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CAIRO BUS RAPID TRANSIT PROJECT

Gender-sensitive design for the Cairo BRT

Institute for Transportation and Development Policy
December 2018

Contents

1. Executive summary	1
2. Introduction	2
3. Public transport in Cairo.....	2
4. Gender and transport	6
5. Methodology	9
6. Survey findings.....	11
6.1 Women’s travel patterns.....	11
6.2 Women’s security.....	13
6.3 Experience on public transport vehicles.....	16
6.4 Experience in stops and stations.....	20
6.5 Last-mile connectivity	22
6.6 Experiences of women with disabilities	27
6.7 Operators’ attitudes	28
6.8 Women’s labour force participation	29
7. Achieving gender responsive transport	30
7.1 BRT vehicles	30
7.2 BRT services	31
7.3 BRT station and terminal designs.....	32
7.4 BRT corridor designs.....	33
7.5 Employment in operations.....	34
7.6 Bus & paratransit services	35
7.7 Communications campaigns.....	36
7.8 Land use planning.....	36
8. Institutional roles and responsibilities	37
9. Monitoring and evaluation	38
10. Conclusion.....	39

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1. Executive summary

Greater Cairo faces rising congestion, pollution, and a lack of access to opportunities. Responding to these issues, the New Urban Communities Authority (NUCA), in partnership with the United Nations Human Settlements Programme (UN-Habitat), the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women), and Institute for Transportation and Development Policy (ITDP), are planning a bus rapid transit (BRT) system in Greater Cairo. In the initial phase, the BRT network aims to provide improved connectivity between the new community of 6th of October City and central Giza and Cairo.

Until recently, transport planning and operations have tended to take a “one-size-fits-all” approach, assuming that men and women will benefit equally from improvements in transport services. In reality, women and men have different expectations from a transport system and different perceptions of security. To develop a better understanding of the challenges faced by women while using the transport system, the ITDP and UN-Habitat conducted a series of surveys and focus groups with commuters in the city.

The studies point to a number of challenges faced by women, including irregular service, overcrowding, and a constant risk of sexual harassment. Women face harassment at each stage of the journey, including the walk to the bus stop, to the wait for the vehicle, the boarding process, and the ride itself. All modes of transport are subjects to frequent rates of harassment, with CTA buses cited for a high rate of harassment. A lack of adequate service and the resultant overcrowding heightens the risk of harassment. Survey findings point to the diversity of trips taken by women, reflecting women’s childcare and household responsibilities. Women with disabilities face particular challenges related to the lack of universal access in stops and vehicles, poor last mile connectivity to stops and terminals, and overcrowding that makes it difficult to board vehicles.

Turning to solutions, focus group and survey participants noted the importance of safe spaces throughout the journey, starting with dedicated sections for women on road-based public transport vehicles, similar to the dedicated women’s carriages in the Cairo metro system. Participants called for expanded public transport fleets to address overcrowding and improve reliability. Complaint redressal systems are needed to ensure that perpetrators are brought to justice. Safe, universally accessible footpaths with adequate lighting and shopfronts that offer an “eyes on the street” effect are needed to improve security during the walk to public transport stops and stations.

Addressing the challenges faced by women will require a joint effort by multiple agencies that play a role in the planning, design, and management of the transport system. The BRT agency, housed under NUCA, can lead the effort to ensure that BRT physical designs and operations are responsive to women’s needs, including those of persons with disabilities. The BRT agency can lead communication campaigns to prevent harassment and inform women about available resources. The BRT agency also can set standards for women’s employment in BRT operating companies. Creating a more secure, accessible pedestrian environment is a mandate of local bodies wherever BRT corridors pass, including the Giza Governorate and 6th of October Authority. Ongoing enforcement and complaint redressal will involve the police in partnership with frontline staff of the BRT operating companies. Through collective action, stakeholders in the transport system can ensure that transport services offer a secure environment that opens up opportunities for women’s mobility and access.

2. Introduction

Greater Cairo is a sprawling metropolis known for its daunting traffic jams. A lack of sufficient rapid transit options and rapidly increasing ownership of private cars lead to daily traffic snarls on the many wide roads that criss-cross the metropolitan area. Responding to these issues, the New Urban Communities Authority (NUCA), in partnership with the United Nations Human Settlements Programme (UN-Habitat), the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women), and Institute for Transportation and Development Policy (ITDP), are planning a bus rapid transit (BRT) system in Greater Cairo. In the initial phase, the BRT network aims to provide improved connectivity between the new community of 6th of October City and central Giza and Cairo (Figure 1).

Until recently, transport planning and operations have tended to take a “one-size-fits-all” approach, assuming that men and women will benefit equally from improvements in transport services. In reality, women and men have different expectations from a transport system and different perceptions of security. Thus, transport policies and operations need to respond to these differences. An integrated and safe public transport system provides access to education, work, health care, cultural, and other important activities that are crucial to women’s participation in the society.

To develop a better understanding of the challenges faced by women while using the transport system, the ITDP conducted a series of surveys and focus groups with commuters in the city. The results of the survey and analysis can help inform the BRT planning process, ensuring the inclusion of data-driven gender concerns in the service plan and infrastructure designs. The following note summarises the initial findings from the studies.

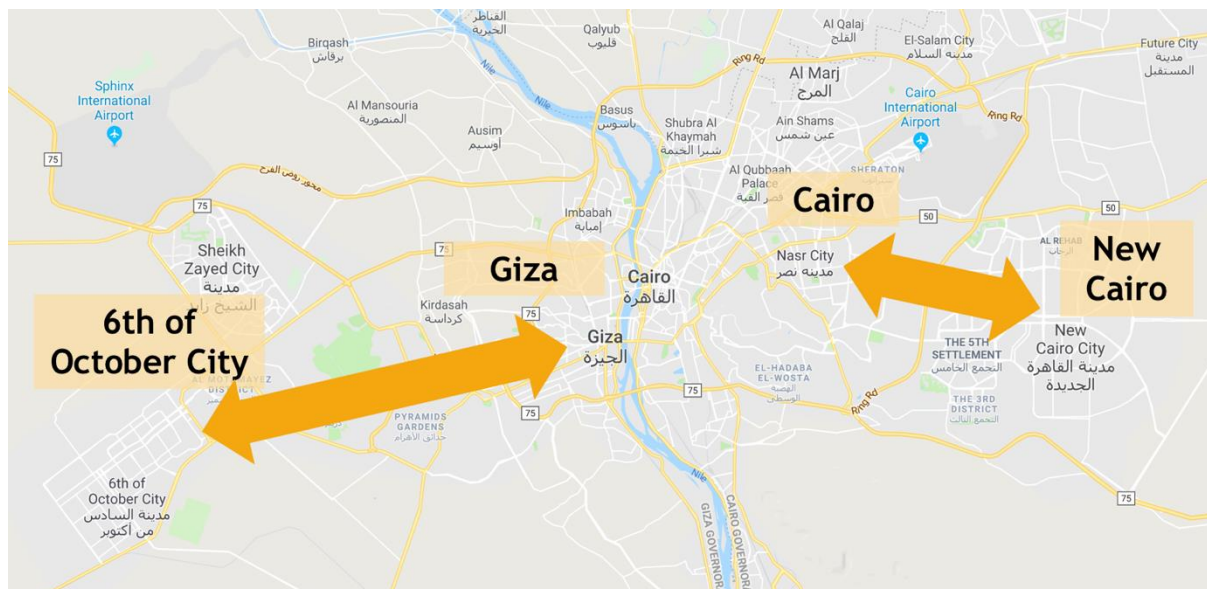


Figure 1: The Cairo BRT study is examining the feasibility of corridors connecting 6th of October City to Giza and New Cairo to central Cairo.

3. Public transport in Cairo

Cairo has an extensive public transport network consisting of a metro system, municipal bus system operated by the Cairo Transport Authority (CTA), and an extensive network of minibus and microbus routes. The Cairo Metro network, operated by the National Authority for Tunnels, spans 78 km with three lines. The system carries around 4.1 million passengers per day, and is reported to have the highest number of boardings per kilometre of any metro system in the world.¹

The Greater Cairo bus network is made up of approximately 450 official numbered bus and minibus routes, along with numerous informal microbus services.² The largest operator, the Cairo Transport Authority (CTA), operates a fleet of over 3,000 buses and 950 minibuses.³ CTA’s fleet consists of 12 m buses with a typical seating layout of 32 seats. The entire fleet has high floors, with two to three steps at entry. Minibus routes are run by private entities under route licenses issued by CTA. The minibuses typically have twenty-nine seats. Additional services are operated with a variety of smaller vehicles, including 14-seat minibuses, 12-seat El Tramco buses, 10-seat Volkswagen vans, and 7-seat Suzuki vans.

In the absence of a meaningful network of dedicated infrastructure, bus and paratransit services are subject to Cairo’s crippling traffic congestion, resulting in declining commercial speeds and less efficient fleet utilisation. Bus speeds along corridors such as Al Mehwar Al Markazi in 6th of October City are extremely slow. Bus speeds are less than 15 km/h and in some areas even below 5 km/h, suggesting that taking waiting time into account, it may be faster to walk than to take a bus in the peak hour.

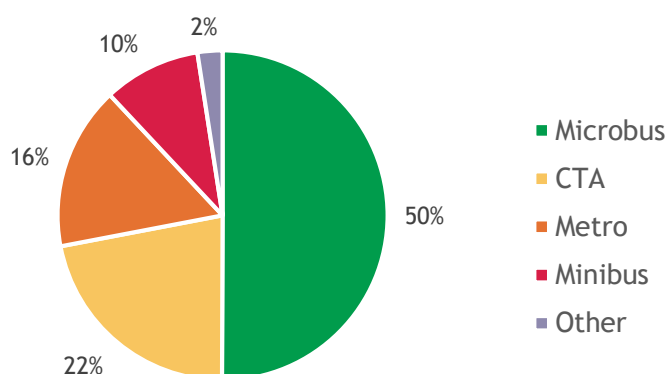


Figure 2. Mode split for public transport trips, 2001.⁴

¹ <http://cairometro.gov.eg/UIPages/Statistics.aspx>,

<https://pedestrianobservations.wordpress.com/2015/03/31/metro-systems-by-ridership-per-kilometer/>

² Quiros, Tatiana Peralta. (2015, Jan 28). “Using open tools to create the digital map of Cairo’s public transit.” Transport for Development Blog. Retrieved from <http://blogs.worldbank.org/transport/jobs/using-open-tools-create-digital-map-cairo-s-public-transit>

³ Cairo Governorate. “About the Authority.” Retrieved from <http://www.cairo.gov.eg/HaykalTanzemy/body/Disdetails.aspx>

⁴ Pacific Consultants International. (2002). CREATS: Phase I Final Report Vol. III: Transport Master Plan.



Figure 3: The Cairo Transport Authority (CTA) operates buses across routes in Cairo, Giza, and the new communities. The entire fleet consists of high floor buses with stepped entry.



Figure 4: Paratransit vehicles in Greater Cairo range from 7-seat vans to 29-seat minibuses.



Figure 5: The bus and paratransit system in Greater Cairo lacks supporting infrastructure such as bus shelters and terminals, so passengers are forced to wait in the sun to catch a bus.

High quality rapid transit corridors are urgently required to supplement existing transport services in Cairo. BRT has the potential to improve accessibility in Greater Cairo by extending the reach of the metro, bus, and paratransit systems. The first-phase BRT corridor consists of a 41.5 km corridor from the industrial area of 6th of October City to Giza Square, passing through Mehwar al Markazi, Wahat Rd, Fayoum Desert Road, and Faisal Street. The corridor has 39 stations, three terminals, and one depot. Four services will operate with a fleet of approximately 120 buses, carrying 126,000 passengers per day. Three express routes will operate from 6th of October City to Faisal Metro Station or Giza Square, while one local service will operate from Pyramids to Giza Square/Cairo University. The peak load on the corridor is around 6,400 passengers per hour per direction, with a peak frequency of around 50 buses per hour along Faisal St in Giza.

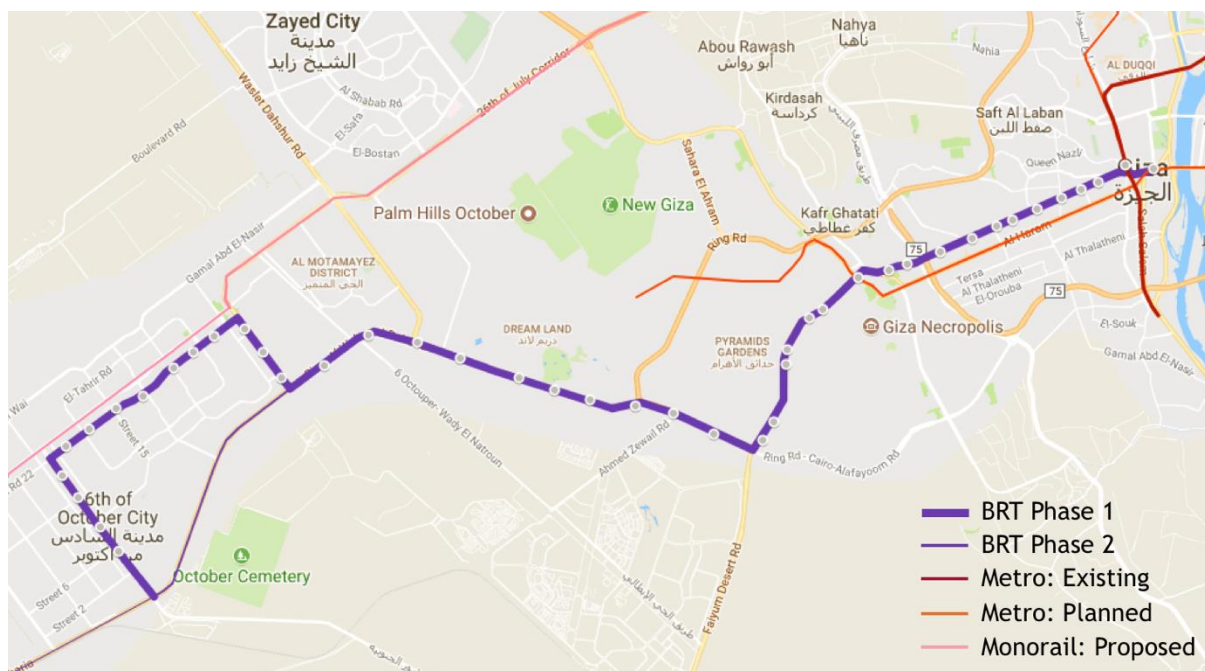


Figure 6. Planned BRT alignment from 6th of October City to Giza Square.



Figure 7. The BRT will incorporate high-capacity buses, centrally aligned stations, passing lanes, and safe pedestrian access.

4. Gender and transport

Street harassment can be defined as a “form of violence which is experienced by women in the form of heckling, being whistled at, rated, propositioned, leered at, fondled, and in other ways assaulted and humiliated by men as they go about their daily lives in public spaces”⁵ Egyptian law defines harassment as “acts to accost people” by “implying sexual or obscene gestures” in any manner, “including modern means of communication and done with the intent of receiving sexual gratification from the victim.”⁶ Mob sexual harassment is defined as an act of sexual harassment of a female from two or more individuals.⁷

A 2013 UN Women study in Cairo found that 83 percent of the total female respondents reported that they felt neither secure nor safe in the street.⁸ The rate of the feeling of insecurity and lack of safety in public transport is 87 percent. Also, 79 percent of the sample indicated that they did not feel safe even in a taxi. Women’s sense of security and safety increased in places of education, with 66 percent feeling secure. As expected, the sense of security and safety at home is 97 percent, and in the family

⁵ Fatima Peoples. (2008). Street harassment in Cairo: A symptom of disintegrating social structures.

⁶ CNN. Egypt criminalizes sexual harassment. Retrieved from: <https://edition.cnn.com/2014/06/06/world/africa/egypt-sexual-harassment-law/index.html>

⁷ Middle East Institute. Egypt’s sexual harassment law: An insufficient measure to end sexual violence. <http://www.mei.edu/content/at/egypts-sexual-harassment-law-insufficient-measure-end-sexual-violence>

⁸ UN Women (2013). Study on ways and methods to eliminate sexual harassment in Egypt. Retrieved from: http://web.law.columbia.edu/sites/default/files/microsites/gender-sexuality/un_womensexual-harassment-study-egypt-final-en.pdf

circle and among relatives, 95 percent. This sense of security also increases among friends and colleagues, reaching 86 percent. Echoing these findings, a 2017 poll among women's rights experts ranked Cairo as the most dangerous city for women.⁹

When making decisions about transport, women consider the level of safety and personal security on available modes. They may forego trips and seek less efficient or more costly alternatives when there is perceived threat.¹⁰ Considering the economic impact of various responses, including legal redress, modification in one's route, travel with a companion, and absenteeism at school, the overall cost of gender-based violence on public transport in Egypt is estimated to be EGP 241 million in 2015.¹¹ The country experienced a loss of EGP 329 million due to harassment in public spaces.¹² To ensure increased women's access to economic, health, and educational opportunities, availability of safe and reliable transport is crucial. In addition, addressing the needs of women also ensures that the needs of other vulnerable groups that depend on women, such as children and the elderly, are addressed.¹³

In Cairo, some steps have been taken to address the pervasive risk of sexual harassment in public space. Women-only cars in the metro were introduced in 1989, two years after the first metro line was commissioned.¹⁴ In 2013, the government dispatched policewomen onto the metro system to secure women's cars and protect riders against harassers.¹⁵ In November 2017, the English Mass Transit company, which is contracted by Cairo's Transport Authority (CTA), launched a female-only bus service.¹⁶ However, other CTA, minibuses, and microbus services in the city do not offer separate sections for women.

⁹ Kanso, Heba. (2017, Oct 16). "Cairo named riskiest megacity for women, worse since Arab spring." Reuters. Retrieved from <https://af.reuters.com/article/africaTech/idAFL8N1LM1H1>

¹⁰ GIZ. (2007). Gender and urban transport: smart and affordable. Module 7a. Sustainable Transport: A sourcebook for policy-makers in developing cities.

¹¹ United Nations Population Fund. (2016). The Egypt Economic Cost of Gender-Based Violence Survey (ECGBVS) 2015.

¹² Ibid.

¹³ World Resources Institute. (2015). Women's safety in public transport. A pilot initiative in Bhopal. Retrieved from http://www.wri.org/sites/default/files/Final_Report_30072015.pdf

¹⁴ Cowell, Alan. (1990, Jan 15). "Cairo Journal: For women Only: A train Car Safe From Men." *The New York Times*. Retrieved from <https://www.nytimes.com/1990/01/15/world/cairo-journal-for-women-only-a-train-car-safe-from-men.html?pagewanted=all&src=pm>

¹⁵ Gehad, Reem. (2 Oct 2013). Policewomen patrol women's carriages on Cairo's packed metro. *Ahram Online*. Retrieved from: <http://english.ahram.org.eg/NewsContent/1/0/83027/Egypt/0/Policewomen-patrol-womens-carriages-on-Cairos-pack.aspx>

¹⁶ The Arab Weekly. Cairo firm's women only buses ride into the battle against sexual harassment. Retrieved from: <https://theArabweekly.com/cairo-firms-women-only-buses-ride-battle-against-sexual-harassment>



Figure 8. Waiting for a women's carriage in the metro.

There is a school of thought arguing that the separation of a public space is not gender neutral. By preventing the mixing of the sexes, segregated compartments have implications for the societal view of women's place in the city. Since the presence of women in society can be an indicator of social change, public decisions that touch on this issue can have considerable impacts on interactions between men and women, both in public and private arenas.¹⁷ Women's only cars are seen by some as promoting the divide between men and women by dealing with the symptom of the problem as opposed to the root cause.

Another school of thought argues that the women only cars are better than no intervention at all. Women state that it would be a nightmare for women to access the metro during rush hour in Cairo without the option of women-only car, as the cars become so packed that physical contact is unavoidable.¹⁸ Both schools of thought agree that there is need for long term interventions to address the problem.

In June 2014, Egypt amended its laws criminalising sexual harassment, with harassers facing six months to five years in prison with fines of up to EGP 5,000. The prison sentence is harsher if the harasser is someone who is superior in the victim's place of work.¹⁹ The law also dictates a prison sentence for those who engage in mob sexual harassment, not to exceed five years. The law also states that if a harasser previously punished commits sexual harassment within a year after he finishes his initial sentence, he will be imprisoned in a maximum-security prison for 3 to 15 years and then put on

¹⁷ Tillous, M. Women only cars in the Cairo Metro: A response to what problem?

¹⁸ Identity. Why aren't the Cairo Metro women's only cars working? Retrieved from: <http://identity-mag.com/why-arent-the-cairo-metro-womens-only-cars-working/>

¹⁹ The Star. Egypt president decrees sexual harassment a crime. Retrieved from: https://www.thestar.com/news/world/2014/06/05/egypt_president_decree_sexual_harassment_a_crime.html

probation for the same period that he was imprisoned. In addition, the Ministry of Interior created a women’s police unit to handle sexual harassment cases.²⁰

Long-term interventions

Quito, Ecuador, invested in the installation of a series of kiosks called “Cuéntame” in the main transport hubs of the city. Women can go to Cuéntame to report complaints. Serious offenses are transferred to the justice system and perpetrators have been prosecuted. The second phase of the project involved setting up a SMS reporting system that passengers can use to contact the control centre of the public transport system. There, a trained person receives the message, notifies the police, sends a message to the bus driver, and calls the victim back. The bus driver makes an announcement saying: “Right now a passenger is experiencing a harassment situation. Please look around, offer your support, and do not let this situation continue.” The bus driver and the police can then detain the person responsible.

5. Methodology

To help inform a gender-sensitive design of the Cairo BRT system, ITDP, UN-Habitat, and UN Women conducted a series of surveys, including the following:

Methodology workshop. The methodology workshop brought together academicians, urban planners, women commuters, and researchers to discuss ongoing initiatives related to gender and transport in Cairo and review the planned survey methods. The workshop provided insights and comments that informed the development and implementation of the surveys.



Figure 9: Methodology workshop (left) and focus group discussion (right).

²⁰ Tadros, Mariz. (2015). Mobilizing Against Sexual Harassment in Public Space in Egypt: From Blaming “open cans of tuna” to “the harasser is a criminal.” Emerge. Retrieved from https://opendocs.ids.ac.uk/opendocs/bitstream/handle/123456789/7109/EMERGECaseStudy_Egypt.pdf?sequence=1&isAllowed=y

Public transport terminal survey. This survey captured women’s travel patterns and preferences by collecting gender-disaggregated data on mode choice, trip origins and destinations, trip purposes, and safety and security concerns. The surveys were conducted during the morning and evening peak periods, from 7:00-9:00 and 15:00-18:00, by trained social sciences students from local universities. Separate surveys targeted male and female commuters. Surveyors interviewed commuters of the same sex, and in total, 481 commuters were interviewed, including 221 men and 260 women. The surveys took place at the following public transport terminals along the BRT corridor:

- Hosary Terminal, 6th of October (29.97246, 30.94473)
- 90 Street S Terminal, New Cairo (30.01718, 31.42785)
- Mostafa el Nahaas St at the intersection with Dr. Hassan el Shareef Street, Cairo (30.05597, 31.35774)

Focus group discussions. The discussions aimed at capturing information on women’s experiences while commuting in Cairo and. Focus groups were held with 15 women from 6th of October City; 8 women from Nasr City, 8 female teenagers at Al Muqattam; and 18 women with disabilities along with caregivers of minors living with disability. Facilitators presented the three focus groups with local area maps and led discussions covering the following:

- Public transport services used by the participants, including fares, frequencies, and operations on the respective routes.
- Perceptions and behaviour of public transport operators and fellow commuters.
- Availability of supporting infrastructure, including bus stops, public toilets, and lighting, along the route.
- The level of security within the catchment area of the proposed BRT corridors.
- Challenges faced by persons with disabilities.

The team also held a focus group with women cyclists in Cairo. The discussion aimed at understanding women’s experiences while cycling in Cairo and identified strategies that could encourage more women to cycle.

Operator assessments. The survey assessed the level of gender awareness among existing public transport operators and sought to understand perspectives on women’s employment participation and approaches for responding to harassment during public transport journeys. The interviews were conducted with managers and operators from minibuses, minibuses, and CTA buses as well as women drivers from the ride hailing apps Pink Taxi and Uber.

Frequency-occupancy survey. The frequency-occupancy survey recorded the number of men, women, and children on a sample of public transport vehicles at five locations across 6th of October City, Giza, Cairo, and New Cairo City.

Online survey. An online survey regarding women’s travel patterns and preferences using the Google Forms platform garnered 2,500 responses.

Non-motorised transport (NMT) facility survey. The NMT facility survey examined the quality of the walking and cycling environment at six representative locations along the planned east and west

BRT corridors. The survey gathered information on the presence and quality of footpaths, pedestrian crossings, lighting, and other street elements.

6. Survey findings

6.1 Women’s travel patterns

Survey findings point to the diversity of trips taken by women. While a majority of male trips were work-related, women had varied trip purposes. Women took more personal and shopping trips than their male counterparts, which may reflect an unequal distribution of household related duties such as taking children to school and visiting relatives. Men tended to visit more places outside the home. The public transport terminal survey revealed an average daily trip rate of 2.0 trips per person for men and 1.5 trips for women.

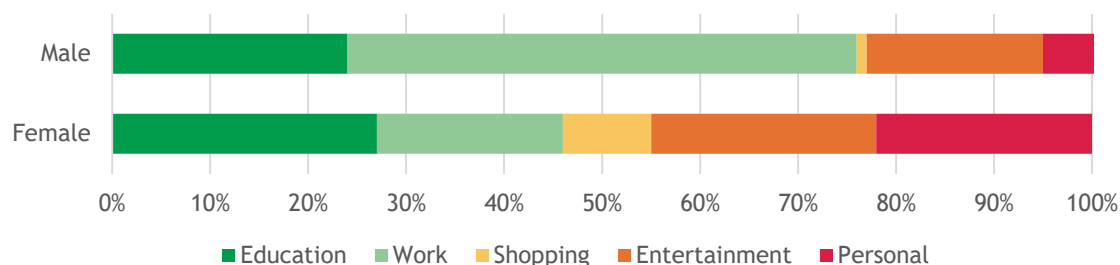


Figure 10: Purpose of travel.

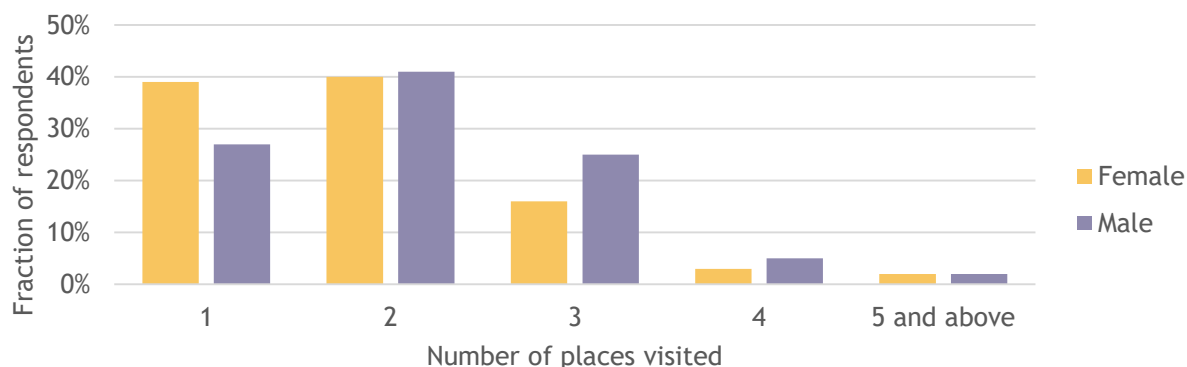


Figure 11: Places visited outside the home.

The gender frequency occupancy survey, conducted at five representative locations across the metropolitan area, revealed that women make up approximately a quarter of the passengers in road-based public transport modes. Data disaggregated by vehicle type indicate a slightly higher fraction of microbus passengers are women.

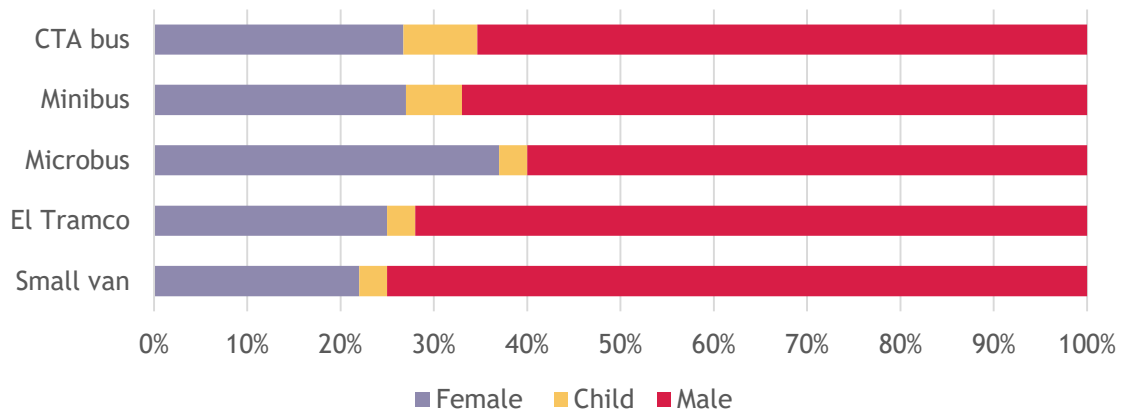


Figure 12: Composition of public transport passengers by gender.

More than half of respondents to the online survey reported being very unsatisfied with the overall quality of public transport. Participants in the public transport terminal survey were asked if they ever use substitutes for public transport. Most women seldom or never use a substitute, perhaps pointing to the unaffordability of alternate modes. For women who used substitutes, the most common mode was taxi, followed by Uber and Careem. A study conducted by Uber reinforces these findings, Some women reported waiting for an empty bus or minibus to arrive.²¹ Better safety was the predominant reason given for use of the substitute.

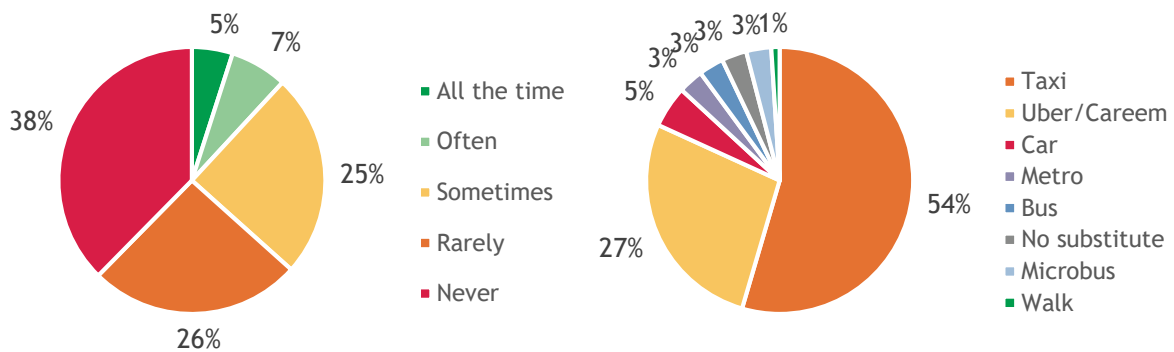


Figure 13: Frequency of substitutes (left) and alternate mode used (right).

A significantly higher fraction of women than men do not have licenses. This may reflect a gender disparity in the ownership of or access to private means of transport and women’s greater reliance on public transport.

²¹ Accenture and International Finance Corporation. (2018). Driving toward equality: Women, ride-hailing, and the sharing economy. Retrieved from <https://www.ifc.org/wps/wcm/connect/987fd54b-8d69-4d98-bb23-c62b84c3815b/IFC+DTE+Report+Final+March+1.pdf>

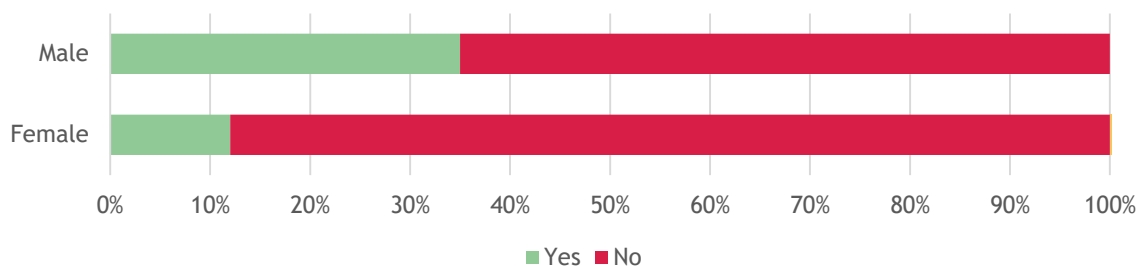


Figure 14: Ownership of driving license.

With regard to transport costs, respondents to the public transport terminal survey reported an average expenditure of EGP 10 per day for women and EGP 12 for men. In the online survey, the average expenditure was around EGP 18. The higher value from the online survey may reflect the demographic differences between the two samples.

6.2 Women’s security

There is widespread agreement among men and women that harassment on public transport is a serious concern.

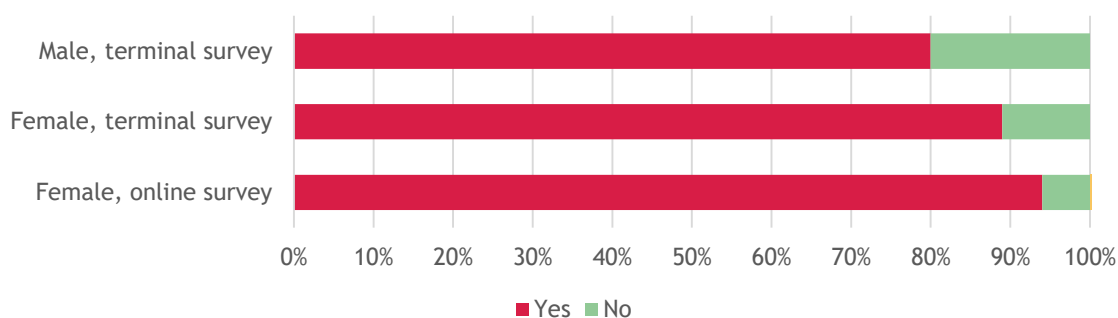


Figure 15: Does harassment affect women?

In the public transport terminal survey, over 60 percent of women reported facing physical harassment at some point. Verbal harassment is very high, with over 80 percent of women experiencing cat calling, and over 60 percent experiencing whistling. Consistent with the findings from the public transport terminal survey, the focus group participants agreed that harassment is a daily occurrence on public transport.

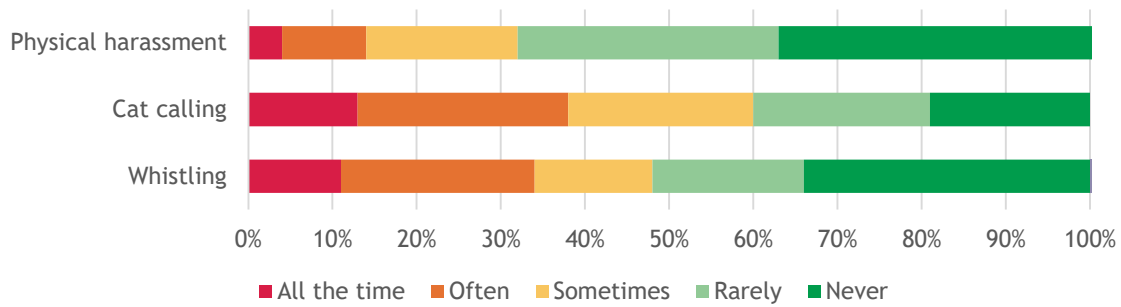


Figure 16: Frequency of different types of harassment.

Women face the risk of harassment throughout the journey, from the walk to the bus stop, while waiting for the vehicle, and during the ride (Figure 17). Specific challenges encountered at each trip stage are described in more detail in the following sections.

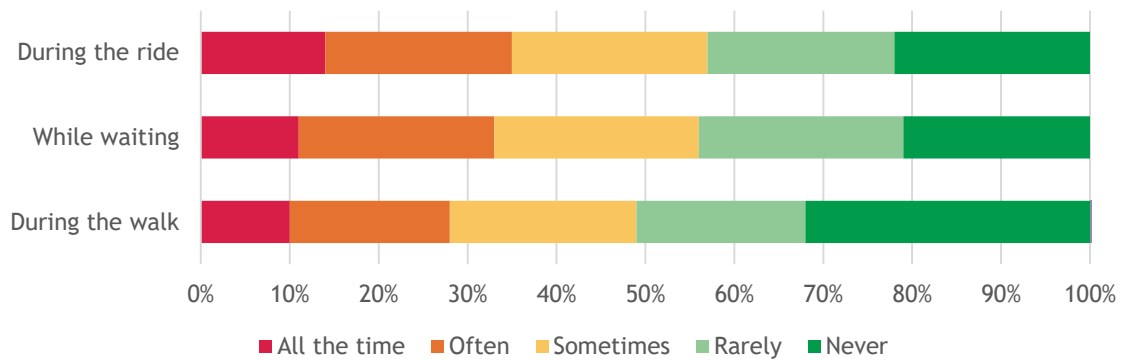


Figure 17: Frequency of harassment during different stages of the journey.

When asked which mode is least secure, the highest share of online survey respondents, around 35 percent, mentioned CTA buses. Microbuses, minibuses, and walking were also cited as modes associated with a high level of insecurity. Responses to the public transport terminal interviews also indicated that CTA buses are associated with a high rate of harassment, followed by metro and minibuses. Given the presence of separate women’s carriages on the metro, the high reported frequency of harassment may reflect poor security at station entrances, ticketing areas, and platforms.

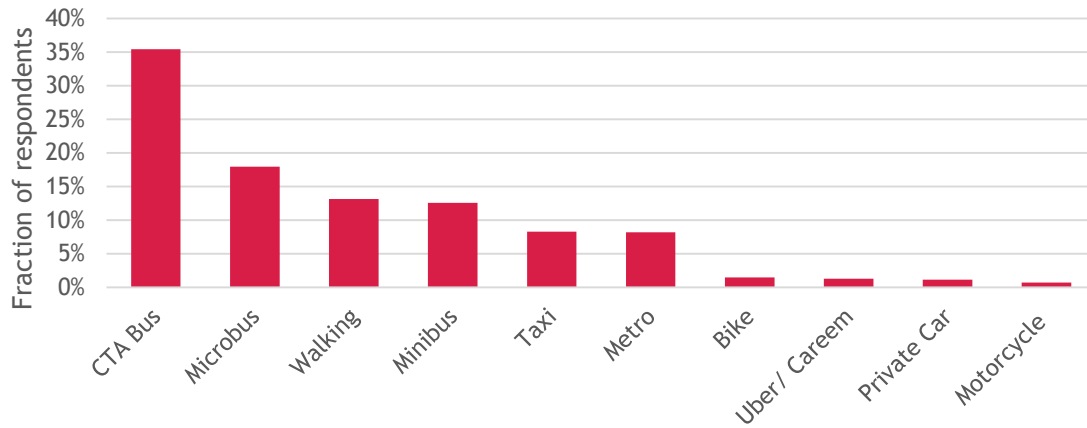


Figure 18: Fraction of online survey respondents reporting that the mode is least secure.

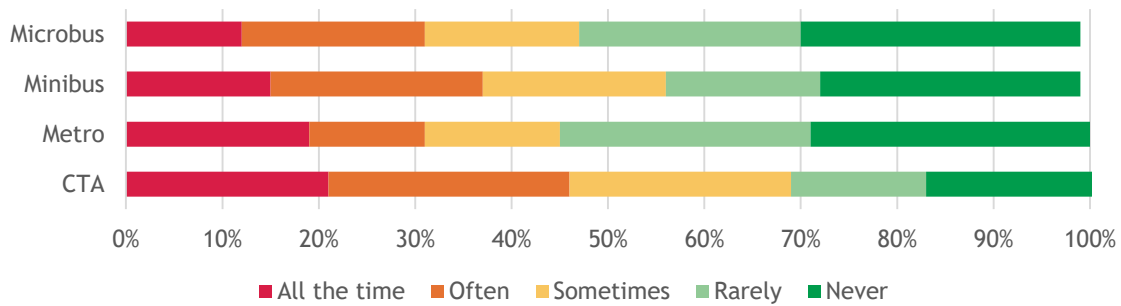


Figure 19: Frequency of harassment per the public transport terminal survey.

Public transport terminal survey respondents cited higher levels of insecurity in the evening and at night. As a result, women’s mobility is restricted to certain hours of the day, and women have earlier curfews during the winter when the sun sets earlier than in summer days. To improve personal safety, women reported calling on family members to accompany them after dark.

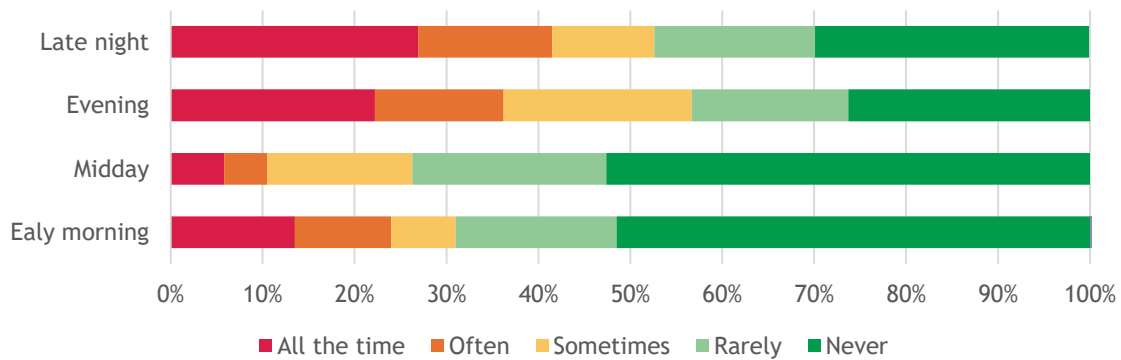


Figure 20: Feeling of insecurity by time of day.

Women face harassment from a number of perpetrators, including both drivers and passengers. Drivers, especially tuk-tuk operators, were noted to harass commuters, often singling out female commuters and hurling unacceptable language. Women also complained about being harassed by friends of the operators who usually sit beside the drivers. Women cited being harassed by fellow commuters who take advantage of crowding to deliberately push themselves closer to women.

6.3 Experience on public transport vehicles

A common theme throughout the focus group discussion was that crowding contributes to harassment and general discomfort. Participants spoke of very poor service regularity, with a surplus of vehicles at certain times and very infrequent service at others. When vehicles are overcrowded, participants reported needing to let several buses go by before finding space on a vehicle. Besides harassment, participants discussed the risk of theft. Women who tend to carry packages or children and have their hands full are targeted and are easy prey for petty theft.²²

“Usually the drivers ask the passengers to pile up more, without having any free place.” – Focus group participant

“Sometimes we women resort to the man organising the bus stop, or to the man selling tea to the drivers and passengers, and we ask them to help us find a place in the microbus. Then some passengers start calling us names and insinuating that we have a secret relationship with that man or that one, and in fact we do not even know them. We just ask for their help when we are totally unable to get on the microbus.” – Focus group participant



Figure 21: All road-based modes in Cairo have mixed-gender seating. Inadequate service and irregular frequencies lead to overcrowding, which can set the stage for harassment.

The act of boarding can be challenging when during peak periods. In the absence of a queuing system, passengers jostle for space on the vehicle. Since most vehicles have steps, boarding can be difficult

²² GIZ. (2013). Gender and Urban Transport: Smart and Affordable. Module 7a. Sustainable Transport: A sourcebook for policy makers in developing cities.

for passengers carrying children or persons with disabilities. Focus group participants complained of drivers pulling out from the stop before passengers could finish boarding.

“Yesterday, I was leaving the university. It was a very crowded day, in addition to the lack of adequate transport means, which requires parking for very long periods of time until I get any bus. When a large number of people go up to the bus together, there was a young man who fell on my body. I do not think he is intent on harassing me, but it happened because of the crowd.” – Focus group participant

“This is a problem for old people because the driver cannot wait for them to get up safely. With their first step [the driver] starts moving immediately. And the elderly lady has not yet ascended.” – Focus group participant



Figure 22: Steps inside buses and minibuses present a challenge during boarding and alighting, especially for elderly passengers, persons with disabilities, and women with children.

There are no surveillance mechanisms on public transport vehicles, and focus group participants noted that fellow passengers do not consistently come to the aid of women who are harassed. Public transport services do not provide emergency numbers or other means to report incidents.

“Suppose I have a problem in the microbus, there must be an officer to whom I can find at the stop and report the problem. A real officer not a friend of the drivers. And I can give the officer the number of the car and he can call the driver to account. If this is repeated two, three, and ten times, drivers will behave correctly.” – Focus group participant

Focus group participants described complex journeys that involved multiple transfers. The high transfer rate was also corroborated in a separate transfer survey conducted for the BRT study, which found that 70 percent of the passengers transfer at least once to finish their trips. The need for

transfers combined with severe road congestion means that journey times can take an hour to two hours per direction. Among online survey respondents, over half reported spending two or more hours per day for the round-trip commute. Focus group participants called for night service to continue until 23:00 or 0:00 to serve women who work late shifts.

“The dangers for me consist in the cost, effort and time wasted in transport. Means of transport are so terribly crowded. When I arrive home, I am so tired that I cannot do anything anymore. I do not get tired from working, I am exhausted by the trip.” - Focus group participant

Focus group participants also mentioned poor driving behaviour, particularly on high-speed corridors such as Al Wahat Road.

Turning to solutions, both focus group participants and survey respondents were largely in support of dedicated cars for women in the metro. When asked to state the reasons why separate cars should be provided, both men and women cited increased improved security for women. A handful of men, indicated women’s privacy the primary benefit.

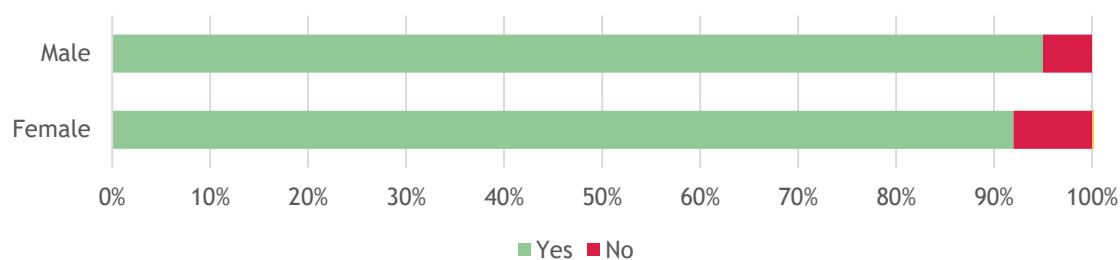


Figure 23: Should the metro have dedicated sections for women?

Women predominantly favoured the introduction of dedicated women’s sections on CTA buses. In discussing whether separate sections should be introduced in buses, women cautioned that having fully dedicated vehicles would lead to longer waits. Already, the lack of bus schedules and long waits for minibuses to fill up made it hard for women to effectively plan their travels. Separate women’s sections ranked highest when compared with other interventions that would make public transport safer, followed by awareness. Focus group participants and survey respondents also stressed the need for an overall increase in the number of buses in Cairo to prevent overcrowding.

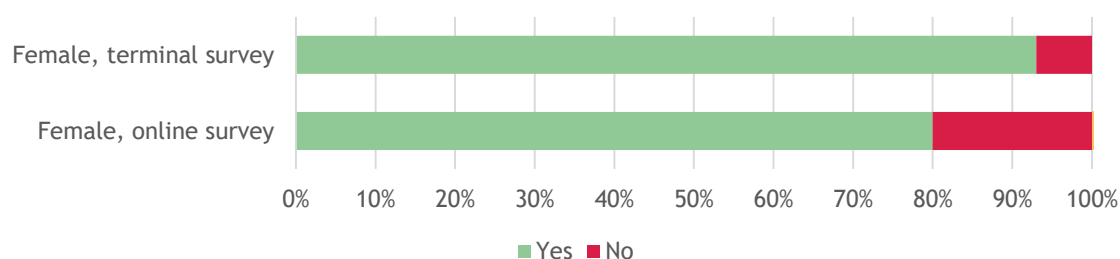


Figure 24: Should CTA buses have dedicated sections for women?

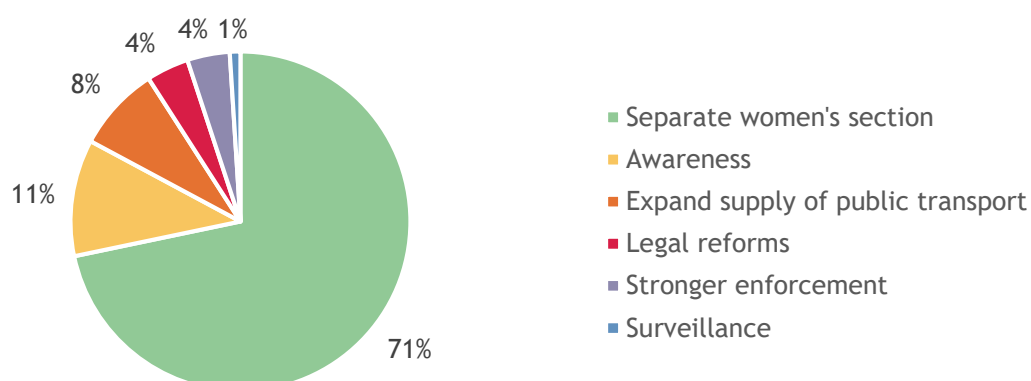


Figure 25: Measures that would make public transport safer.

Fare integration

Fare integration can improve the convenience of using public transport for customers who need to use multiple modes to complete their journeys. In addition, integrated fare structures can improve the affordability of multi-stage journeys. In London, commuters can use the same pre-paid card on all bus, metro, and tram journeys with the Transport for London (TfL) system. In addition, commuters can make unlimited journeys within one hour of first entering the system when using the card.²³ In Santiago, fare integration includes all modes in the city: suburban rail, metro lines, and buses. The pre-paid card, Bip, allows commuters to make two transfers within two hours without additional cost.²⁴

Fare levels

In Dar es Salaam, traditional paratransit services, popularly known as daladalas, prefer not to carry students during peak hours because they are required to charge lower fares—thereby causing the operator to lose out on higher-paying adult passengers. This results in children being late or missing morning classes altogether. The Dar es Salaam BRT now provides an affordable and reliable means of transport for children studying along the BRT corridor and offers a fare of TZS 200 for students, compared to a regular fare of TZS 650.

In London, various memberships catering to different demographics. The 60+ London Oyster photocard offers the elderly who are above 60 years free travel on bus, tube, tram and rail. The

²³ Transport for London. Hopper Fare. Retrieved from <https://tfl.gov.uk/campaign/hopper-fare>

²⁴ Directorio de Transporte Público Metropolitano. (2018). Informe de gestión 2017. Retrieved from http://www.dtpm.cl/archivos/IG_2017-web.pdf

18+ student Oyster Photocard offers 30 percent off the price of adult rate for bus and tram tickets.²⁵

In the PT terminal survey the average expenditure was EGP 10 per day for women and EGP 12 for men. In the online survey the weighted average is around EGP 18 taking the midpoints of the ranges. The higher value from the online survey probably reflects the demographic differences between the two samples.

6.4 Experience in stops and stations

Most public transport stops in Cairo lack well-defined waiting areas with shelters, seating, and lighting. There is little provision for vehicle circulation, leading to chaotic vehicle movements.

“At the bus stop of Al-Zahraa, where you cross the Ring Road, there is no lighting whatsoever.” – Focus group participant

When stations and bus stops are crowded, contact with others is hard to avoid. In some cases, passengers can suffer from unintentional touching as passengers jostle to board vehicles. Even when stops are less crowded and there is ample space for passenger circulation, focus group participants reported experiences where male passengers deliberately infringe on women’s personal space. Besides harassment, participants cited theft as a major risk when passing through crowded bus stops and terminals. Surveillance cameras were recommended to aid in finding offenders and facilitate reporting. In addition, focus group participants suggested introducing a response mechanism whereby station personnel would be able to help respond to incidents reported either in a bus or in a station.

“Some individuals take advantage of the crowd to harass you.” – Focus group participant

Less crowded bus stops present their own risks, with women facing threatening behaviour from public transport operators and other passers-by.

“At the Tenth of Ramadan bus stop, while we are walking, they tell us bad things. The man calling for the microbus passengers start saying: Why don’t you ride with us?” – Focus group participant

“From here to the bus stop, you can face problems. Private cars may stop and you can sometimes see a half-naked man inside the car!” – Focus group participant

“A few days ago, I left work rather late and I waited for about one and a half hour for the bus. It was past sunset and getting darker. A private car stopped by and the driver kept sounding the horn

²⁵ Transport for London. Fares and Payments. Retrieved from: <https://tfl.gov.uk/fares/free-and-discounted-travel>

several times but I did not respond. That happened right here at the bus station.” – Focus group participant

Public amenities such as toilets in public transport terminals were reported to be missing. Women mentioned preferring toilets in malls saying that malls have staff allocated to clean and supervise the facilities. Mosques also have washrooms but they are usually only open during prayer times. The few toilets at public transport terminals were reported to be dirty and unsafe.

“There is no supervision of toilets. At the same time, suppose there is a drunken man and he goes inside. Most young men drink alcohol today.” – Focus group participant

“If I want to urinate, I will go under the tree to do that.” – Focus group participant



Figure 26: Some public transport terminals have basic facilities including seating and shade structures.



Figure 27: Informal terminals in 6th of October City (left) and New Cairo City (right) lack shade, seating, adequate lighting, toilets, and other amenities.



Figure 28: Bus shelters recently installed in Cairo have a large step, thereby compromising access for persons with disabilities. In the new communities, shelters are often absent.

BRT control centre and ensuring women’s safety

More than 15.7 million people commute into Mexico City every day, more than half of them women. To address the issue of harassment against women, the Government of Mexico City launched the Safe Travel Public Transport Program in October 2017. The program is intended to prevent harassment, address incidents, and punish perpetrators and is implemented by a consortium of a nonprofit and eleven government agencies. As part of the initiative, Safe Travel booths located in the Metro stations house lawyers hired by the Institute of Women of Mexico City who provide legal services and are available accompany women to police stations to launch complaints.²⁶

6.5 Last-mile connectivity

Safe and convenient access to public transport stops and stations is critical to the overall success of the public transport system. At present, last-mile connections present a number of challenges for commuters in Greater Cairo. Focus group participants stressed the need for safer road designs and better driving behaviour. They pointed to the serious risks to pedestrians face due to speeding vehicles. Many roads lack proper crossings, forcing pedestrians to wait a long time for a break in the vehicle flow or take the risk of crossing in the midst of fast-moving traffic.

“In the Settlement region, the Ninetieth Street is a real disaster from beginning to end! It is impossible to cross such a wide road with vehicles running at high speed and no traffic signs or crossing places for pedestrians!” – Focus group participant

“I face tremendous dangers as I have to cross three Ring Roads. I have to wait ten or fifteen minutes before being able to cross the Ring Road to go to the station El-Zahraa of Nasr City.” – Focus group participant

²⁶ <https://www.inmujeres.cdmx.gob.mx/vida-libre-de-violencia/viaja-segura>

The NMT environment surveys revealed a general lack of continuous footpaths in six study areas along the planned BRT corridors (Figure 31). Where footpaths are present, they are often blocked by parked cars. An accessible environment is one composed of well-connected pedestrian facilities with consistent pavement surfaces, appropriately sloped ramps, and an unobstructed path of travel. Focus group participants with disabilities described a walking environment that fell short of these standards. Participants encounter unpaved road surfaces, obstructed walkways, and footpaths without ramps.



Figure 29: At several locations, pedestrians are forced to navigate wide crossings that lack signals and traffic calming.



Figure 30: Challenges commuters face while reaching public transport: pedestrian access added as an afterthought (left) and parking encroachments blocking footpaths (right).



Figure 31: Presence of footpaths with at least 2 m of clear width for walking: Most streets lack a complete network of footpaths.

Turning to security in public spaces, participants discussed challenges related to harassment in public spaces and mentioned that they accompany their children outside the home in order to protect them from harassment. Participants stressed the need for adequate lighting. In addition, the presence of shops contributes to a sense of security. When shop owners also close the lights outside their shops at night, streets are left dark. Participants agreed that improved street lighting is critical to increasing the perceived and real sense of safety.

“The presence of shops gives us a sense of security.” – Focus group participant

“If such a thing happened and I were harassed by anyone in the street, the first people I could resort to are shop owners, in order to help me keep this person away from me.” – Focus group participant

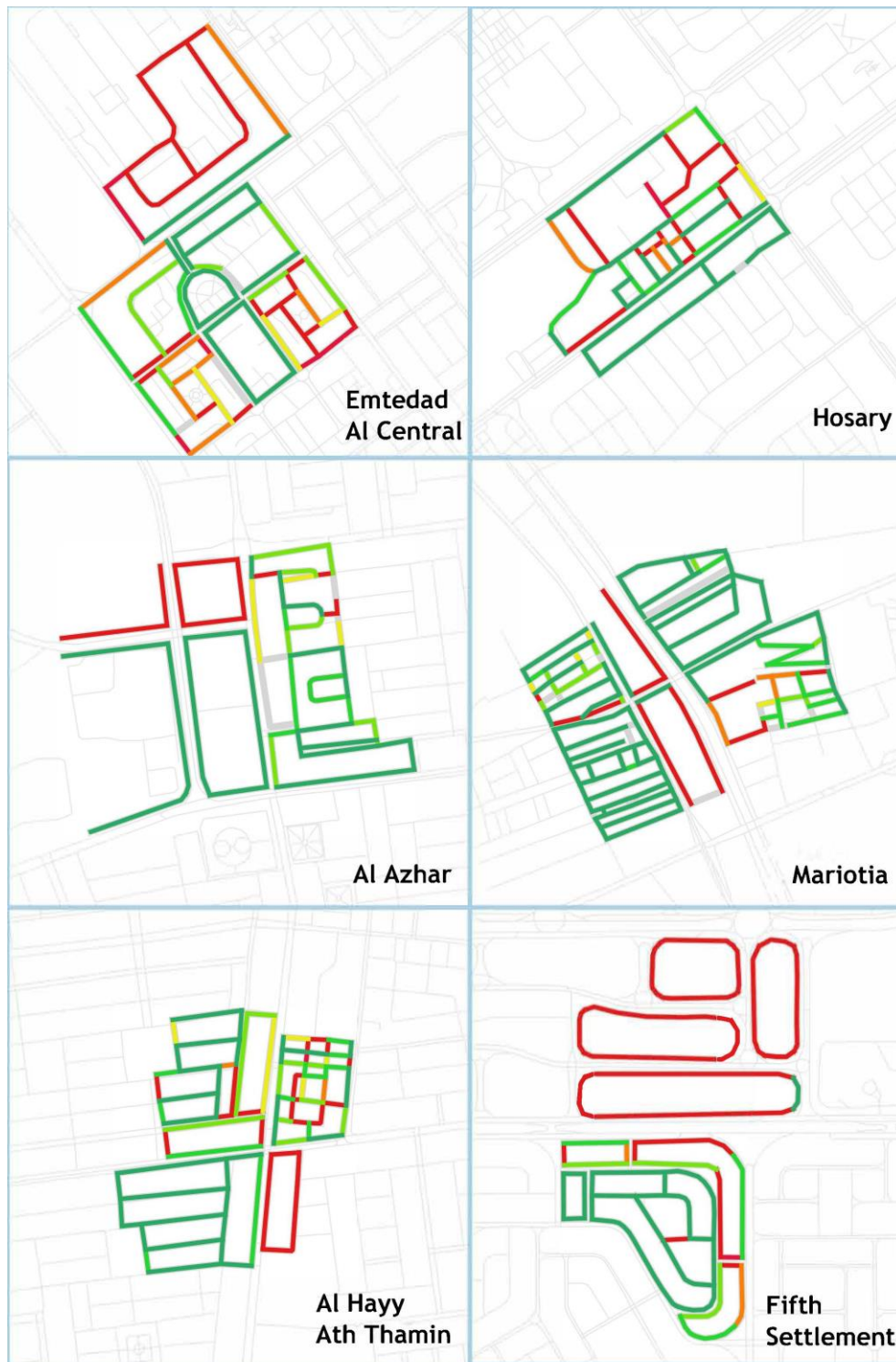
“I live in the centre of town. We have everything: A lot of lighting, a lot of people and a lot of shops and so many mosques. No need to worry! A woman can go down to the street at any time, even at 2 or 3 a.m. or at dawn. No problem!” – Focus group participant

“On the main street, people are going and coming and it makes you feel secure. But our street is a different case.” – Focus group participant

“The gate of our building had no lock. Once I came home in the evening and I saw a man standing at some distance from the building. As I was going up the stairs, I heard the man coming after me; he grabbed me by the shoulder and pulled my bag. He did not want to steal it but wanted to attack me here inside the building where I live. No one was around, in the building or in the street. There was only a supermarket nearby. But when I understood his intention, I kept screaming and screaming; he got scared and ran away. He hid between the buildings. By the time the tenants came out to see who was screaming, he was already far away! There are no shops on the ground floor of our building.” – Focus group participant

“The main problem we suffer from is ... harassment by the drivers of the tuk-tuks of my daughter’s friends. Because of that I take them from the bus station to our area.” – Focus group participant

The NMT survey recorded the level of visual connection to building interior. Both shops and residences with a visual connection between private and public spaces were considered. While older parts of Cairo have good visual permeability, some areas in 6th of October City and New Cairo City are characterised by blocks surrounded by compound walls, thereby preventing passive surveillance of public spaces (Figure 32).



Visual connection to building interior

- | | | |
|---|---|--|
| — less than 50% | — 60% or more | — 80% or more |
| — 50% or more | — 70% or more | — 90% or more |

Figure 32: Level of visual connection to building interior: Some areas of the Fifth Settlement and Emtedad al Central lack visually permeable façades.

Cycling is another potential means of last-mile access to BRT stations. As part of a separate project on bicycle sharing, the team held a focus group with women cyclists in Cairo. The focus group revealed that women cyclists cycle for leisure, fitness, and errands. Women cyclists generate a range of comments and attention, both positive and negative. Women often offer encouragement and are excited to see other women cycling. Negative reactions come in the form of verbal harassment, ogling, laughing, mocking, and physical harassment. Participants faced stone throwing and one woman had an experience with a motorcyclist who dragged her leg on his way. Women also face issues that may be common to all cyclists: a lack of parking facilities, dangerous intersections, poor lighting, and poorly surfaced bridges.

Cycle trainings in Santiago

From 2007 to 2012, Santiago, Chile adopted a cycling master plan that quadrupled the number of cycle tracks but failed to attract female riders. Macleta (Women on Bikes), a local NGO in Santiago, discovered that few women knew how to ride and that many were afraid to use bicycles in the city. To encourage women to ride, Macleta offered two classes: a “Learn to pedal” course for beginners and a “Get off the sidewalk” class for women who knew how to ride a bicycle, but were uncomfortable with riding around the city. Women and girls now constitute 37 percent of cyclists in the city.²⁷

6.6 Experiences of women with disabilities

Participants in a focus group with persons with disabilities spoke of a number of challenges they encounter on a daily basis while using the city’s transport system. The most challenging situations experienced while using public transport include boarding and alighting on any mode of transport, poor access to metro or bus stops (i.e., lack of ramps or elevators), and poor last mile connectivity to stops and terminals. Overcrowding leads persons with disabilities to travel early in the morning or late evening to avoid overcrowding. The participants described being unable to plan their time due to the difficulty of moving around. In light of these challenges, taxi modes (i.e., hail taxis, Uber and Careem) were rated as the most accessible modes of transport.

Although persons with disabilities would like to move independently, the circumstances force them to travel with a friend or a family member or seek help from bystanders. Participants reported that fellow passengers are usually more willing to help than public transport operators. Drivers often refuse to carry passengers using wheelchairs. Unfortunately, people with hearing disabilities are unable to ask for help since most people cannot communicate in sign language. People with physical disabilities are unable to access pedestrian bridges that lack escalators or elevators. In situations where ramps are provided, the ramps are too steep and hence not usable. Public transport vehicles lack audio announcements, making it easy for people with visual impairments to miss their station or stops.

²⁷ ITDP (2018) Access for all. Retrieved from <https://www.itdp.org/2018/05/21/access-for-all/>

The harassment experienced by persons with disabilities involves verbal insults, offensive visual signs, mocking, physical assault, and being pushed out of the way if people are scrambling to get onto a vehicle.

Free public transport for persons with disabilities

To reduce barriers to mobility for persons with disabilities, the Australian state of Victoria provides free public transport passes to persons with “significant permanent physical disability, cognitive condition or mental illness.”²⁸ The Access Travel Pass offers free use of buses, trams, and commuter rail services. To ease the boarding and alighting process, Access Pass holders do not need to tap in and out, but are expected to present the card to agency personnel upon request.

6.7 Operators’ attitudes

Focus group participants also described concerns that public transport operators themselves participate in harassment of passengers. Of particular note are the potential risks while traveling at night, when a passenger can find herself alone in a vehicle.

“First a woman would not ride in a taxi alone, then not even the microbus, and now not even a bus!” – Focus group participant

“It may happen that a microbus driver invites a woman passenger to ride his car, and she steps inside believing that he will take other passengers, but she then finds out that he has bad intentions and he might behave in a wrong way.” – Focus group participant

“Once I was working late and could not find anything to go back home. It was 7 p.m. I took a microbus but the driver started behaving in a strange way; he did not take other passengers and when I told him to turn left, he turned right. When he slowed down to go over a bump, I opened the door and jumped outside the car! That driver must have been drunk!” – Focus group participant

“You may also ride a microbus and be harassed by the driver or even by one of his friends sitting beside him.” – Focus group participant

Participants also complained of routine harassment by operators at bus stations.

“Drivers parking at Gate No. 6 tend to joke together and exchange bad terms. There is harassment particularly when they focus on a certain woman, they use unacceptable language.” – Focus group participant

²⁸ Public Transport Victoria. (2013). Access Travel Pass. Retrieved from <https://www.ptv.vic.gov.au/tickets/fares/free-travel-passes/access-travel-pass/>

Besides the risk of harassment, women called attention to the poor driving record of some public transport operators. At present, drivers face pressure to complete as many trips as possible each day, leading to rash driving.

“Some microbus drivers try to make their way through the crowd by deviating their course left and right, while endangering people’s life and bumping into other cars. Once a microbus bumped into my car in front of El-Rehab gate because the microbus driver had decided to pass through the crowd without caring for anybody else.” – Focus group participant

“We keep telling the drivers to please slow down to secure our lives, but they won’t listen! Sometimes, they also operate the car radio or tape recorder at a very loud voice and refuse to lower it. Some of the drivers are young and drive too fast.” – Focus group participant

The also team interviewed operators of minibuses, minibuses, and CTA buses to assess the level of awareness of gender issues. The discussions with operators revealed a common belief that that women’s attire contributes to the risk of sexual harassment. The operators noted that the women’s responses to harassment vary: some women scream while others remain silent. Self-reports from drivers indicated that their sense of responsibility for managing incidents of harassment is limited. Many drivers suggested that passengers typically take action to discipline harassers, so there is no need for the driver to stop the vehicle or otherwise address the situation. The operators suggested surveillance cameras, more buses to reduce crowding, and buses for women as steps that should be taken to make the public transport safer.

Gender interventions in the London bus system

Transport for London (TfL) serves 10 million people every day. The Gender Equality Scheme presents goals related to achieving gender equality and sets out the actions TfL will take to meet them.²⁹ The Gender Equality Scheme action plan is divided into five categories: accessibility, including the removal of barriers to women’s travel; infrastructure; safety and security; affordability; information; and employment, including equal pay, flexible working, and workplace culture. The focus of the Gender Equality Scheme was to improve levels of real and perceived security, provide a transport system shaped by women’s lifestyles, develop TfL’s relationship with women, and increase the number of women working at TfL.

6.8 Women’s labour force participation

No female operators were identified through the surveys with operators. Even considering the full workforce, including office staff and maintenance personnel, the operators interviewed indicated that

²⁹ Transport for London. (2007). Gender Equality Scheme, 2007-2010. Retrieved from <http://content.tfl.gov.uk/gender-equality-scheme-2007-2010.pdf>

no more than 2 per cent of all employees are women. None of the companies reported having women in senior management positions. Flex time arrangements are limited, although some companies are accommodating to women who need to take occasional time off. None of the companies have sexual harassment policies.

Operator attitudes present a barrier to the participation of women in the workforce. For instance, a survey of male Uber drivers in Cairo and Alexandria found that 57 percent reported that they would be upset if a female family member were to start driving with the company.³⁰ Further 25 percent of women Uber drivers reported believing that potential riders cancelled trips because of the driver's gender.³¹ Meanwhile, a fifth of women Uber drivers reported disapproval from family members to their decision to drive.³²

While most companies reported that they do not have programs aimed at increasing the number of women in the workforce, Mwasalat Misr reported that it is in discussions with CTA to bring on board more women as bus drivers. A key obstacle is that bus drivers are expected to have several years' experience in driving commercial vehicles (e.g., taxis) before applying for a large vehicle permit. Given the limited number of female tax operators, this would significantly shrink the pool of potential drivers. To address this challenge, Mwasalat Misr has proposed an arrangement whereby female drivers would be given an option to train directly to become bus drivers, without needing prior experience driving taxis.

“It would be great if the driver were also a woman!” – Focus group participant

“Now women drive minibuses and there are many women drivers employed by schools.” – Focus group participant

7. Achieving gender responsive transport

Cairo's existing transport system presents a number of challenges for women users, including poor reliability, overcrowding, unsafe driving behaviour, and a persistent risk of sexual harassment. Through robust service and infrastructure designs informed by an understanding of the specific needs of women, the planned BRT system presents an opportunity to address several of these challenges. The BRT system can provide faster, more reliable, safer, and more accessible service for existing passengers while also attracting some users from personal cars and taxis.³³ A comprehensive approach to inclusive design needs to go beyond the BRT corridor to ensure that last-mile access is also secure and accessible.

7.1 BRT vehicles

³⁰ Accenture and IFC. (2018).

³¹ Ibid.

³² Ibid.

³³ BRT systems typically see 5 to 20 percent of passengers shift from private modes, depending on the level of traffic congestion along the BRT corridor. See ITDP. (2018). “Mode shift.” BRT Planning Guide. Retrieved from <https://brtguide.itdp.org/branch/master/guide/demand-analysis/basic-methods-for-estimating-public-transport-demand#mode-shifts>

Focus group and survey respondents overwhelmingly called for designated areas for women in buses to reduce incidents of harassment. In the BRT system, the front section of each bus can be reserved for women, persons with disabilities, and the elderly, with the rear section available for use by all passengers. The division between the women's and general sections of the vehicle should be determined based on the fraction of women riding the BRT during peak hours so as to optimise the use of internal space.

It is important to emphasise that all passengers can use the rear of the bus so that it does not become a "men-only" section. The provision of women's sections is an intermediate solution—in the long term, as harassment becomes increasingly rare, the system can shift to having mixed gender compartments.

Each bus should include provide seating for pregnant women, seniors, people with disabilities, and adults with small children. The floor plan should include reserved space for wheelchairs, which can double as space for prams. Handles on seats and rods should offer a variety of standing positions. BRT buses require CCTV cameras to monitor anti-social activities and generate evidence that can be used when prosecuting these acts.

Women-only sections in bus rapid transit systems

Various BRT systems around the world offer reserved sections for women. In Ahmedabad's Janmarg, Surat's Sitalink, and Indore's iBus, the first half of 12 m buses is reserved for women. In the Pune-Pimpri Chinchwad Rainbow BRT system, all seats to the left of the centre aisle are reserved for women. In Mexico City's Metrobus BRT system, the first half of the bus (the section ahead of the articulation) is reserved for women, children, disabled and elderly.



Figure 33: The front half of BRT buses in Surat (left) and Mexico City (right) are reserved for women.

7.2 BRT services

The BRT fleet should be large enough to serve expected passenger volumes. Minimum standards should be adopted for off-peak and late night operations to ensure that women who are carrying out

childcare or household activities encounter frequent services. The service design should be responsive to passenger needs, and should be adjusted based on travel patterns observed during the initial weeks of operations. For direct services that extend beyond the corridor as well as feeder services, the system can explore the possibility of nighttime stop request systems allowing women and the elderly to stop the vehicles closer to their homes.

An electronic fare system, integrated with the metro system, city buses, and other modes, should be introduced to simplify transfers. Discount fares can be offered to persons with disabilities, seniors, and students.

A reporting system for harassment related complaints should be established. All frontline BRT personnel should be trained in customer service so that they are sensitive to the needs of women and are aware of how to respond to such complaints. The BRT agency will need to develop standard operating procedures for bus drivers, station/terminal attendants, and other personnel on how to address and prevent instances of sexual harassment. The police will also play some role and should be engaged in the process of developing response mechanisms. The government also can partner with local NGOs to provide post-incident support to survivors. Increasing the number of women working in ground operations will help put female commuters at ease while using the system.

7.3 BRT station and terminal designs

BRT stations should be designed with women's needs in mind, incorporating fundamental elements such as level boarding with a horizontal gap of less than 10 cm and other universal access features. BRT drivers should be trained on precision docking of BRT buses at stations. The station environment should provide seamless access between footpaths on the side of the road and the station interior, with ramps to bridge level differences. Tactile paving should be installed in stations and terminals to help people with visual impairments navigate the buildings. Stations and terminals should be designed with sufficient capacity to accommodate current and future daily users and facilitate future expansion.

Terminal designs should offer close physical integration with other transport modes. The design of transfer terminals should minimise vertical and horizontal displacement between modes and offer adequate lighting and weather protection for transferring passengers. Terminals should include additional facilities, such as wheel chair-accessible public toilets; baby-changing facilities; water fountains; creches, playgrounds, or day-care centres; transit clinics; and food vending stalls. The co-location of amenities at terminals can improve convenience for female users, enabling them to complete multiple daily tasks on the way to the bus.

Stations should offer accessible passenger information, including system maps, schedule information, and fare charts. Real-time bus arrival information should be provided through visual displays as well as audio announcements.

To improve women's security, stations require good internal and external lighting, as well as an architectural design with a transparent façade to improve visibility. CCTVs should be provided to monitor station conditions and provide a record to capture evidence of antisocial behaviour. Emergency phone numbers should be displayed in prominent locations.



Figure 34: BRT stations should incorporate level boarding to ensure seamless access between stations and vehicles.

7.4 BRT corridor designs

BRT corridors require complementary walking and cycling infrastructure to increase women’s options for last-mile connectivity to the system. As an immediate measure, street lighting should be improved within the catchment area of each BRT station. Dedicated pedestrians-scale street lighting is required for pedestrian walkways—not just in vehicle lanes.

Streets should be upgraded with continuous footpaths, safe at-grade crossings, and dedicated cycle facilities. Pedestrian facilities need to satisfy universal access standards, with a smooth surfacing material and access ramps. All intersections should be designed with safe crossings, accessible pedestrian refuge islands, and audio signals. Bollards should be installed on pedestrian and cycle facilities to prevent encroachments by parked vehicles. Organised street vending can help increase passive surveillance of public spaces and should be accommodated in street designs. Walkways should be shaded through continuous tree cover.

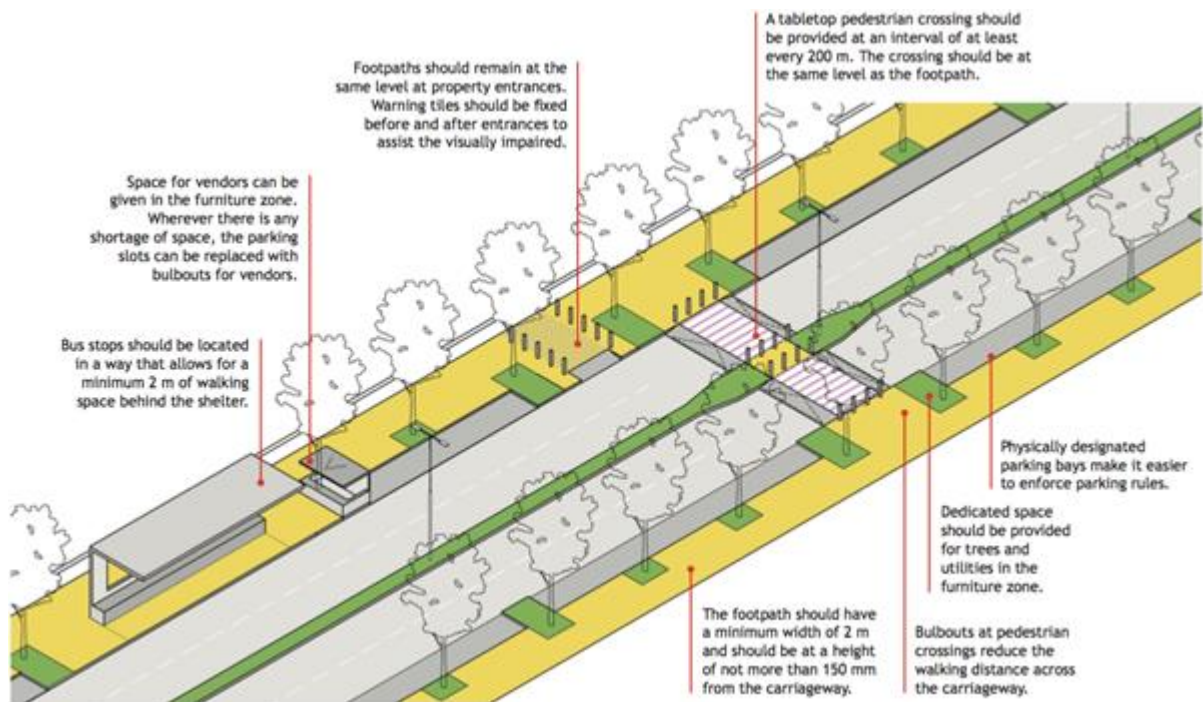


Figure 35: BRT corridors and adjoining streets should be designed with a continuous pedestrian realm that is accessible to persons with disabilities.

Street design in Vienna with a focus on women

In 1990, the Vienna city government in Austria set up a City Women’s Office. The office conducted research on gendered transportation use which found that men used cars and bikes frequently while women walked more and used public transport. These findings led the city to reassess its approach to urban planning. The city carried several interventions, including improved street lighting, wider footpaths (for ease use for women with strollers), and pedestrian friendly traffic lights.³⁴

7.5 Employment in operations

Increasing the number of women employed in BRT operations and management can help to ensure that the system becomes more responsive to the needs of women. The system should aim to have women fill 50 percent of the jobs in areas such as ticketing, driving, mechanics, wardens, traffic control, security, and cleaning. Mid- and senior-level management also should include women. Women also should be employed in the construction of BRT infrastructure.

To ensure that the workplace is welcoming to women, the BRT agency should adopt and disseminate sexual harassment policies with clear procedures on how to respond, report, and document sexual harassment cases. Workplace non-discrimination policies should be adopted ensuring equal pay for

³⁴ Chalaby, Odette. (2017, Aug 23). “How Vienna designed a city for women.” Apolitical. Retrieved from https://apolitical.co/solution_article/vienna-designed-city-women/

equal work. Period awards and can help offer recognition to high-achieving women employees. BRT operating companies should be encouraged to adopt similar policies.

The BRT agency can provide training on women's safety and security to help BRT operators gain a better understanding of women's mobility challenges and safety concerns. The training should tackle various forms of harassment and procedures to follow when an incident is observed or reported. At least initially, trainings should be provided on an annual basis. All BRT system workers should be registered, and frontline staff should display their details while on the job. Incidents of misbehaviour should be recorded in a database, and any person with a sexual harassment record should not be hired by any company involved in BRT operations.

To support women's participation in transport jobs over the longer term, the government can provide grants, fellowships, and scholarship programs to help encourage more women professionals to join the public transport industry.

7.6 Bus & paratransit services

Even as the BRT system adopts gender sensitive practices in the planning, design, and operations, attention should be given the CTA and paratransit services that will continue to provide a critical role in providing last-mile connectivity to the BRT system and also serving trips that fall off the BRT corridor. In both the interview and online surveys, participants cited CTA buses as the mode with the highest risk of harassment. Consequently, urgent steps are needed to address women's security challenges. As with BRT operator, CTA and paratransit operators, including conductors, drivers, and stage managers also require training in customer service and in how to respond to incidents of harassment and violence against women. In addition, CTA should consider the option of creating a dedicated women's section on the buses.

Another key reason for the challenges faced on the CTA system is the sheer shortage of vehicles. Focus group participants repeatedly called attention to a lack of adequate service, particularly during peak hours, leading to overcrowding and increased incidents of harassment. To address this challenge, the overall city bus fleet should be increased to achieve a reasonable level of service. According to the World Bank, there should be 0.5 and 1.2 buses per 1,000 population. With a population of over 18 million, Greater Cairo needs at least 9,000 buses, compared to an existing fleet of around 3,000.³⁵ All new public transport vehicles should incorporate full access for persons with disabilities.

Gender sensitisation for informal operators

“Usalama wa Uma” is a certificate program developed by the Kenya-based NGO Flone that seeks to provide gender sensitisation trainings as well as personal and professional development workshops for public transport operators. As of March 2018, 554 public transport operators from across Kenya had completed the program. Flone also developed the “Report It, Stop It” program, an online crowd-mapping platform to track areas with high incidents of sexual harassment and violence. This results are then used to develop intervention activities and target operator trainings through Usalama wa Uma.

³⁵ World Bank Group. (2006). Number of buses per 1,000 people. Retrieved from: <https://ppiaf.org/sites/ppiaf.org/files/documents/toolkits/UrbanBusToolkit/assets/1/1c/1c7.html>



Figure 36: All public transport vehicles require ample space on board for wheelchairs. Vehicles providing service at the kerbside require ramps or lifts.

7.7 Communications campaigns

The BRT agency can help launch communications campaigns in BRT stations and vehicles to build awareness on the forms of harassment, disseminate information on where to get help, and encourage fellow commuters to play an active role in women's safety.

7.8 Land use planning

As a longer-term strategy, mixed-use development along BRT corridors can help increase perceptions of security and reduce opportunities for crime and vandalism. Existing land use policies in the new communities call for a separation of uses, with distinct residential and commercial zones. To facilitate improved security for commuters, land use policies should encourage compact, mixed-use development along BRT corridors to maximise the concentration of residential, business, and leisure facilities within walking distance of public transport.³⁶ A combination of residential and small-scale commercial uses near BRT stations and bus stops can help generate pedestrian traffic at all times of the day.

Development control rules should encourage building designs with a large number of windows on the ground floor to create a more secure and inviting pedestrian environment. This means that buildings have activities on the ground floor that directly face and engage people walking on the street. Active ground floor uses could include shops, residences, schools and churches that create a visual connection between the people inside the building and the people walking on the street. This creates a walking environment with many eyes on the street. During the focus group, women stressed the value of having shops and activity along the streets they use to access public transport.

³⁶ ITDP. (2018). TOD Standard. Retrieved from <https://www.itdp.org/publication/tod-standard/>



Figure 37. Physically permeable frontage can increase women’s security (left), while the intensification of land uses along BRT corridors can improve access to public transport (right).

8. Institutional roles and responsibilities

Consideration of women’s needs in the planning process for BRT will depend on actions by a number of agencies, as illustrated in Table 1. Key activities will be led by the BRT agency, which is currently housed within NUCA and will eventually become an independent agency. The BRT agency will develop BRT designs and the standards for BRT operations. Once the system is up and running, the BRT agency will help design communications campaigns and carry out user satisfaction surveys. Companies hired by the BRT agency will play a role in expanding employment opportunities for women, both in frontline positions such as drivers and station attendants as well as in management roles.

Table 1. Agency responsibilities

Agency	Responsibility
BRT agency	<ul style="list-style-type: none"> • Incorporate gender provisions in infrastructure designs and RFPs for system operations • Develop reporting mechanisms and standard operating procedures for addressing harassment, in collaboration with law enforcement • Conduct communications campaigns targeting BRT users • Carry out user satisfaction surveys among BRT passengers
Bus, fare collection, and ITS companies	<ul style="list-style-type: none"> • Provide incentives for hiring of women • Offer staff training on complaint redressal and gender sensitivity
NUCA, Cairo Governorate, Giza Governorate	<ul style="list-style-type: none"> • Facilitate gender training among paratransit operators • Improve last-mile connectivity by developing a high-quality walking and cycling environment with adequate street lighting
Police	<ul style="list-style-type: none"> • Carry out patrols & enforcement
Ministry of Housing	<ul style="list-style-type: none"> • Provide finance for implementation

An women’s safety task force can help guide the implementation of a gender sensitive BRT design by facilitating interagency dialogue and tracking progress toward the implementation of the gender action plan. The advisory board can include any of the following organisations:

- Representative, Ministry of Housing (chair)
- Representative, BRT agency (secretariat)
- Representative, NUCA
- Representative, Giza Governorate
- Representative, Police
- Representative, National Council for Women
- Representatives from civil society organisations

9. Monitoring and evaluation

The BRT agency should track key indicators, such as the proportion of women operators, women’s satisfaction level, the proportion of harassment complaints that have been resolved, the level of overcrowding, and the availability of last-mile facilities (see Table 2).

Care must be taken when considering indicators such as BRT system user preferences or the total number of harassment incidents reported. In the short term, an increase in the number of incidents may be a reasonable trend if it reflects increased willingness on the part of women to report harassment and violence. Similarly, if customers register their dissatisfaction with security on the system this may also reflect increased recognition that harassment is not acceptable. Therefore, it would be preferable to track the success of the system in addressing complaints through appropriate actions taken against the perpetrators.

Table 2: Performance indicators

Goals	Indicator	Desired direction
Women experience enhanced security and access in the BRT system	Fraction of complaints resolved promptly (i.e., within two weeks)	Increase
	Level of satisfaction with the BRT system	Increase
	Travel time for trips that shift to BRT	Decrease
	Crowding: Fraction of trips where the vehicle occupancy exceeds 150 passengers	Decrease
	Fraction of BRT staff who have completed gender sensitivity trainings	Increase
Women experience enhanced security and access on BRT corridors	Footpaths: Fraction of 12+ m ROW street length with footpaths	Increase
	Safe crossings: Fraction of street length with safe crossings	Increase
	Cycle tracks: Fraction of 30+ m ROW street length with cycle tracks	Increase
	Street lighting: Fraction of street length with adequate lighting	Increase
	Universal access: Fraction of street length with universal access on footpaths and crossings	Increase

	Building façades: Fraction of street length with visual and physical permeability	Increase
Women experience enhanced security and access in the city bus and paratransit system	Crowding: Fraction of trips where the vehicle occupancy exceeds 100%	Increase
	Size of bus fleet: high-quality public transport buses per 100,000 population	Increase
	Level of satisfaction with the public transport system	Increase
	Universal access: Fraction of city buses and paratransit vehicles that are universally accessible	
	Fraction of public transport staff who have completed gender sensitivity trainings	Increase
Women's employment	Fraction of BRT agency staff who are women	Increase
	Fraction of BRT operating company staff who are women	Increase

10. Conclusion

Women and men have different needs and expectations from the transport system, particularly with regard to safety. An integrated and safe public transport system provides access to education, work, health care, culture, and other important activities that are crucial to women's participation in society. A successful BRT design can reduce waiting and travel times; improve the experience of transferring from one mode to another; and lower trip costs. In Cairo, the BRT is expected to save at least 15 minutes per trip for its passengers. To meet its full potential, the planned BRT system connecting 6th of October City and central Giza will need to take into account the needs of women, children, the elderly, and people with disabilities.

The Cairo BRT system presents the opportunity to consider data-driven gender concerns when designing service plans and infrastructure. To this end, BRT system can incorporate designated areas for women on each bus; seating for pregnant women, the elderly, people with disabilities, and adults with small children; cameras on BRT buses to monitor harassment and violence; and a complaint and redress system. Other recommendations include providing a sufficient BRT fleet to meet passenger demand and introducing an integrated electronic fare system to simplify transfers. Also, all drivers and staff need complete training on safety and mobility challenges. This includes customer service, sexual harassment, and sensitivity education. Additionally, increasing the number of women working in public transport would help to put female commuters at ease.

Key next steps for the planning process are as follows:

- **Encourage the hiring of women in the BRT agency.** As the government begins the process of developing a dedicated project management unit within NUCA to oversee the BRT project, the hiring process should actively encourage women applicants.
- **Create incentives for women's employment in bus operations.** The request for proposals (RFP) for bus operations, IT systems, and fare collection should give preference to companies that employ women in various aspects of system operations.

- **A women's safety taskforce** can be established, bringing together representatives from public service companies, police, bus operators, and civil society to develop policies geared toward making the transport system safer for women.
- **Participation of women commuters in the planning and design** of the transport system can help build capacity within planning agencies and public transport operators to understand the needs and preferences of female commuters.