks; and (3) public awareness and participation, such

as gender training initiatives and awareness campaigns. This framework provides a detailed understanding of each city's specific practices and constraints.

The second stage involves a comparative analysis across the three case studies. Trying to identify commonalities in existing gender-sensitive urban design measures, challenges and shortcomings related to women's safety, and policy or planning innovations at the municipal level. It also considers the underlying reasons for these difficulties and highlights opportunities for improvement. This two-tiered approach enables the study to capture both city-specific dynamics and broader regional patterns in gender-sensitive urban design. As shown in Table 1, the comparative framework is structured around three analytical dimensions—infrastructure and design, policy and governance, and public participation and awareness—which provide a consistent basis for evaluating gender-sensitive urban design practices across the three case cities.

Table 1. Design of the case analysis framework

	Hong kong	Tokyo	Seoul	Contrast / Improvement
Infrastructure and Design	Lighting, surveillance facilities, women-only carriages, etc	Women-only carriages and intelligent monitoring systems	Public space safety renovation and night buses exclusively for women	The effectiveness and insufficiency of measures in different cities
Policy and Governance	Urban planning policies and government-funded projects	Local governments coordinate with national policies	Gender equality policies being incorporated into transportation planning	The possibility of regional policy coordination in East Asia
Public participation and awareness	Public safety education activities	Women's group and community participation	Online complaint and interaction platform	The Role of public Participation in policy design
Gender-sensitive urban design is insufficient	Measures are scattered and lack long-term monitoring	lack of an overall plan for traffic safety at night	gap between policy implementation and public awareness	Suggestions for improvement at institutional and design levels

2.4. Summary and discussion

The findings shared in this paper will be synthesized and interpreted through the theoretical lens of policy and regulatory frameworks, urban and transport infrastructure, and public awareness and municipal engagement [6]. This theoretical framing provides a basis for situating empirical evidence from the three case cities within broader debates on urban safety and inclusivity [4,7].

The synthesis will emphasize the strengths, weaknesses, and opportunities identified across the cases, with attention to how these dimensions reflect both shared regional characteristics and city-specific conditions. On this basis, the final stage of the analysis will develop recommendations for enhancing gender-sensitive urban planning in East Asian public transportation systems [8,9]. These recommendations aim to inform urban policymakers and planning authorities by offering actionable strategies that address existing challenges while promoting more inclusive and safe urban environments.

3. Case studies

3.1. Justification

3.1.1. Policies and regulations

This dimension focuses on the rules, laws, and guidelines set by governments and authorities.

The Gender-Responsive Urban Planning Framework (GRUPF) is structured around four key dimensions: policy and governance, participatory and inclusive planning, gender-sensitive urban design, and data-driven decision-making. [2] According to studies like GRUPF, policies and governance are definitely necessary in analysing gender sensitive urban design in Asia cities.

3.1.2. Infrastructure design

This dimension deals with the physical and built environment.

More public transport facilities and inclusive design ensure availability and accessibility for women, which in turn, elevate career and social opportunities for women [3]. In addition to policy and regulatory frameworks, the physical design of public spaces and transport carriages constitutes a critical dimension in fostering inclusive and accessible environments.

3.1.3. Public awareness and participation

This dimension emphasizes engaging the community.

Despite the significant progress in gender-focused urban planning research, critical gaps remain. The keyword analysis reveals strong research clusters around urban accessibility, transportation equity, and policy frameworks, yet more attention is needed on the intersectionality of gender with race, class, and disability in urban environments [10]. So that it's important to recognize that relying solely on macro-level data and one-size-fits-all policies is insufficient; it is crucial to enhance public awareness and establish robust participatory mechanisms that empower women from diverse backgrounds to voice their experiences, thereby ensuring that urban planning responds to these complex and intersectional needs.

3.2. Hong Kong, China—GenUrban project

3.2.1. Overview

Hong Kong presents a unique case for gender-sensitive urban planning due to its status as a high-density, cosmopolitan city with a complex urban fabric. Its public spaces are distinctively dispersed across multiple levels: underground (MTR stations, subways), ground level (open spaces, roads), bridges and skywalks, and within buildings (shopping malls). This vertical layering creates a unique pedestrian experience. The city's morphology, characterized by Transit-Oriented Development (TOD) complexes, irregular street patterns, and hilly topography, significantly influences mobility patterns. A key feature of Hong Kong's social landscape is the large population of Female Domestic Helpers (FDHs), predominantly migrant women from Southeast Asia, who constitute a significant portion of the workforce. These women often live in cramped, inadequate employer-provided accommodations and have limited access to private spaces, leading them to appropriate public spaces on their days off, thereby creating a distinct cultural landscape.

3.2.2. Measurement

3.2.2.1. Policies and regulations

Firstly, policy integration is crucial, requiring the mainstreaming of GSUD principles into existing urban planning standards and strategic plans, such as formally adopting the "GenUrban" framework's strategies—like "Make Sunday Special" with time-sharing policies for public spaces—into the Hong Kong 2030+ Planning Vision [10].

3.2.2.2. Infrastructure design

Secondly, infrastructure design should prioritize human-scale, "acupuncture-style" micro-regeneration. This involves targeted interventions such as installing additional seating and shade along key pedestrian routes, enhancing street lighting and natural surveillance in areas like Harbour Road Garden, and ensuring adequate, well-maintained public toilets to address the specific mobility patterns and safety concerns of women [10].

3.2.2.3. Public awareness and participation

Finally, fostering public awareness and participation is achieved through innovative methods like "walkshops" and participatory mapping with diverse female user groups, including Foreign Domestic Helpers. Leveraging digital platforms for real-time feedback and actively communicating the success stories of these inclusive interventions are vital for building sustained community support and ensuring that urban design genuinely reflects the needs of all genders [10].

3.2.3. Feedback

GenUrban survey specifically highlighted women's demands for more seating along footpaths, green zones, and public toilets.

The FDH community's use of space is a form of feedback in itself. They creatively transform public spaces like Harbour Road Garden and Wan Chai Community Garden into temporary homes and social hubs on Sundays, engaging in activities like dancing, dining, and vending. This indicates a strong need for semi-private spaces, shade, and social areas that the current urban design does not fully provide. Observations confirmed a distinct spatial separation between FDHs and other user groups on weekends, underscoring social divisions.

3.2.4. Obstacle and improvement

3.2.4.1. Policies and regulations

First, in policy and regulation, the absence of a systematic, mandatory gender-mainstreaming framework results in ad-hoc and inconsistent implementation. This can be remedied by formally integrating gender-responsive guidelines, such as the "GenUrban" strategies, into the city's statutory planning standards and establishing clear accountability mechanisms.

3.2.4.2. Infrastructure design

Second, regarding space design, there is a prevalent issue of inadequate accessibility to essential facilities and a lack of dedicated management for their upkeep. Targeted "acupuncture-style" micro-

regeneration is needed to retrofit existing infrastructure—such as ensuring sufficient public toilets, improved lighting, and universal street furniture—coupled with dedicated management protocols for maintenance.

3.2.4.3. Public awareness and participation

Finally, in awareness and participation, the lived experiences and needs of diverse women, particularly marginalized groups like Foreign Domestic Helpers, are often overlooked in the planning process. Adopting inclusive participatory methods, such as co-design workshops and participatory mapping, and leveraging digital tools for broader feedback collection are crucial to ensuring that urban design truly reflects and serves its female citizens.

3.3. Tokyo, Japan—gender-sensitive transport practices

3.3.1. Overview

Tokyo is one of the most densely populated metropolitan areas globally, with over 37 million residents in the Greater Tokyo Area. Rapid urbanization and high reliance on public transportation have led to increasing attention to gender-sensitive urban design to ensure safety, accessibility, and inclusivity [3].

3.3.2. Measurement

Women-only carriages are designated during peak hours on multiple lines operated by Tokyo Metro and Toei Subway, with clear signage on platforms and trains [11].

The Tokyo Metropolitan Government introduced the Gender Equality Action Plan 2021–2025 to integrate gender perspectives into public policies, including transportation safety measures and inclusive urban planning frameworks [12].

Tokyo also co-founded the international CHANGE Network, which provides toolkits and indicators for gender equity in urban environments [9].

Physical interventions include women-only carriages on trains, enhanced lighting in transit areas, and the installation of CCTV cameras to improve perceived safety and deter harassment [4,13]. Pedestrian-friendly infrastructure and universal design principles have also been promoted to improve accessibility for all users [7].

3.3.3. Feedback

Women citizens have stated that they feel safer in the women-only compartments, especially during peak hours, as it eliminates the risk of being harassed [14]. According to a survey by Reuters, approximately 70% of Tokyo women support the establishment of women-only compartments, believing that it helps reduce sexual harassment incidents on the subway. However, some women are reserved about this system, believing that it might exacerbate gender segregation and even make them the "watched" ones in other compartments [14]. Some research indicates that although women-only compartments increase safety in the short term, they do not fundamentally solve the problem of sexual harassment and might only be a "temporary solution" [15].

3.3.4. Obstacles and improvements

Tokyo's gender-sensitive transport design faces obstacles, including fragmented policies, limited coverage of women-only carriages, and persistent sexual harassment in ordinary carriages. Public awareness and participation remain uneven, and infrastructure often lacks a gender-inclusive perspective. Improvements could include integrating gender-sensitive measures into broader urban policies, expanding protective facilities, enhancing lighting and surveillance, and incorporating user feedback and gender-focused evaluation tools to create a safer and more inclusive public transport environment [4,7,9].

3.4. Seoul, South Korea—women friendly city project

3.4.1. Overview

3.4.1.1. Urban context and gender issues

Seoul, with over 10 million residents, operates one of the world's largest metro networks with 18 subway lines, 663 stations, and over 1,000km of track [16]. About 75% of Seoul residents rely on public transportation, with nearly two-thirds using the subway for commuting [17]. In 2013, South Korea remained largely patriarchal, with 86% of violent crime victims being women [18]. In Seoul alone, 6,064 incidents (17 daily) were reported. A 2016 study ranked Seoul's public transport 12th among the most dangerous for women globally [19].

3.4.1.2. Policy measures and digital innovation

Seoul implemented the "Making Seoul Safer for Women" project under the "Zero Violence Against Women" framework, adopting a prevention-focused approach through: raising awareness, building a citywide safety network using CPTED technology, and developing reporting systems [20]. By 2017, the city had established multi-layered protection measures, including women-only taxi services and comprehensive safety networks. The government also developed over 2,500 smart applications by 2015, including the "Ansimi" app for subway safety [20].

3.4.2. Measurement

3.4.2.1. Safety assessment

Seoul's subway safety infrastructure shows mixed results. Emergency facilities exist on major lines, but surveillance blind spots persist. Only 14 stations have full-time security personnel, with each 9-hour shift staffed by just three people handling multiple responsibilities. The system relies primarily on CCTV for passenger safety, while also providing "Goodoc" first-aid kits and special seating for pregnant women [21].

3.4.2.2. Accessibility assessment

Despite the aim to install elevators at all stations by 2022, 27 of 91 stations still lacked them in 2019, with 16 stations excluded from renovation plans due to structural constraints. The system has 101 nursing rooms, but with significant accessibility issues at several stations [22].

3.4.3. Feedback

Citizen satisfaction in women-related services increased from 68.2% to 83.2% between 2007-2008, while safety satisfaction jumped from 46% to 70.3% [23]. However, sexual harassment incidents increased by 17% from 2015 to 2016, suggesting technological advancement can create new avenues for crime [24].

3.4.4. Obstacles and improvements

Key challenges include: an effectiveness gap where infrastructure investments don't necessarily translate to proportional reductions in harassment incidents (a phenomenon known as "security theater"; structural limitations of top-down governance; a digital divide with applications outpacing infrastructure; and physical design defects, including surveillance blind spots and insufficient barrier-free facilities [25].

Recommended improvements include: optimizing gender-sensitive departments' coordination; conducting comprehensive gender-sensitivity audits of transportation infrastructure; ensuring substantive participation of women in decision-making through district-level advisory committees; and establishing user feedback loops for digital tools while providing technical support for vulnerable groups [26].

4. Findings and analysis

4.1. Implementation boundaries and performance highlights

Across Hong Kong, Tokyo, and Seoul, a significant governance gap exists between policy creation and implementation. Government-led GSUD initiatives often lack structured channels for gathering feedback from those they aim to protect, resulting in disconnected strategies that fail to address women's lived experiences.

This research reveals a critical implementation gap across all three cities: despite substantial investments in physical facilities and technology, harassment incidents have not decreased proportionally. While these measures may increase the feeling of security, they have not proportionally improved actual security outcomes, suggesting that technical solutions alone cannot effectively address the underlying cultural and social factors driving gender-based risk in public transit.

Seoul demonstrates a strong commitment through physical interventions like women-only carriages and nursing rooms, yet reported sexual harassment increased by 17% between 2015-2016. Tokyo has enhanced surveillance and lighting systems, but struggles with inconsistent signage and unresolved tensions between safety measures and accessibility. Hong Kong acknowledges equity principles but maintains fragmented management structures that hinder comprehensive implementation.

4.2. Mechanisms and mediating factors

Three key factors influence GSUD effectiveness across these East Asian contexts. First, traditional Confucian norms emphasizing "shame" create significant barriers to harassment reporting. Second, the predominantly top-down approach to implementation struggles to incorporate meaningful citizen participation. Third, coordination inefficiencies between multiple agencies and governance levels create implementation bottlenecks.

These findings suggest the need for an integrated dual-approach mechanism that combines physical infrastructure improvements with governance reforms and cultural interventions to effectively address gender security in public transportation.

- Physical improvement boundaries: Facility upgrades need social norm changes.
- Governance structure constraints: Missing feedback channels impede policy effectiveness.
- Cultural determinism: Confucian "shame-endurance" suppresses reporting.

5. Discussion & reflection

5.1. Discussion

In East Asia, GSUD effectiveness faces unique cultural challenges. Confucian "shame" culture creates barriers to harassment reporting, while values of "endurance and harmony" discourage women from speaking out. Patriarchal institutional structures limit women's decision-making influence and perpetuate male-centric design. These factors lead to underreported harassment, weak policy accountability, and the marginalization of women's experiences in planning processes.

We propose implementing a dual-track mechanism that would enhance effectiveness by combining physical design interventions with culturally sensitive governance structures. This approach could succeed where conventional frameworks fail by acknowledging that infrastructure alone cannot overcome social norms. Effective implementation in East Asian contexts would require: 1) vertical coordination between municipal departments, 2) horizontal integration across agencies, and 3) anonymous feedback channels that respect cultural sensitivities while ensuring women's input shapes design decisions. The system should balance hierarchical efficiency with meaningful participation through culturally-appropriate reporting mechanisms.

This research advances the field by: 1) illuminating the critical gap between infrastructure investments and actual safety outcomes in East Asian public transit systems, 2) proposing an integrated assessment methodology that incorporates both technical safety features and socio-cultural dynamics unique to East Asian urban contexts, and 3) demonstrating that effective GSUD implementation in hierarchical East Asian societies requires balancing top-down efficiency with grassroots input through culturally-appropriate feedback mechanisms that respect local norms while ensuring women's voices shape urban design decisions.

5.2. Reflection

Limitations include reliance on official reports, focus on cisgender women, and cross-sectional comparisons. Future research should use longitudinal data, intersectional sampling, and field experiments testing combined interventions.

Case selection focuses on East Asian megacities with shared cultural heritage but different political economies. Generalization should be cautious where contexts differ. Future work should use pre-registered analysis, open data, and participatory audits to strengthen validity.

6. Conclusion

Based on the analysis of Hong Kong, Tokyo, and Seoul, this study concludes that the effectiveness of Gender-Sensitive Urban Design (GSUD) in East Asian public transit is critically limited by a predominant over-reliance on physical infrastructure. While investments in women-only carriages, surveillance, and lighting are substantial, they have not yielded proportional improvements in actual safety, as evidenced by persistent harassment rates. The research identifies a fundamental

implementation gap, where top-down physical interventions are disconnected from the socio-cultural realities and lived experiences of women. Key mediating factors—including Confucian "shame" culture that suppresses reporting, fragmented governance structures, and a lack of meaningful participatory channels—undermine policy effectiveness. Therefore, achieving tangible safety outcomes requires an integrated dual-track approach that synergizes technical upgrades with profound governance reforms and culturally sensitive community engagement. Ultimately, transforming women's security in these urban contexts depends on bridging the gap between hardware investment and the software of social norms and inclusive governance.

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References

- [1] ACT Government. (2016). ACT Women's Plan 2016–26. Australian Capital Territory Government.
- [2] Letsoko, V., Mzobe, N., & Gumbo, T. (2025, April). Exploring the Intersection of Gender Equality, Urban Planning, and Sustainability: A Systematic Review.
- [3] Levy, C. (2013). Travel choice reframed: "Deep distribution" and gender in urban transport. *Environment and Urbanization*, 25(1), 47–63. <https://doi.org/10.1177/0956247813477810>
- [4] Loukaitou-Sideris, A. (2016). A gendered view of mobility and transport: Next steps and future directions. *Town Planning Review*, 87(5), 547–565.
- [5] Kennett, P. A., Chan, K. W., & Ngan, L. L. S. (2016). Global policy paradigms, gender equality and everyday lives in Beijing, Hong Kong, Seoul and Taipei. *Gender, Place & Culture*, 23(9), 1343–1359. <https://doi.org/10.1080/0966369X.2016.1160036>
- [6] Fainstein, S. S. (2010). *The just city*. Cornell University Press.
- [7] UN Women. (2021). *Safe Cities and Safe Public Spaces: Global results report*. United Nations Entity for Gender Equality and the Empowerment of Women.
- [8] Kennedy, C., & Zhan, X. (2022). Gender mainstreaming in urban planning: Challenges and opportunities. *Journal of Urban Affairs*, 44(7), 1021–1037. <https://doi.org/10.1080/07352166.2020.1850172>
- [9] CHANGE Network. (2022). *Toolkit for gender equity in urban policies*. Retrieved from <https://citieschange.org/toolkit>
- [10] Mostofa, R. A., Bonotulshi, D., & Guaralda, M. (2024). 'GenUrban: Shaping cities for all genders'-Right to the city planning framework, Hong Kong. *Cities*, 150, 105081.
- [11] Tokyo Metro. (n.d.). Women-only cars. Retrieved from <https://www.tokyometro.jp>
- [12] Tokyo Metropolitan Government. (2021). *Gender Equality Action Plan 2021–2025*. Bureau of Citizens, Culture and Sports.
- [13] McArthur, J., & Robin, E. (2020). Gender and infrastructure: Afeminist political economy approach. *Progress in Human Geography*, 44(4), 677–697.
- [14] Tokyo Weekender. (2021, March 30). Why Japan's women-only train cars continue to divide opinion. Tokyo Weekender. Retrieved from <https://www.tokyoweekender.com>
- [15] ISSH International. (2020, May 25). Women-only train cars sidestep the root issue of gender inequality. International School of the Sacred Heart. Retrieved from <https://isshinternational.org>
- [16] Seoul Metropolitan Government. (2020). *Seoul transportation statistics yearbook*. Transportation Bureau.
- [17] Seoul Institute. (2019). *Public transportation usage patterns in Seoul*. Seoul Metropolitan Government Research Report.
- [18] Korean National Police Agency. (2014). *Crime Statistics Annual Report 2013*. Ministry of the Interior and Safety, South Korea.
- [19] Thomson Reuters Foundation. (2016). *The world's most dangerous transport systems for women*. Global Survey Report.
- [20] Seoul Metropolitan Government. (2017). *Making Seoul Safer for Women: Implementation report*. Women and Family Policy Office.

- [21] Kim, J., & Park, M. (2018). Safety infrastructure assessment in Seoul Metro system. *Transportation Research Record*, 2672(8), 123–134.
- [22] Seoul Facilities Corporation. (2019). Accessibility audit of Seoul Metro stations. Annual Report.
- [23] Seoul Foundation of Women and Family. (2010). Women's safety satisfaction survey 2007–2008. Seoul Metropolitan Government.
- [24] Korean Women's Development Institute. (2017). Gender-based violence in public spaces: Seoul case study. KWDI Research Report.
- [25] Choi, Y., & Lee, S. (2020). Evaluating gender-sensitive urban design in Seoul's public transportation. *Journal of Urban Planning and Development*, 146(3), 04020018.
- [26] Seoul Women's Policy Development Institute. (2018). Gender-sensitive urban planning recommendations for Seoul. Policy Brief Series.