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Gender & Public Transit

Lessons from Tokyo, Japan & Kigali, Rwanda

Public transportation is both an environmentally-friendly and economically viable mode of transportation. Yet, women riders express greater dissatisfaction than men on issues of safety and access (Miller 2020). What can be done to ensure women can equally access and feel safe when traveling by public transit? Furthermore, how does women's representation in government and societal gender norms impact access and safety? If accessibility and quality of mass transit service for women riders are indicators of that society's overall regard for gender equality, women occupying upper levels of government may play a decisive role in asserting the equilibrium, as government helps to shape social norms across all aspects of life (Blomstrom 2018, 37).

This problem is a sustainability issue: Per Todd Litman's trifecta spheres of sustainable transport, equal access to mass transport touches the social, environmental and economic spheres (Litman 2007, 4). Encouraging women to use transit aids emissions reduction. On average, women are slightly more likely than men to be concerned about the environment and have stronger pro-climate opinions and beliefs (Ballew 2019). For women to rise socially and economically, access to education and jobs is key. Mass transit is an affordable and reliable means, so long as it is conducive to women travelers. Equitable transportation can help women enhance environmental protection while elevating their own social and economic roles in society. Defining access and mobility, as



affordances of transportation, better illustrates these benefits (Frischmann 2018, 13:53). It is how far a person can go within a given time (traditionally known as mobility) while having as many useful and valuable activities as possible accessible (traditionally known as accessibility). Mobility is a key enabler of social and economic development, either helping people gain access to education, employment, services, and to their community—or hindering it. It is fundamentally how a person experiences a city.” (Blomstrom 2018, 4). Public transit is an essential tool for women to access additional essential tools for self-empowerment as social contributors, with specialized roles.

In the wealthy context of the United States where car ownership is relatively affordable, already more women than men ride transit (Clark 2017, 42-43). In most other cities in the world, women’s personal financial pressure to choose transit over personal vehicles is even greater. Among transit-dependent riders, women tend to ride more than men due to several factors including being the predominant bearer of motherhood and not being able to afford a car. Among “choice riders” (those who choose to take transit though they own their own vehicles), women are a minority, implying that the right transit system improvements could make transit more appealing to women (Clark 2017, 42-43).

In addition to studying how women travel and implementing improvements, women need to be designers and legislators of policies of holistic transportation and societal

<i>Indicator</i>	United States	Japan	Rwanda
Global Ranking	19	29	65
Employment (women aged 25+)	55%	51%	93%
Intimate Partner Violence (2017)	4%	4%	21%
Perceived Safety in Community	68%	69%	85%

Table 1 *Women Peace and Security Index Findings, 2019.*

policy solutions for women riders and their families. Critics have identified that most American mass transit systems are in fact designed for single male travelers, due to the fact they are designed by men (Halais 2020).

In the case studies of Tokyo, Japan, and Kigali, Rwanda, recognizing problems is the first step. “Transport infrastructure and services are often incorrectly considered gender-neutral” (Hung 2020, 1). Replacing features that discriminate against women in the public transport system may need to occur in tandem with other aspects of society, including workplace discrimination, domestic violence, etc. We will explore the co-relationship between public transport and society in terms of equal access for genders, as well as the influence of women’s representation in government in advancing gender-balanced transport through two case studies.



Tokyo, Japan

Case Study I

Tokyo, Japan is renowned for its expansive mass transit system of rail, bus, pedestrian and bike. The subway consists of nine lines of 179 stations and the bus system consists of 138 routes running to the greater Tokyo area (Map 1). The bike and pedestrian paths are mostly protected and marked as well. For comparison, the population density of Tokyo is eight times that of Los Angeles, California. Tokyo car ownership per household continues to fall at 0.45 cars per household (Figure 4), which is roughly on par with New York City, according to a University of Michigan study (Miller 2017). The transportation experience in Tokyo is often tight and cramped, but fast and efficient.

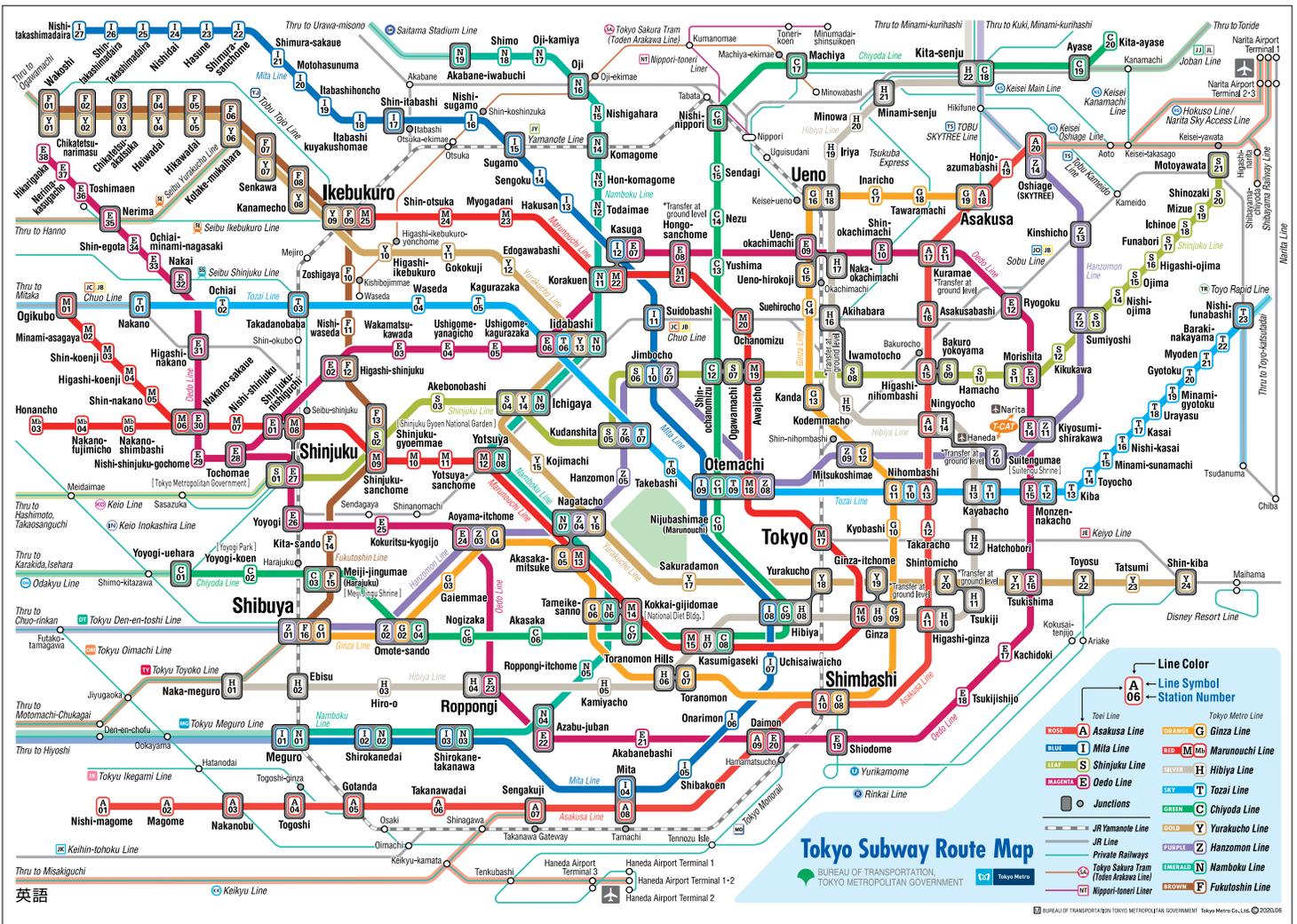




Figure 1 Advertisement from Tokyo Metro showing the types of women who will attract harassment versus those who will not.

Experience of public harassment (%)		
	Men	Women
Unwanted touching	8.6	47.9
Close contact	11.9	41.9
Physical assault	16.3	18.7
Verbal assault	9.1	11.3
Indecent exposure	1.2	18.6

Figure 2 2019 “WeToo Japan”. Online survey gathered 12,000 answers from people between 15 and 49 living in and around Tokyo. Yuko, Aizawa. “Lifting the Lid on Japan’s Harassment Problem | NHK WORLD-JAPAN News.” NHK WORLD, 2019. <https://www3.nhk.or.jp/nhkworld/en/news/backstories/361/>. Accessed 28 Sept. 2020.

In a male-dominated society, Japanese women have endured the status of the second sex in all aspects of life. Sexual harassment, *chikan* in Japanese, is commonplace and largely unmanaged, owing to a long-standing patriarchal culture (Figure 1) where women silently suffer sexual harassment and assault (Savvy Tokyo 2018). In fact, in the Japan 2020 Crime & Safety Report, locals and Americans alike are advised not to fight back during victimization as authorities are likely to charge the victim instead of the perpetrator, who is typically male. The problem cannot be solved successfully in isolation because the overall regard for women in Japan is predicated on domesticity and motherhood, not as equals to male citizens. (Figure 2)

The social pressure for women to focus on reproduction and the home worsens gender dynamics when Japan's reproduction rate stagnates at 1.5 births per woman (*The Asahi Shimbun* 2019) (Figure 3), while many young men face cultural shame and personal frustration for not being able to marry. For every one Japanese female manager, there are 10 male managers. College education only increases her odds to 1.65 (Yamaguchi 2019). Meanwhile, 30% of Japanese men work over 49 hours per week, causing the rising numbers of *karoshi*, or death by overworking, manifesting in cardiovascular disease or suicide and regularly preceded by emotional and mental disorder. (Figure 5) Young Japanese men are taking on the increasing numbers of part-time jobs, which pay less and offer few if any benefits. In a culture where men are supposed to be the breadwinners, a young woman will not marry a young man who cannot earn enough to support a family (Maeda 2015). The negative psychological impacts of increasingly extreme financial hardship and low marriage/high divorce rates may intensify the pre-existing discrimination against women. *Chikan* as a manifestation of longstanding patriarchy exacerbated by broader social stresses deserves further research.



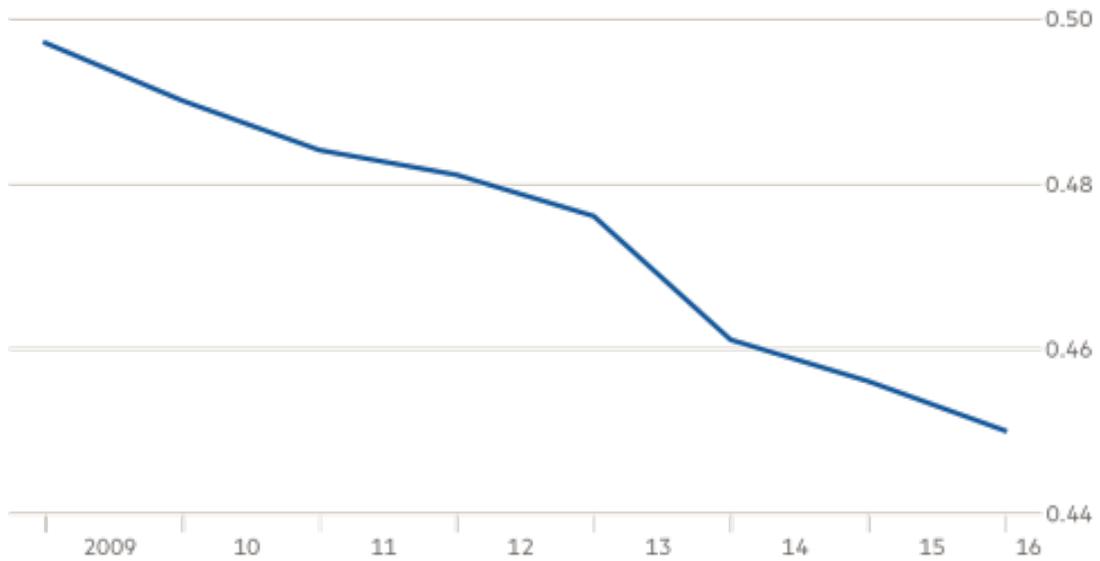
Japan sees extremely few women in positions of responsibility in government, which may explain the few policies for empowering women and women’s protections throughout society (Figure 8). According to the Inter-Parliamentary Union, only 21% of the upper legislature house and the 10% of the lower house seats are filled by women, a number too small to amplify women’s perspective above the male legislative majority (Table 2) (Inter-Parliamentary Union 2019). The hope is that a critical mass of women rising to positions of responsibility, within the transportation sector, and beyond it will instigate policies and cultural shifts that reduce harassment, discrimination, and subjugation of Japanese women in the society. A topic worthy of further research is if a more gender-equal society will also increase birth rates again as well.



Figure 3 “Kinmonth Mythbusters Population Story Graphic 2.” JAPAN Forward, 29 Jan. 2019, <https://japan-forward.com/mythbusters-foreign-reporting-on-the-japanese-population-and-birth-rate-reaches-a-new-low/kinmonth-mythbusters-population-story-graphic-2/>.

Cars decline in Tokyo

Number of passenger cars per household



Source: Japan Automobile Manufacturers Association
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Figure 4 Wells, Peter. Financial Times. Tokyo, 2017. <https://www.ft.com/content/6951ec5e-a1d8-11e7-8d56-98a09be71849>. Accessed 28 Sept. 2020.

Proportion of workers working 49 hours or more per week (%)

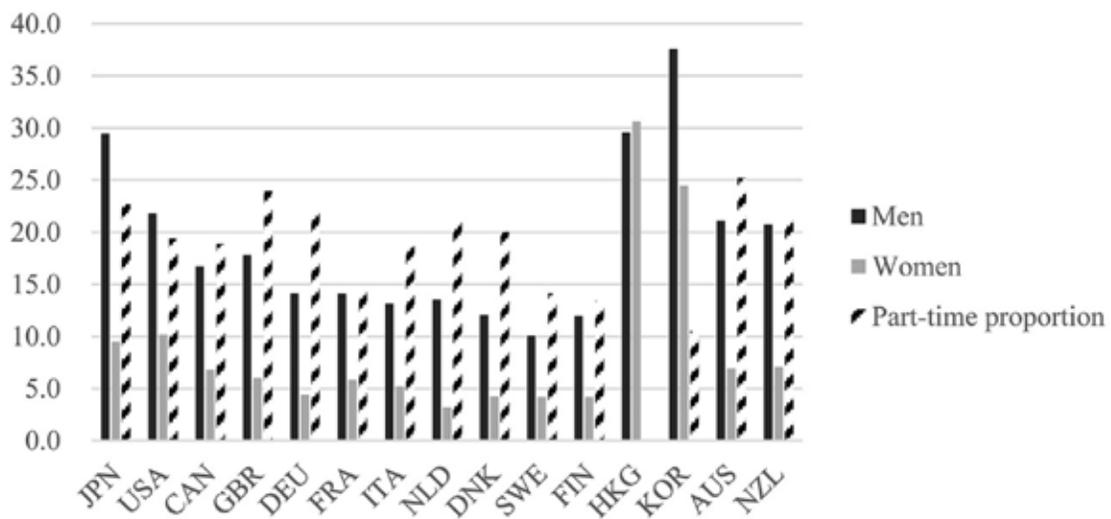


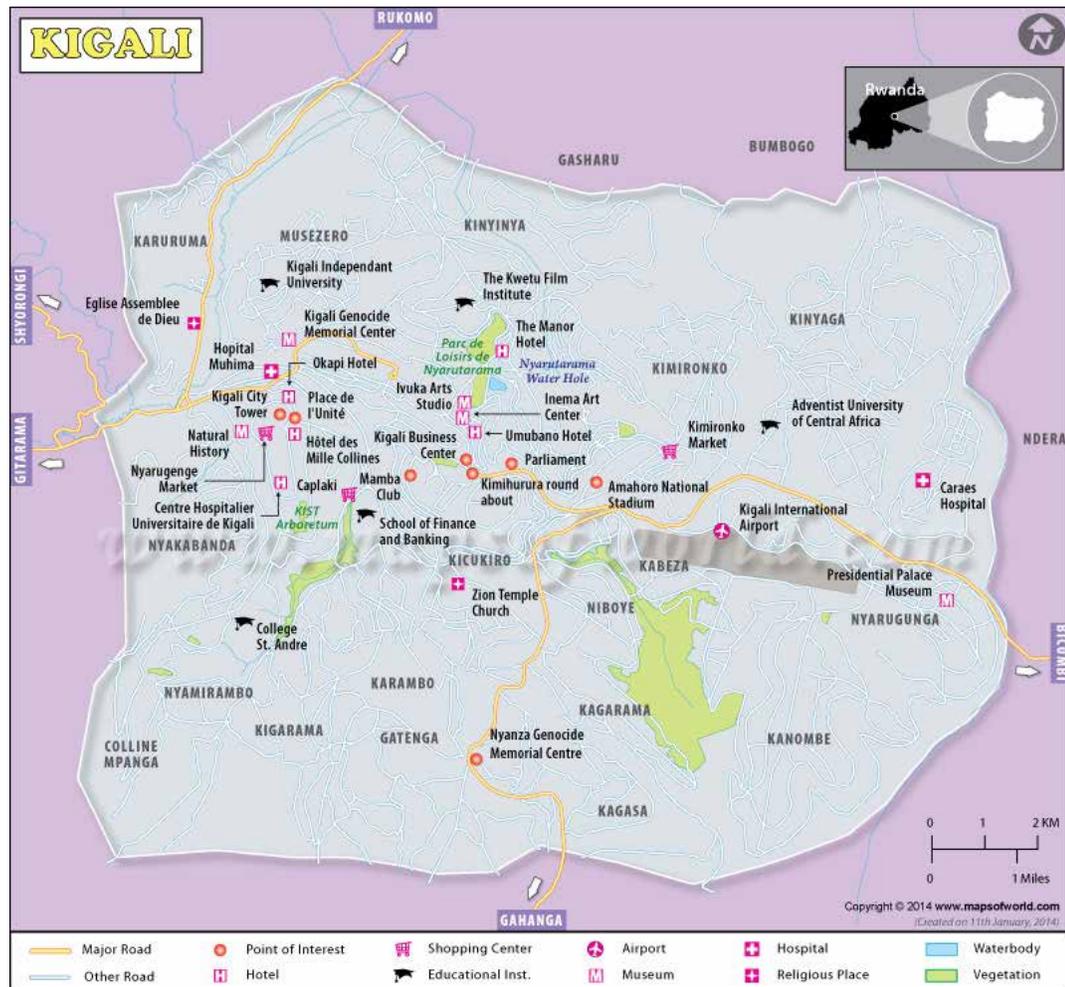
Figure 5 Okamoto MA, MMSc, Shohei. "Hours of work and health in Japan." *Annals of Epidemiology*. Volume 33, May 2019, p 64-71.



Kigali, Rwanda

Case Study 2

The second case study location is Kigali, the capital city of Rwanda with a population of over 1 million people. Rwanda is a nation with a fast-growing economy and population that continues to rapidly expand their transportation network, both for vehicles (building and paving roads), and for transit in Kigali (public and private bus lines). As one of the most densely populated countries in Africa, public transit is widely utilized over private vehicles. Rwanda is a poor country, so most households cannot afford cars. As of 2013, just over half of the Kigali urban population lives within 500 meters of a bus stop (Rwanda Gender Monitoring Office 2017, 20). Accessibility is lower for inhabitants of the newly-developed parts of the city with high rates of informal settlements (Niyonsenga 2012). (Map 2)



Map 2 Map of Kigali City, Rwanda. <https://www.mapsofworld.com/rwanda/kigali-map.html>. Accessed 9 Oct. 2020.

Bus service is chaotic with several different companies operating simultaneously but not on a set schedule. Buses have been known to wait at a stop until it is full before continuing on its route. Conversely, during crowded times such as rush hour and at central city bus stations, prospective riders wait in long lines for several buses to come and go before they can secure a seat. Buses arrive frequently but are generally smaller vehicles that can seat only 18-35 people (Niyonsenga 2012; Kaliisa 2019). The bus system receives regular, iterative improvements to respond to evolving needs, such as organizing bus routes into districts, awarding short-term contracts to bus operators, and improving technology for cashless payments. Having buses as the primary mode of public transportation is well-suited to respond to frequently-changing conditions.

The other common modes of transportation in Kigali are private taxis and motorized scooters for hire, and walking. According to Figure 6, 7, some families have bicycles, but cars and motorcycle ownership rates are low (Rwanda Gender Monitoring Office 2017, 20-21). Yet, as a city and country with rapid economic development, more transportation options frequently emerge, such as the Guraride bike-sharing program that launched in September 2020 (Kuhudzai 2020; International Monetary Fund 2020).

Rwanda differs from Japan in regard to women representation in government. As a direct result of the 1994 Rwandan genocide, whereby the surviving population was up to 80% female, Rwanda has had the highest percentage of women in its parliament in the



C) TRANSPORT

1. Mean Time to Basic Services

Mean time (minutes) to service							
	 Food market	 Public transport stage	 All weather road	 Primary school	 Health centre	 Total	 No. of Households
All Rwanda	51.6	58.7	7.7	25.6	56.5	100.0	2,371
Urban/Rural							
Urban	24.2	16.5	3.0	17.6	30.7	100.0	377
Rural	57.1	68.9	8.6	26.7	61.4	100.0	1,994
Sex of head-of-household 2013/14							
Male	51.7	59.4	7.7	25.7	56.7	100.0	1,769
Female	51.3	56.7	7.6	25.4	56.0	100.0	602

Source: EICV4 – 2013/14

Figure 6 (Rwanda Gender Monitoring Office 2017, 20-21.)

2. Number and Percentage of Private Households Possessing Transport Assets

	Female Headed HHs		Male Headed HHs	
	Numbers	%	Numbers	%
 Vehicles	2,744	0.4%	27,504	1.6%
 Motorcycles	1,899	0.3%	27,530	1.6%
 Bicycles	41,216	5.9%	3 00,887	17.4%

(Figure 7 Rwanda Gender Monitoring Office 2017, 20-21.)

world since 2003 (Abouzeid 2019, 84-93). **Figure 8** While there is a required minimum for 30% of the legislature to be female, currently 62% of the members in the lower house and 39% of the upper house are women (Inter-Parliamentary Union 2019). In comparison, the US ranks number 76 for female representation in the federal legislature, and Japan ranks number 164.

Given the role of women in Rwanda's government for the last two decades, women's rights have been a policy priority. The Gender Monitoring Office was established with the constitution of 2003. National Rwandan policies, such as the National Urbanization Policy (2015), Public Transport Policy and Strategy (2012), and Transport Sector Strategic Plan (2013) have outlined goals to advance gender equality access to transportation services, jobs, and the design and development process (African Development Bank Group 2013, Rwanda Ministry of Infrastructure 2013, Rwanda Gender Monitoring Office 2017, 8). Since 1999, women have been granted greater financial access, employment and education opportunities, and assurance of safety with the criminalization of marital rape. However, cultural patriarchal gender norms have not shifted at the same pace as laws are instituted. As a norm, women are expected to perform disproportionate housework and child-rearing duties, submit to their husbands, and cope with sexual harassment and violence (Abouzeid 2019, 84-93).

With the duality of a strong ethic for gender equality in government and day-to-day life steeped in patriarchal norms, Rwanda is one of the safest countries in

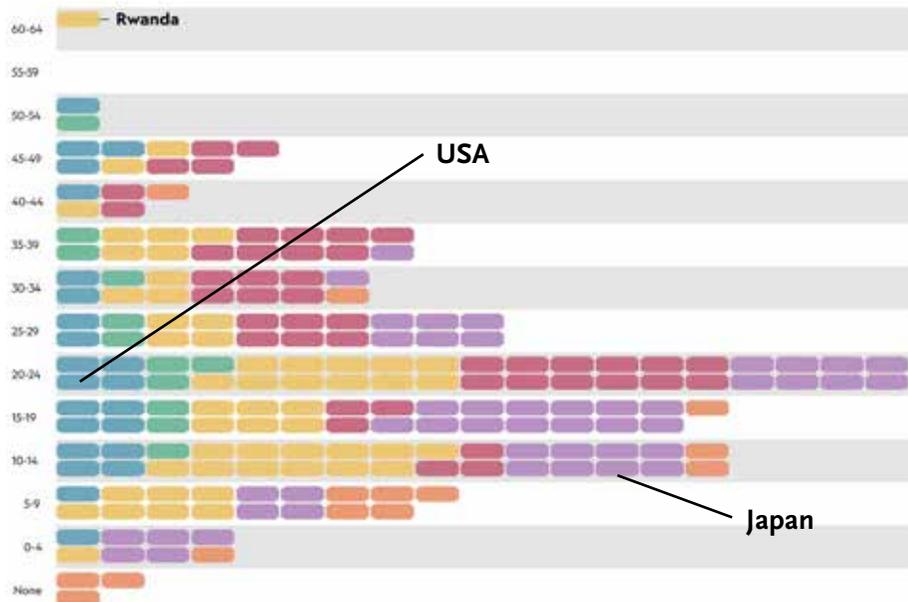


Figure 8 Rwanda has the Highest Percentage of Women in National Legislature (Abouzeid 2019, 89)

Africa for women, but continues to face high rates of sexual violence and harassment. In 2017, Gallup rated Rwanda as the 11th safest country in the world, and second safest in Africa (Gallup 2017, 4; Mwai 2017). The Georgetown University Women Peace and Security Index (WPS Index) ranks Rwanda 65th globally, which is the second-highest ranking for any continental African country, with 93% of Rwandan women working for paid wages and 85% of surveyed women age 15 and over feeling safe in their communities (Georgetown University 2019, 58-60).

Meanwhile, 21% of Rwandan women experienced intimate partner violence in 2017, and according to a national survey, 48% of Rwandan women experienced physical or sexual violence in their lifetime (Georgetown University 2019, 60; National Institute of Statistics of Rwanda 2012). The Kigali district of Kimisagara was one of the first five cities to participate in the UN Women 2013 initiative, Safe Cities and Public Spaces. According to Kimisagara survey data, the neighborhood bus station, the paths used to access the bus station, and boarding the bus itself were among the most common sites for sexual violence and harassment (UN Women 2013; Mutesi and Abbot 2013). This has impacted women residents' comfort in traveling to work, school, and leisure activities, important indicators of gender equality.

Conclusion

Relative to Japan, Rwanda is actively working to improve women's access and safety on public transit, which may stem from more women's representation in government that cultivates gender equality values and creates programs such as the Gender Monitoring Office. As can be viewed in [Table 1](#), more Rwandan women than Japanese women feel safe when out and about, but Rwandan women are also more likely to have experienced intimate partner violence in the last year, according to available data (which has constraints, given high probability of underreporting sexual harassment incidents). While unusual for women's legal rights to be ahead of culture, Rwanda is positioned to experience a positive feedback loop of gender progress by having the foresight to consider gender in its planning and economic development strategy. Comparatively, as a developed nation that did not consider gender in its building phase, Japan faces a greater challenge of retrofitting, though first Japan must acknowledge the existence of gender inequalities in its society and transportation infrastructure.

When considering takeaways from these two case studies to increase female "choice riders" on transit in American cities, we compare Japan and Rwanda against the United States for the five transit system recommendations issued by Meloy (2015) for sustainable and equitable mobility. We will then consider how takeaways from the two case studies apply to the County of Los Angeles (via LA Metro). This comparison is summarized in [Table 2](#).

The first metric is funding for inclusive planning practices, gender-responsive infrastructure building and maintenance, and gender-disaggregated data collection. Japan has some gender-responsive infrastructure like women-only train carriages and priority seating for expectant mothers and those with disabilities, but lacks enforcement, inclusive planning practices, or gender-disaggregated data. Rwanda performs strongly, with



Table 2 : Comparing Sustainable and Accessible Transit Systems, Tokyo, Kigali, LA County.

<i>Indicator</i>	LA County, USA	Tokyo, Japan	Kigali, Rwanda
Funding of: A. Gender-inclusive design, B. Gender-responsive infrastructure, C. Gender disaggregated data collection	<p>A. Internal agency taskforce to ensure women’s travel needs are programmed and designed into infrastructure and services, based on problem areas identified in a “How Women Travel” research report.</p> <p>B. Yes, lighting, seating, active bystander program, 24-hour bilingual harassment hotline.</p> <p>C. Yes</p>	<p>A. No public plan expressly for women riders</p> <p>B. Priority seating for expectant mothers (shared with people with disabilities) and women-only carriages</p> <p>C. Lacking</p>	<p>A. National Urbanization Policy, 2015 - Promote women and girls participation in urban planning, design, and management at city and neighborhood levels. Transport Sector Strategic Plan, 2013 - gender considerations in transportation infrastructure design process</p> <p>B. <i>Transport Policy and Strategy, 2012, Transport Sector Strategic Plan, 2013</i> - improve and provide equal public transport access to women</p> <p>C. Gender Monitoring Office - <i>Gender and Infrastructure Report, 2017</i> (p. 20-21), plus documents referenced in answer B.</p>
Outreach and awareness to use public transport/bike	<p>Yes, information on transit, bike, and pedestrian travel for the general public.</p>	<p>Very high utilization already, partly due to poverty and lack of other options.</p>	<p>Very high utilization already, partly due to poverty and lack of other options.</p>
Government education & outreach to transform gender and transport planning norms	<p>Office of Civil Rights - Federal Women’s Program LA County Public Health - Women’s Health Office</p> <p>US DOT Women & Girls in Transportation Initiative - internships, workforce development</p> <p>Enforce existing laws, not yet promoting new policy</p>	<p>Lacking</p>	<p>Yes, see Gender Monitoring Office and federal policy priorities listed above.</p> <p><i>UN Women Safe Cities and Public Spaces</i> education program to shift gender norms.</p>





<i>Indicator</i>	LA County, USA	Tokyo, Japan	Kigali, Rwanda
Societal education & outreach to support shared space and zero tolerance for gender-based violence and harassment	Ad campaign throughout the system about zero-tolerance for harassment and information on a hotline. Active bystander campaign, for good samaritan riders	Lacking; normalized discrimination	<i>UN Women Safe Cities and Public Spaces</i> program, analyzes and attempts to address risky areas, includes programs to teach boys to not instigate sexual harassment and violence.
Women occupying at least 30% of the workforce in roles of responsibility	Government - Women are 23% of US Congress; 30% California legislature LA Metro - 50% of the Board / 39% of Senior Leadership	Government - Women are 21% of upper house, 10% of lower house Transit Sector - no	Government - Women are 39% of upper house, 61% of lower house Transit Sector - 28% of workforce, 0% transport company owners (2012)

Comparing Sustainable and Accessible Transit Systems, Tokyo, Kigali, LA County.

policies requiring consideration of womens’ needs in infrastructure design process and promoting women’s participation in the urban planning, design, and management of infrastructure. The Gender Monitoring Office reports gender-disaggregated data. LA Metro ranks in the middle with a series of board-approved initiatives designed expressly to improve safety for women travelers (better lighting at stations, live 24-hour bilingual assistance via text or phone, etc.) LA Metro also formed a Women & Girls’ Governing Council of women employees at all levels of the agency and released the study, “Understanding How Women Travel” (2019). Gender-disaggregated data is collected and available. Unlike Rwanda’s transportation plans that are planned ground-up with women’s safety and needs in mind, LA Metro’s is a retrofit, albeit an earnest one.

The second metric is outreach and awareness campaigns to encourage women to cycle or use public transport. Japan does not utilize this strategy, but already enjoys high ridership rates as a consequence of still being the most financially-viable and convenient option, even if there are also downsides in the experience. Rwanda also has greater demand than supply for its bus network, due to lack of transportation alternatives (Kaliisa 2019). Los Angeles has to compete for transit riders over private vehicles, and thus LA Metro continuously launches new ridership campaigns and free public tours along with promotion of local events.



The third metric is an education and outreach effort from government to transform social gender norms and use a gender lens in transportation planning. Japanese culture does not acknowledge this problem, and relatedly lacks an education or outreach program. Rwanda has policies in place through its Gender Monitoring Office to incorporate gender considerations in transportation planning. The UN-Women Safe Cities and Public Spaces initiative in Kigali includes research to better understand existing gender safety problems, including for transportation. Los Angeles's gender protections and services do not include the transportation sector as in Rwanda. The Los Angeles County Department of Public Health's Women's Health Office and Office of Civil Rights Federal Women's Program enforce gender-based discrimination and gender-based violence laws, but do not develop new policy (Office of Civil Rights 2020; LA County Dept. Public Health 2020). Transportation-specific women's initiatives arise separately, such as the Women and Girls Governing Council at LA Metro. The US Department of Transportation Women & Girls in Transportation Initiative (WITI) offers internships for workforce development in the transportation sector (US DOT 2019). Women in Transportation (WTS) International is a Washington, DC-based membership organization that promotes advancement of women in the transportation industry. While the United States has women workforce development and general women's rights programs in place, gender-based transportation design initiatives are absent.

The fourth metric is implemented education and outreach to support shared use of space and zero tolerance for gender-based violence and harassment. This is largely absent in Japan, while a concerted priority in Rwanda by both the Gender Monitoring Office and United Nations-Women campaign, who runs an education program for children, specifically boys, to adopt more gender-forward, anti-sexual harassment ethics. Los Angeles has federal and state anti-discriminatory laws, though beleaguered by inconsistent enforcement, low levels of incident-reporting and challenging police and court systems to navigate. Additionally, LA Metro runs ad campaigns about zero-tolerance for harassment, maintains a reporting hotline, and promotes an active bystander campaign. All three locations endure gender-based harassment and violence and can do more to further reduce incidents.

The fifth and final metric is for women to occupy at least 30% of the workforce in roles of responsibility. In all three regions, men dominate the transportation sector, and the participation of women is particularly low in positions of responsibility, which impacts how transport systems are understood and designed (Hung 2013, 1-5). We analyze this from both a government (legislature) and transportation sector standpoint. Japan has neither 30% women in its government nor transportations sector; Rwanda has more than 30% women in government, but not in transportation sector (both workforce and company owners); and Los Angeles County has less than 30% of women in the United States Congress, exactly 30% women in the California legislature, and over 30% women on the LA Metro Board and in senior leadership (Inter-Parliamentary Union 2019; California Research Bureau and California State Library 2018). (Table 2)

In conclusion, United States regions like Los Angeles could improve women's experience in transit with more top-down federal leadership on designing, building, and maintaining transportation infrastructure with a gender lens. While there is a more equitable climate at the local level, many interventions would be more effective when implemented at the federal level, where there is less gender-oriented support. While the industry remains male-dominated, frontline staff need to be educated on gender issues to handle these issues as seriously as leadership. Additionally, more funding and programs to address womens' safety concerns in public places, and gender-based violence, may improve overall comfort to using transit. All of society benefits when infrastructure serves women and men equally, both economically, environmentally, and socially. Let's get to it.

“Transportation systems generally reproduce existing power structures in gendered societies. If gender considerations are not systematically integrated into city design, planning, and governance, the cities and the public spaces become the land of discrimination, exclusion, and violence.”

- Lakshmi Puri, former Deputy Director of UN Women

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