



Technology Executive Committee

02 April 2024

Twenty-eighth meeting

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Draft policy brief on gender-responsive technology and infrastructure for sustainable urban mobility

Cover note

I. Background

1. As per Activity D.4.1 of its rolling workplan (2023-2027), the TEC is to collaborate with the UNFCCC Gender Team and the CTCN Gender Focal Point to develop a policy brief on gender and technology in 2024.
2. At TEC 25, the TEC considered a concept note for a policy brief on gender and technology¹ prepared by its gender focal points and agreed to prepare a policy brief on gender-responsive technology and infrastructure for sustainable urban mobility.
3. At TEC 26, the TEC considered a draft policy brief² and provided guidance on the revision of the draft, in particular with regard to strengthening the focus on climate change-related issues and climate technologies.
4. The TEC activity group on gender and technology, in collaboration with the UNFCCC Gender Team and the CTCN Gender Focal Point, and with the support of a consultant, revised the draft policy brief following the guidance received from the TEC.

II. Scope of the note

5. The annex to this note contains the revised draft policy brief on gender-responsive technology and infrastructure for sustainable urban mobility.

III. Expected action by the Technology Executive Committee

6. The TEC will be invited to consider the revised draft policy brief and provide guidance to the activity group to finalize the policy brief.

¹ [TEC/2022/25/13](#).

² [TEC/2023/26/13](#).

Annex

Draft policy brief on gender-responsive technology and infrastructure for sustainable urban mobility

Draft TEC brief on gender-responsive technology and infrastructure for sustainable urban mobility

*“Learn to ride the cycle sister, Set in motion the wheel of life sister.
See the little boy riding high, You too can learn and ride by,
Cars, ships and planes, are now piloted by women,
Those days are gone, when the drivers were only men.
So learn to ride the cycle quickly, And begin a new story.”*

Song from the Cycling Campaign for Women (Translated from Tamil) (Rao, 2002)

I. Why this TEC Brief?

1. Home to a growing majority of the world’s population, and accounting for about 70 percent of global GHG emissions, urban areas play a key role in achieving the goals of the [Paris Agreement on Climate Change](#), [2030 Agenda for Sustainable Development](#) and the [New Urban Agenda \(NUA\)](#). In order for urban areas to become economically, socially and environmentally sustainable as called for in these international agreements it is key that urban mobility also becomes cleaner and more sustainable. Achieving “safe, affordable, accessible and sustainable transport systems” that leave no one, including women, behind is therefore not merely a technological issue, but a cross-cutting one, including social, economic, cultural, and environmental aspects.

Box 1. Urban Mobility and gender references in global agreements on sustainable development and climate change

The 2030 Agenda has Gender Equality as one of its main ambitions, with a dedicated goal (SDG 5) to end discrimination between women and men. Overall, achieving gender equality and women's empowerment is seen as being integral to each of the 17 goals. The most direct reference to urban mobility in the 2030 Agenda for Sustainable Development is Target 11.2 of the Sustainable Development Goals (SDGs): “*by 2023, provide access to safe, affordable, accessible and sustainable transport system for all improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons*”. To monitor the progress on this target, the information is disaggregated by sex, age, and persons with disability.

Gender responsive urban mobility is referenced in para 114 of the New Urban Agenda, the outcome document of the Habitat III conference in 2016: “*We will promote access for all to safe, age- and gender responsive, affordable, accessible and sustainable urban mobility and land and sea transport systems, enabling meaningful participation in social and economic activities in cities and human settlements, by integrating transport and mobility plans into overall urban and territorial plans and promoting a wide range of transport and mobility options.*”

The 2015 Paris Agreement on Climate Change does not have a specific reference to transport or urban mobility and outside of the Preamble, it is gender-blind. In the Preamble it does however call on Parties to take into account gender in their actions to tackle climate change: “*Acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity*”.

2. There is a growing awareness among Parties to the UNFCCC that gender-responsive climate policy is not just more equitable but it is also more effective in yielding lasting impact for climate and development agendas, and thereby is a necessity to meet the goals of the Paris Agreement. The enhanced [Lima work programme on gender \(LWPG\)](#) and its gender action plan promote gender equality and women’s empowerment in the UNFCCC process, including the work of constituted bodies. Activity D.3 asks constituted bodies, Parties and relevant organizations to “Promote the deployment of gender-

responsive technological solutions to address climate change, including strengthening, protecting and preserving local, indigenous and traditional knowledge and practices in different sectors and for improving climate resilience, and by fostering women’s and girls’ full participation and leadership in science, technology, research and development”

Box 2. Use of gender related terms in this policy brief

Gender:

Gender refers to the roles, behaviors, activities, and attributes that a given society at a given time considers appropriate for men and women. In addition to the social attributes and opportunities associated with being male or female and the relationships between women and men and girls and boys, gender also refers to the relations among women and those among men. These attributes, opportunities and relationships are socially constructed and are learned through socialization processes. They are context/ time-specific and changeable. Gender determines what is expected, allowed and valued in a woman or a man in a given context. In most societies there are differences and inequalities between women and men in responsibilities assigned, activities undertaken, access to and control over resources, as well as decision making opportunities. Gender is part of the broader sociocultural context, as are other important criteria for sociocultural analysis including class, race, poverty level, ethnic group, sexual orientation, age, etc.

Source: [UN Women Training Center glossary on definitions](#)

Gender equality:

Gender equality refers to the equal rights, responsibilities and opportunities of women, men, girls and boys. Equality does not imply sameness but that the rights of women and men will not depend on the gender they were born with. Gender equality implies that the interests, needs and priorities of all genders are taken into consideration, recognizing the diversity of different groups. Gender equality is not a women’s issue but should concern and fully engage all genders while recognizing that neither all men nor all women are a homogenous group.

Source: [UN Women Training Center glossary on definitions](#)

Intersectionality

The concept of intersectionality describes the ways in which systems of inequality based on gender, race, ethnicity, sexual orientation, gender identity, disability, class and other forms of discrimination “intersect” to create unique dynamics and effects. All forms of inequality are mutually reinforcing and must therefore be analysed and addressed simultaneously to prevent one form of inequality from reinforcing another. For example, tackling the gender pay gap alone – without including other dimensions such as race, socio-economic status and immigration status – will likely reinforce inequalities among women.

Source: <https://www.intersectionaljustice.org/what-is-intersectionality>

3. The [Action for Climate Empowerment \(ACE\) process under the UNFCCC](#), which aims to empower all members of society to engage in climate action, also promotes gender-responsiveness, gender equality and empowerment of women through the six ACE elements - climate change education and public awareness, training, public participation, public access to information, and international cooperation on these issues.

4. [The technology framework under Article 10, paragraph 4](#), of the Paris Agreement sets out ways in which gender should be considered in work relating to climate technologies under all key themes of the Technology Framework. In its rolling workplan for 2019–2022, [the TEC committed to incorporating gender considerations into its work](#).

5. Under the ‘Enabling Environment and Capacity-building’ work stream of its 2019-2022 workplan, the TEC conducted a survey to assess needs, challenges, gaps and enabling environments to promote [endogenous capacities and technologies](#), including the capacity of stakeholders to address cross-cutting issues such as gender responsiveness in their efforts. Under the same workstream, the

TEC undertook efforts to identify challenges and opportunities to strengthen enabling environments for sustainable transport.

6. Along the same line of work, in 2022, the TEC published a [technical paper on decarbonization technologies for sustainable road mobility](#) (UNFCCC TEC, 2022). At its 25th meeting, the committee concluded that the TEC work on sustainable transport offers the opportunity for an analysis of gender-responsive solutions in urban mobility that is complementary to and informed by the work of the TEC and the CTCN.

7. This TEC policy brief provides guidance on gender-responsive technology and infrastructure for sustainable urban mobility. The significance of low-emission and resilient transport technologies, infrastructure and services is widely recognized in achieving the development and climate goals. The current brief will inform the work of the TEC in the implementation of its [2023-2027 rolling workplan](#), as part of the [Joint Work Programme of the Technology Mechanism](#).

8. This TEC policy brief is prepared to:

- a) Shed light on and raise awareness of gender inequalities and differences in urban mobility, and through multiple examples and lessons learned of overcoming challenges, serve as inspiration to national and local policy makers, relevant stakeholders, and local communities to take action;
- b) Respond to an urgent need to address gender concerns and experience as an integral dimension of planning, designing, implementing, and using sustainable low carbon mobility technologies, infrastructure and services;
- c) Contribute to the development of high-quality and technology-related gender-responsive urban mobility solutions that may assist policy-making and legislative processes to build up policies, measures, and systems that respond more effectively to the needs of all members of the society;

II. Scope of the TEC Policy Brief

9. This TEC brief discusses sustainable urban mobility through a gender lens, and touches upon related technologies, infrastructure and services, challenges, development options, and good practices. It shows trends in urban mobility and the increasing need for gender-responsive policies, measures and practices to be implemented. It illustrates several findings as to why gender issues should be systematically considered and integrated in urban mobility systems and services and is a prerequisite for sustainable mobility.

10. The TEC brief further discusses gender-based differences in interacting with urban mobility systems, including travel behavior patterns and social norms inhibiting certain travel options. Additionally, the brief spotlights gender disparities in availability, accessibility, affordability, and safety (in its two core elements: safety from accidents and safety from violence) of urban mobility systems and services. The TEC brief also highlights a number of key challenges to achieving gender-responsive urban mobility that have to do with the broader policy landscape and systems at the national and sub-national levels, e.g. planning and budgeting frameworks, education and employment systems, as well as issues related to urban governance.

11. The TEC brief presents the Avoid-Shift-Improve approach as a framework for improving sustainable urban mobility that can help achieve climate and developmental targets of both the Paris Agreement and the 2030 Agenda on Sustainable Development. It then explores which parts of the proposed approach can help ensure that current gender inequalities in urban mobility can be overcome.

12. In its final part the TEC brief provides guidance to policy makers and practitioners how the proposed policy approaches can best be incorporated in policy, program and project design.

13. This brief explores the following questions:
- What are gender differences and disparities in urban mobility systems? (Chapter II);
 - How can sustainable mobility policies address observed gender differences and disparities in urban mobility systems in a manner that supports the decarbonization of urban mobility systems? (Chapter III);
 - What tools and other resources are available to policy makers in support of the development and implementation of gender-responsive technology and infrastructure for sustainable urban mobility? (Chapter IV).
14. This paper focuses on urban passenger transport. Urban freight is also an important contributor to climate change but requires a separate gender analysis and will also require a different set of policy recommendations.

III. Urbanization, growth of mobility and associated CO2 emissions

15. The International Transport Forum (ITF, 2023) in an analysis of urban transport CO2 emissions bases itself on an expected growth in the urban population to 1.596 billion persons by 2050. The largest growth is expected to occur in Africa and the Asia – Oceania regions. Urban passenger kilometres are expected to grow by 27386 billion kilometres from 2019 to 2050. This is almost a doubling from 2019 showing that urban passenger transport is very much a fast growing sector.

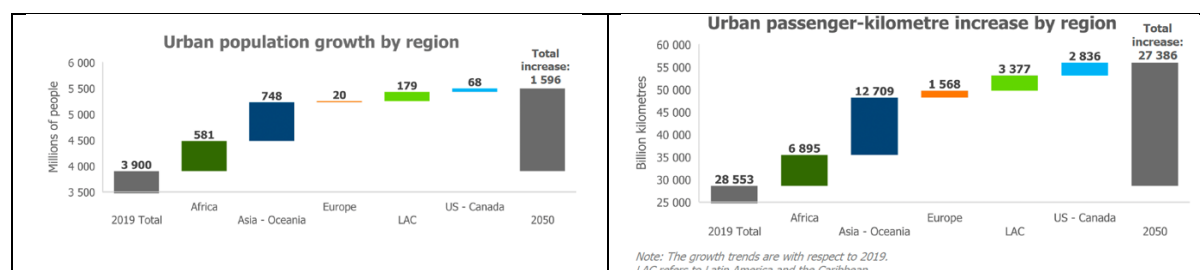


Figure 1 Urban Population and Passenger Kilometer growth 2019 -2050

16. Based on current policies ITF expects that privately owned vehicles will continue to dominate urban passenger transport CO2 emissions in most regions in 2050. However, because of already committed policies, notwithstanding the above mentioned increases in urban passenger travel demand, all regions with the exception of Africa are projected to experience a decrease in CO2 emissions due to the combination of:

- expected improvements in vehicle efficiency and technology
- policy interventions to shift trips to low-carbon modes
- a higher emphasis on land use policies that decrease trip lengths.

17. At a global level this decrease is expected to be 23% by 2050. This, however, still falls short of the targets of the Paris Agreement.

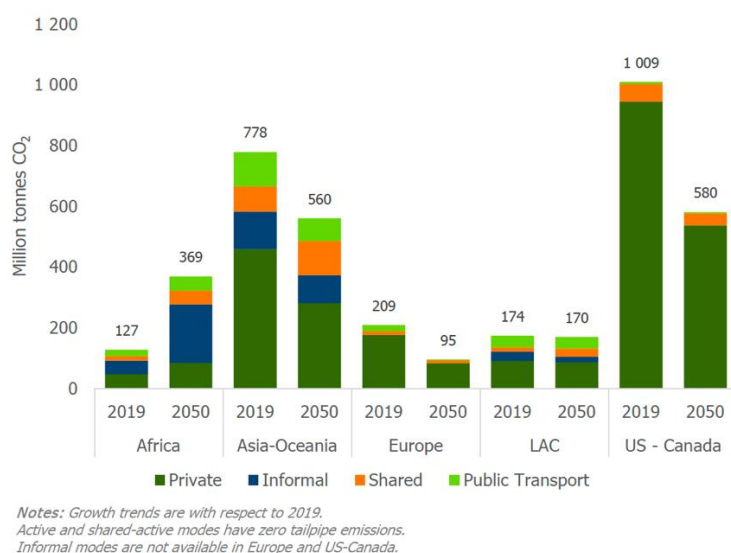


Figure 2. CO₂ emissions by mode and region 2019 - 2050

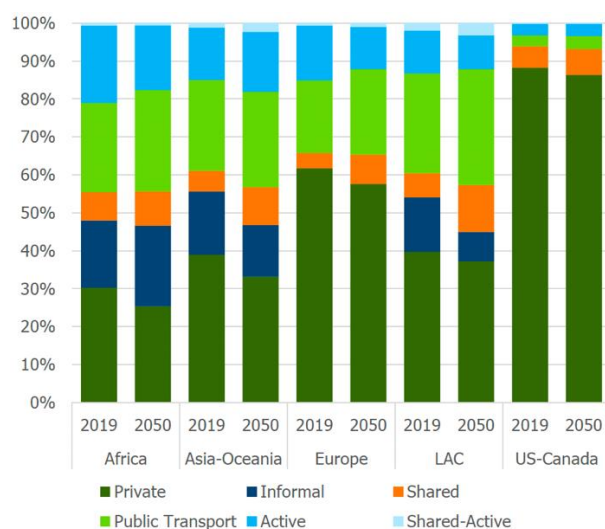


Figure 3. Passenger-kilometer by mode and by region

18. Without substantive policy action and technology shifts the ITF projects relatively little changes in the modal structure of urban transport across the different regions between 2019 and 2050. Private vehicles (cars and motor cycles) continue to dominate while the share of public transport shows a small increase. Active modes (walking and cycling) experience a downward trend in some regions and privately owned vehicles continue to dominate. Informal transport continues to be important in the global south with an increase in mode share projected for Africa. Shared mobility is expected to grow, especially in combination with active mobility.

19. Unfortunately, until now there are no comprehensive gender specific breakdowns of data on urban mobility data and associated CO₂ emissions.

IV. Gender and Urban Mobility

20. Urban mobility is a service that enables different groups in urban society to meet their economic and social needs. Urban mobility patterns are gender influenced because of the different roles ascribed to men and in society as well as social norms. Gender based mobility patterns will vary across and

within geographies based on differences in gender roles and social norms in different parts of the world and the often considerable differences in economic status of both men and women. Urban mobility experiences vary depending on gender and differences in age, life cycle, ethnicity, income and skill, for example (Jirón, 2015 as cited in CEPAL, 2019). Society based gender differences manifest themselves in different travel patterns for men and women, different travel budgets, employment patterns and exposure to harassment and violence while traveling. There is a strong linkage between women, poverty and mobility. Poverty reduces mobility and a lack of transport options compounds poverty (Allen, 2018).

21. The interplay of gender and transport is highly contextual as gender-related needs and roles differ across cultures and geographies. To fully understand and appreciate the gender dimensions of urban mobility an intersectional analysis of urban mobility is required which in addition to its primary focus on gender also includes other factors that contribute to inequality such as economic status, class, ability, age, and sexual orientation.

22. If gender considerations are not systematically mainstreamed in the urban mobility sector, the following SDGs will simply not be achieved (Priya Uteng, 2021): Gender equality (SDG 5), Good health and well-being (SDG 3), Quality education (SDG 4) Reduced inequalities (SDG 10), Sustainable cities and communities (SDG 11), Climate action (SDG 13), and Partnerships for the goals (SDG 17). Likewise, disregarding gender in the decarbonization of urban mobility would undermine the specific call in the Paris Agreement for gender equality and empowerment of women.

A. Tripmaking

23. Gender differences in travel behavior are well recognized in the transportation and gender research and policy circles (Borker, 2022a, CIVITAS WIKI consortium, 2014). Women were found to have shorter commute distances (Beckmann, 1974; White, 1977; Gossen and Purvis, 2004) (and hence shorter travel time), to trip chain (Levinson and Kumar, 1995; McGuckin and Murakami, 1999), to make more non-work related trips, to travel at off-peak hours, this more so in the global South, and to choose more flexible modes, depending on other social characteristics, such as age, income, household size and/or number of dependents (Ng and Acker, 2018). Women share similar roles across developing and developed countries which affect their tripmaking patterns, for instance, as they are disproportionately represented in unpaid care work looking after children, elderly relatives and housework. (ILO, 2018) . For instance, in Bogotá, women undertake 75 percent of care trips and 42 percent of work trips and women carry out more than 70 percent of the unpaid work in countries like Ireland, Italy and Portugal (Vaalavuo, 2016, as cited in Borker, 2022a).

Table 1. Travel differences between women and men

	Women	Men
Purpose of Journey	Diverse, depending on work and care related tasks	Mainly work related
Distance	Concentrated journeys, covering short or medium distances, often near the home	Medium to long distances
Stops	Multiple stops during the journey	Limited, generally work related
Origin - Destination	Fragmented zigzag trips	Direct return journeys for work
Hours	Variable	During peak hours
Accompanied trips	Frequently accompanied by children, older persons or persons with reduced mobility	Less than women

Load	Baby strollers, packages or shopping	No particular load
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24. There are large differences among women in terms of preferred and actual modes of travel. These differences can be influenced by culture, socio-economic status and other factors. There can be also differences in travel behavior of women throughout their lives and this changes more at specific life stages than for men. A study in three Latin American countries showed that when women have children the number of trips increases by 13% while the number of trips made by men tended to stay stable (Ella se mueve Segura, 2017). An Indian study showed that elderly women prefer the use of a private car for the majority of their trips, but since none or few of them owned a driver's license, they were dependent on male family members to drive them. In addition, while women did know about ride-sharing technologies and owned smartphones, they lacked the technological skill to access the application on their phones and make use of these services (Allen, 2018).

25. Observation of mobility patterns across various geographies indicates that women are more likely to make shorter, more frequent, and more complex trips using a combination of public and private modes of transport linked to domestic and care-giving responsibilities. This is commonly referred to as “trip chaining” (Figure 1).

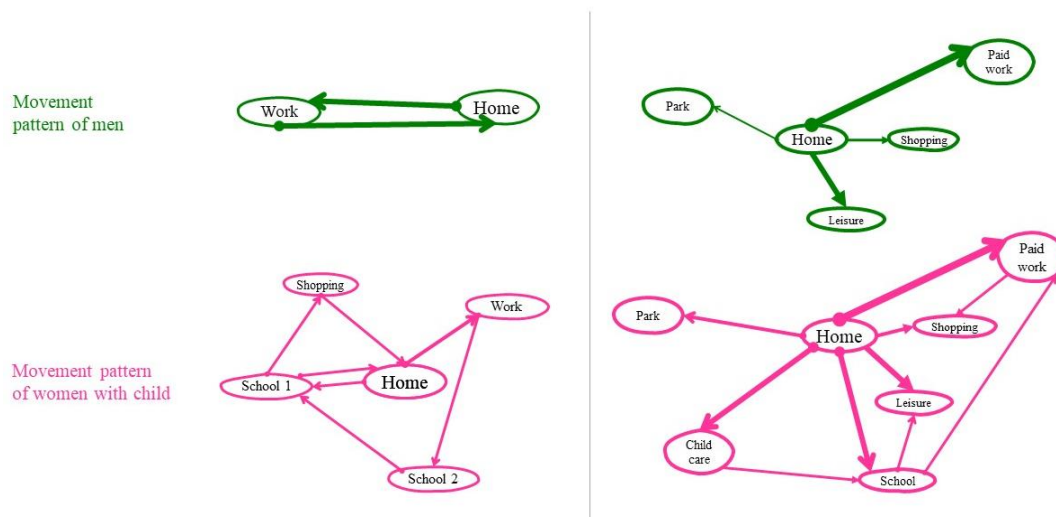


Figure 4. Figure Summary of general travel patterns of men and women observed in 2017 in a slum in Buenos Aires (Allen 2018) (left) and in 2021 in the European Union (Diehl & Cerny 2021) (right)

26. Allen et al., 2016; Gonzalez et al., 2020, cited in Borker, 2022a mention that transport infrastructure, and especially public transport, in most countries is more designed to cater to typical commute journeys, characterized by linear, uninterrupted travel as often taken by men between home and the central business district, rather than to cater for the chained trips more often taken by women.

27. Women are both time-poor and financially more constrained. As they rely more on public transport and often travel with children the costs of travel may be doubled or trebled. Additionally, if integrated ticketing is not available, buying several single-fare tickets during chained trips makes public transport costlier for women (Shah et al., 2017, as cited in Borker, 2022b), which can affect the distance they cover (Uteng and Turner, 2019, as cited in Borker, 2022b). Because of the trip chaining, when combining multiple tasks and destinations women consider comfort to be an important factor affecting their travel (Allen et al., 2016, as cited in Borker, 2022a).

B. Access (formal and informal public transport)

28. Women have less access to private means of motorized transport although this is changing. The majority however are still dependent on public transport, shared transport (ride-hailing), paratransit or informal transport such rickshaws or tuk-tuks, or have no other choice but to walk and in incidental cases use a bicycle.

29. Access to urban public transport is one of the few dedicated targets (11.2) on urban mobility. UN-Habitat has developed the following indicator. Access to public transport is considered convenient when it is accessible within a walking distance along the street network of 500m from a reference point such as a home, school, work place, market, etc. to a low-capacity public transport system (e.g. bus, Bus Rapid Transit) and/or 1 km to a high-capacity system (e.g. rail, metro, ferry). In 2019, it was estimated that about 49.5% of the world's population have access to public transport as defined by the indicator for SDG target 11.2, but this comes with wide regional variations (UNHABITAT and UITP, 2021). This makes it clear that there is much to be gained for women by further efforts to develop and expand public transport systems.

30. The development of public transit systems is an important but not necessarily sufficient step to improve access of women to economic and social opportunities. Appropriate feeder systems and first-last mile connectivity is key for women to make use of public transit.

31. In around 15 countries there are women-only bus services (World Bank, 2020). Studies have shown that women in some countries prefer segregation especially in rail based urban mobility services to avoid harassment and stigma, despite this leading to more congested and constrained transit options for them (Aloul et al., 2019). Many female-only bus services struggle to be financially sustainable as they run fewer services resulting ultimately in a less attractive offer.

32. Merely expanding transport infrastructure and services, does not necessarily increase their availability to all groups, especially women. Large parts of public transit systems are still designed for linear travel toward the city center (and from the center outward) during peak hours, to optimize work commute. Also, as observed, a large part of women's trips are non-work-related, so they tend to use public transit outside of rush hours, during which less mobility services are available. This may discourage women from using public transit, which is more sustainable, in favor of private, motorized modes of transport or continue their dependence on para-transit or walking. This contributes to a continued reduced access to social and economic opportunities for women.

33. There are multiple studies that indicate that women use public transport more than men. One study examined travel behavior by gender in eight different cities, across three different continents, focusing on transport mode, trip purpose, travel distance and departure time for Auckland, Dublin, Hanoi, Helsinki, Jakarta, Kuala Lumpur, Lisbon and Manila. The most common trends found in these cities were that women tend to travel shorter distances and prefer public transport and taxi services to cars more than men (Ng and Acker, 2018). Cubells et al., 2020 concluded that women and girls are found to walk more, travel less by car, and use public transport more than men. Despite the growing percentage of wage-earning women globally, the majority of their travel remains non-work-related. As such, women are more likely to need and use micro-mobility options when travelling in cities, compared to working men who are more likely to make longer, single-purpose trips to and from work.

34. The design of transport infrastructure and technology plays an important role in how accessible urban mobility services are to women. Many urban rail and bus transit stations require climbing several flights of stairs for access. For women accompanying children, elderly, or persons with disability, often while carrying heavy loads, pushing strollers or wheelchairs, this poses a significant challenge, particularly when there are no elevators. Other accessibility challenges, such as steep curbsides and steps, or narrow doors make boarding and alighting transit systems more difficult for women than for men. This is particularly true for women travelling with young children during peak times when public transit systems are crowded. Modern metro systems often have narrow turnstiles that make it hard to pass through, especially with young children. Additionally, in some countries, there are social norms that prohibit the independent and unaccompanied movement of women in public spaces and suburban

premises. This not only limits women’s income-generation opportunities but it also restricts development and social mobility by curbing their access to health, education, and other services—both for themselves and for children or other relatives they care for.

35. A critical gender gap is observed with regard to cycling and the use of bike-sharing technologies, particularly in developing countries. Many women and girls may not be able to own or use bikes, and as a result, may not have learned to ride them safely and effectively. When cycling infrastructure -such as bicycle lanes and parking facilities- are not protected from the traffic and/or primarily designed around commute routes, women are less likely than men to use bicycles for urban mobility. Likewise, if women do not feel personally safe while cycling this can have a detrimental impact on the number of women cycling.

Box 3. Examples on modes of transport for women

- In India, two-thirds of female workers in urban areas commute for work, and among women who travel, a higher proportion (67 percent) than men (41 percent) walk and use buses (Tiwari and Singh 2018, as cited in Borker, 2022a).
- Sixty percent of women in India rely on buses as their primary transport mode, followed by informal or nonmotorized modes (Shah et al., 2017).
- In Lima and Buenos Aires, women use public transport more than men: 58 percent of women compared to 54 percent of men in Lima and 50 percent of women compared to 37 percent men in Buenos Aires (Gonzalez et al., 2020, as cited in Borker, 2022a).
- Ninety-three percent of female garment workers in Dhaka walk or use informal paratransit modes like manually pedaled cycle-rickshaws for their work commute (Sikdar et al., 2014, as cited in Borker, 2022a).
- ITF, in a study of 10 cities in Europe and Asia also found that women are more likely to use door-to-door services such as taxis (shared and individual) and ride hail services such as Uber, Lyft or Grab than men (Allen, 2018)
- Better access to public transport allowed women in central zones in Chennai, India, to make 40 percent longer work trips than those in the periphery, opening more job avenues for them. Moreover, women considered access to buses to be an essential factor while choosing a workplace in Chennai (Alberst et al. Baudi, 2015; Srinivasan, 2005 as cited in Borker, 2022a).
- A study done in Argentinian slums showed that women faced constraints in using public transit due to hard-to-understand information and maps of the transit routes and low confidence in their own orientation abilities. Although almost all of them had access to smartphones, they almost never used them for orientation purposes, and instead avoided travelling outside of their immediate living environments (Allen, 2018).

C. Affordability

36. Making up the majority of the urban poor, women tend to use less expensive means of mobility than men and face more challenges related to the affordability of urban transport technologies. Most low-income women walk or take non-motorized transport for daily travels. In India, walking is the only viable transport mode for 87 percent of low-income women. To cover longer distances, low-income women substitute time for money, while higher-income women prioritize comfort over cost (Arroyo-Arroyo and Diallo, 2020, as cited in Borker, 2022a).

37. While poverty creates mobility constraints, a lack of transport options results in restricted access to work opportunities, reinforcing the ‘time’ and economic poverty of women. Moreover, as women often conduct trip-chaining to reach multiple, often scattered destinations, the need to make

multiple stops, using different urban transport systems can make transport fees more expensive, disproportionately subjecting women to ‘transport poverty’.

38. A gender-disaggregated mobility study in Bogota, Colombia indicated that women generally travel less than men and they spend more than men in transport, even though their trips may be shorter. This resulted in lower transport accessibility to job locations. Also, it was found that gender differences were stronger in lower socioeconomic areas. (Lecompte and Bocajero ,2017). Women make more multistop trips, carry additional luggage, and are often accompanied by children and the elderly; this forces them to rely on more expensive choices like rickshaws or taxis, which provide the flexibility and space required (Mejía-Dorantes and Villagrán, 2019 as cited in Borger, 2022a).

39. Affordability constraints are likely to make safer transport modes inaccessible for women with lower financial means, which can impair their safety and well-being (Kishiue et al. cited in Borger, 2022b).

40. Women are also more likely to pass up on job opportunities, when urban transport services are perceived to be too expensive and unsuitable to cater to their need for multi-purpose trip-chains. In studies conducted in major cities in China and Jakarta, Indonesia, women stated that they were able to take up work only because existing transit technologies reduced their travel times.

D. Safety

41. Safety and gender in urban mobility has two dimensions: road safety and harassment or violence encountered especially in public transport. Because women tend to travel less and shorter distances and they travel proportionally more by public transport they are less likely to die because of road accident. At the global level, males are typically 3 times more likely to be killed in road crashes than females. (WHO, 2023).

42. Women constitute the majority of public transport users globally and are disproportionately affected by safety concern in public transit, in both developed and developing countries. There is large body of evidence that documents this problem. A study interviewing women in Karachi, Pakistan, showed that more than 70 per cent of the respondents had experienced sexual harassment while using public transport systems. Of those who had experienced sexual harassment, 31 per cent of students, 23 per cent of working women, and 20 per cent of homemakers started using public transport less, opting for more expensive modes, such as privately hired taxis and rickshaws. Moreover, 40 per cent of the respondents reported avoiding traveling after dark, which restricted their access to further education, flexible work opportunities and other social activities (ADB, 2013). A study in Chennai, India, found that two-thirds of women respondents had been sexually harassed while commuting (groping, stalking, accosting), with the worst experiences on buses and trains that had no separate section for women (ADB, 2013). Similarly, research on São Paulo’s, Brazil metro system found that sexual violence is concentrated at the busiest central stations, during rush hours, and at stations that also attract other forms of violence and public disorder (Ceccato & Paz, 2017). The findings of a survey undertaken in Auckland, New Zealand (participated by 448 female public transport users) showed concerning level of anxiety women experience during transfer waiting times. Women with ethnic backgrounds feel less safe during the day compared to Caucasian women. They were found to be more frequent users of mobile apps to determine the duration of waiting time compared to Caucasian women (Chowdhury & van Wee, 2020).

43. Although 151 economies have laws in place prohibiting sexual harassment in the workplace, just 39 have laws prohibiting it in public spaces. Women do, then, face perils in using public transportation to travel to work (World Bank, 2024).

44. The perception of urban transport safety significantly impacts the decisions and travel patterns of women. On average, women are ten per cent more likely than men to feel unsafe on metro trains (trains that go underground) and six per cent more likely than men to feel unsafe on buses (Ouali et al., 2020). The gender-based differences are often compounded by other intersectional factors (such as age, race, disability, and socioeconomic status) in shaping the experience of women in interacting with urban mobility systems. Consideration of intersectionality is particularly important in understanding the

nuances in women's perception of safety and their consequent mobility choices. While a young and educated, professional woman may have more urban transport options available to her than a man with a lower income, she is far more likely to face sexual harassment on public transit systems. An elderly woman on the other hand, may be less vulnerable to sexual harassment, but more likely to face physical barriers to accessing public transit systems, such as steep steps or a lack in technical skill to use transit-related mobile apps.

45. While gender-based violence and sexual harassment against women in public transport systems are well known, the vast majority of gender-based violence and sexual harassment cases go unreported. Women face a number of challenges, such as not being believed by authorities or a lack of confidence that the perpetrator will be caught. Moreover, most women are time-constrained, making a trip to the police station to spend hours making a report unappealing. Particularly because in some cases, police officers may also be a potential source of harassment.

E. Employment

46. Urban mobility is also a potential source of employment for women thereby contributing towards their economic independence. Such employment can be in formal public transport systems, new shared mobility systems or informal transport systems. This is, however, another topic for which no comprehensive quantitative data are available.

47. According to figures from the TransMilenio scheme in Bogotá, Colombia in 2022, of the 23,965 drivers in the system, only 328 or 1.4% were women. Bus operators or drivers are required to have a primary school degree, a C1, C2 and C3 type license, and at least one year of certified experience in either cargo vehicles of at least 1.5 tonnage or passenger transport vehicles. In 2021, the Colombian government announced that 450 of the new 1500 electric bus drivers in Bogota were going to be women. Yet, six months later, only 15 women were hired by the electric bus company. This shortfall stemmed from the lack of sufficient qualifications from candidates and a lack of support needed for women workers to be able to take advantage of the opportunity. (SUM4ALL, 2023).

48. A World Bank, 2018 study in Mexico City showed that there is a growing number of women drivers relying on ride-hailing apps to meet their basic income needs and provide for their families. However, the study also emphasized that women tend to drive more selectively than men and are less likely to drive at night due to security concerns; which as a result significantly reduces their driving at times of peak demand and limits their earnings or ability to earn volume-based incentives. The study also found that there are cultural barriers that limit the recruitment of women drivers as an average of 57 percent of male drivers surveyed say they would be unhappy if a woman in their family wanted to sign up. Still, the women surveyed are just as likely as their male peers to turn a robust profit from driving, despite being less likely to own their own vehicle outright.

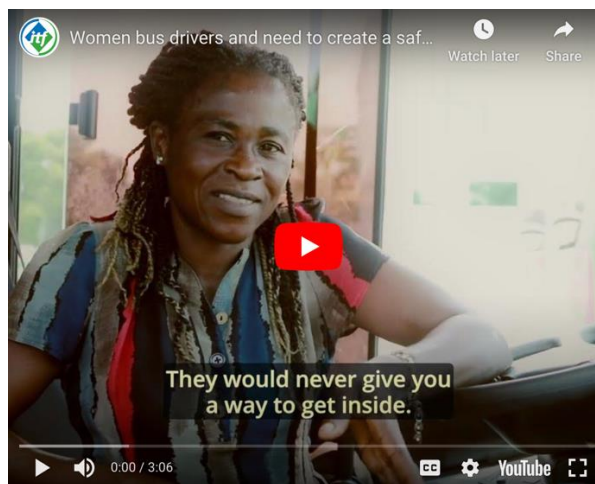
49. Overall, women are often over-represented in non-standard employment arrangements (ILO INWORK, 2017) (temporary employment, part-time and on-call work, multiparty employment arrangements, dependent and disguised self-employment), with consequently lower income. Women in urban transport networks hold the jobs that are most precarious, and are exposed to extreme weather events. Outdoor ticket sellers, service support workers, food providers and cleaners are commonly women, often working in precarious conditions, in informal employment, and especially exposed to extreme weather events. Environmental stressors like extreme weather events make women even more vulnerable, especially by restricting their capacity to make meaningful choices. (International Transport Workers Federation, 2022).

50. Where women are employed in urban transport they can be confronted with unfavorable working conditions. The Urban transport union, General Transport, Petroleum and Chemical Workers' Union in Ghana found that the personal protective equipment (PPE) provided for both women and men failed to accommodate differences in body shape and size. Many women found difficulties in using it and sometimes ended up not using any PPE at all (SUM4ALL, 2023).

51. SUM4ALL, 2023 in a large scale global survey identified five main entry barriers for greater female participation in the workforce in urban mobility: (a) Gender stereotyping for certain jobs, especially technical ones; (b) discriminatory work cultures; (c) lack of flexible working and childcare provision; (d) Invisible glass ceilings and restricted career options; and (e) Gender equity and its relationship with wider diversity, behavior and culture change.

Box 4. A Ghanaian bus driver speaks out on violence and harassment as a female bus driver

According to the ILO, violence against transport workers is one of the most important factors limiting the attraction of transport jobs for women and breaking the retention of those who are employed in the transport sector. Women drivers in Ghana talk about everyday violence and harassment while working in a male dominated sector in a role that is still seen as ‘ a man’s job’.



<https://www.itfglobal.org/en/resources/women-bus-drivers-need-create-safe-world-work>

52. Ride-hailing, either using cars, three wheelers or motor cycles are forms of shared transport which are increasingly used in cities both in the global north as well as in the global south. The International Finance Corporation and Uber in a comprehensive study focusing on six countries Arab Republic of Egypt, India, Indonesia, Mexico, and South Africa Driving Toward Equality: Women, Ride-Hailing, and the Sharing Economy, aimed to better understand how women and men participate in ride-hailing, particularly in emerging markets. (IFC and Uber, 2018). The study explored what companies that operate shared platforms can do to ensure women’s equal participation and gain. Using data from the ride-hailing company Uber, as well as information from global surveys and interviews, this report showed how ride-hailing services influence and expand women’s economic prospects.

V. Impediments for gender-responsive urban policy making

53. To achieve sustainable urban transport means considering different needs and circumstances of city dwellers and providing them with equitable levels of mobility, while responding to the parallel challenges of climate change and sustainable development. The integration of gender considerations in all stages of analysis, decision-making, planning, design, implementation and monitoring of transport systems and their interaction with other aspects of urban life is a challenging yet crucial task for urban mobility policy makers and planners.

54. Policy makers and regulators at the national and urban level, urban planners and transport operators are faced with multi-faceted and context-specific challenges in developing, adopting and executing policies and actions to develop gender responsive urban mobility systems and service:

- (a) **Strategic approach and underlying value systems.** Systemic biases may put women and vulnerable groups in disadvantage, for example approaches to mobility that: favor mobility patterns of men based on traditional division of labor (thereby overlook different mobility patterns of women, the evolution of household and parental models, and more recent developments in the labor market); and take a “one-size-fits-all-women” approach in developing transport solutions (thereby disregarding intersectional factors in the experience of women in urban mobility systems);
- (b) **Mobility data and planning models.** Disaggregated gender and demographic data on the mobility patterns and preferences of city dwellers is insufficient, and urban transport planning may result in gender-blind policies and actions, without knowing who is using the urban mobility system at what times and places, and with which purpose(s). This problem is especially acute in the case of informal transport, also known as paratransit on which large groups of women depend for their mobility needs;
- (c) **Capacity, knowledge, and technical skills of the mobility policy makers, workforce and users.** Notwithstanding the growing number of toolkits on gender and urban mobility there is limited progress in integrating gender considerations in the transport sector, both in terms of training of professionals, participation of users as well as the design and planning of systems, services, and equipment;
- (d) **Labor and employment systems.** There is still a large lack of gender-diverse representation in the workforce as well as leadership of the transport sector in both developing and developed countries. Additionally, labor laws and labor rights are far from being gender-responsive in terms of achieving equal pay, ensuring discrimination-, violence- and harassment-free work environments, and providing inclusive maternity, paternity and parental leave. The underrepresentation of women in leadership positions affects the integration of gender in transport policies;
- (e) **Planning and budgeting frameworks.** Not enough resources are being allocated to accelerate gender equality across all aspects of urban planning and implementation. Lack of guidance, data, coordination, and understanding of the importance of allocating such resources remains a key challenge for achieving sustainable development goals in the transport sector, including in cities;
- (f) **Stakeholder engagement and governance.** Many cities and municipalities lack platforms that enable the participation of NGOs, CSOs, grass-root organizations and local communities in decision making processes, thereby excluding the voices of women and vulnerable groups in the mobility planning;
- (g) **Financing mechanisms and systems.** In the absence of regulatory frameworks, fiscal measures and societal change that ensure and empower the integration of gender considerations into financing mechanisms and investments in the mobility sector, the profit-maximizing, business-as-usual approach would lead to unfavorable outcomes for both gender equality goals and climate goals, e.g. more investments in privatized, motorized transport increases the emissions from the sector, while it does not substantially help improve access for women and vulnerable groups.

55. These challenges are often interlinked with each other, they are also intertwined with other socio-economic factors of the urban population, which makes some groups, in particular women and vulnerable groups, more susceptible to be excluded and disadvantaged in interaction with urban mobility systems.

VI. Gender responsive Policies for low carbon sustainable urban mobility:

56. Existing urban mobility systems are imperfect as they do not provide the access and connectivity required for both men and women and they are too carbon intensive. Gender-responsive urban mobility policies can be a tool to ensure better access to and use of low carbon climate friendly options by both genders. Urban mobility policies that adopt a gender lens are more inclusive and more effective.

57. Urban mobility policies need to balance the interest of multiple urban population groups. Women, can be seen as a proxy for a larger group of vulnerable users. While women have distinct travel patterns and behaviors as pointed out in the previous chapter, when it comes to certain aspects such as safety, comfort, affordability, and ease of access to public transit they have a shared interest with several other groups such as elderly or children.

58. The need remains however to have a dedicated gender focus in urban mobility policy making, based on a robust analysis applying an intersection lens as detailed in box 2. This would entail considering not only data disaggregated by sex, but all other factors that may contribute to inequalities in urban mobility systems. Without this, there is a risk that the economic and societal benefits from proposed policy measures bypass women, and the long-standing inequalities, for example in terms of access and connectivity and the labor market, remain intact or worsen. A better understanding of gender perspectives in a wider -intersectional- context can also improve participation in policy making, thus allowing a more diverse set of voices to be heard and improving the quality and effectiveness of urban mobility policies.

59. Gender responsive policies for low carbon sustainable urban mobilities are policies that will put in place urban mobility solutions that create or enhance opportunities for urban women to participate more fully in economic activities and provide full access to education and health services, on an equal basis with men, in economic activities and provide full access to social services. Realizing such urban mobility solutions will help to provide women with access or connectivity they are lacking till now, resulting in sustainable, climate friendly growth. There is not one single solution that stands out which will provide the desired access and connectivity. This could be achieved if more women have access to private motor vehicles, or through more and better public transport as well as by providing the infra structure for active transport (walking and cycling). However, to be able to arrive at gender responsive policies for urban mobility that are at the same time low carbon it is important to consider the various mobility options mentioned.

60. The “Avoid – Shift – Improve” concept is a very useful climate policy framework, and can be applied, both at national and urban level, to group various policy options as part of a decarbonization strategy for the transport sector. The concept differentiates between policy options aimed at avoiding (or reducing) the need for transport, those policy options that promote shifting transport to those modes of transport that are associated with lower greenhouse gas emissions and finally those policy options aimed at improving the environmental footprint of transport. The figure below shows that policy options between the different components of Avoid-Shift-Improve may overlap (SLOCAT, not dated).

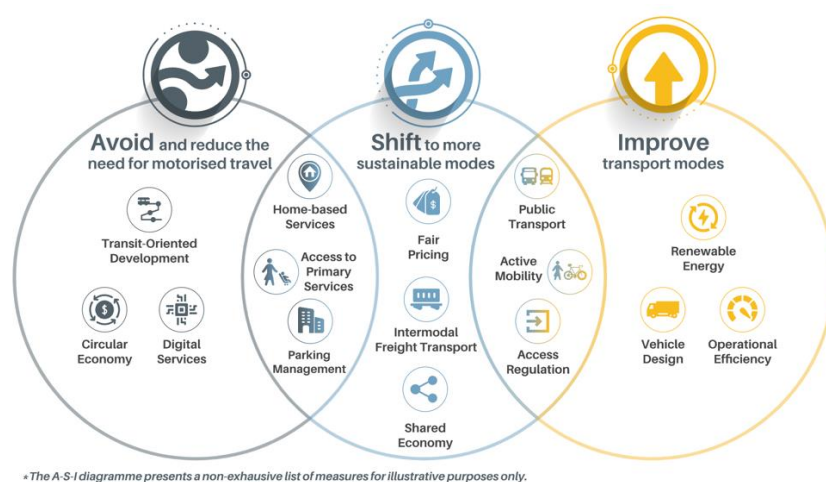


Figure 5. The Avoid-Shift-Improve Approach

61. From a gender perspective the Shift component can offer the best opportunities for improving accessibility and connectivity for women as it includes measure to promote public transport and increasing shared options as well as improving active (walking and cycling) transport, which are attractive to women both as users and workers. The improve options, which focus heavily on

technological dimensions of transport, by themselves do nothing to improve the accessibility and connectivity provided by urban mobility for women and other vulnerable population groups. These improve options do, however, present opportunities for diversification of the work force in the transition to cleaner transport. Implementing gender mainstreaming in institutions responsible for E-mobility transitions and policies that encourage women to take STEM subjects have been shown to be effective.

62. Another helpful policy framework to group measures to develop gender-responsive urban mobility is the 4A's framework (Borker, 2022a) that is centered around four attributes: availability, affordability, accessibility, and acceptability. The "A" of availability, relates to coverage and frequency. Within the "A" of affordability, the focus is on direct monetary costs, indirect nonmonetary costs, and the opportunity costs to travel. Within the "A's" of accessibility and acceptability, focus primarily on comfort and personal security.

63. There are strong synergies between action on urban low carbon transport and the realization of the sustainable development goals. Effective action on low carbon transport is important for: ending poverty (SDG 1); ending hunger (SDG 2); promoting healthy lifestyles and well-being (SDG 3); empowering women and girls (SDG 5); ensuring sustainable and modern energy (SDG 7); building resilient infrastructure (SDG 9); making cities sustainable (SDG 11); and taking action to combat climate change and its impacts (SDG 13) (Hosek and Yiu, 2021). The interlinkages between action on climate change and action in support of achieving the SDGs was also confirmed in a study by the International Climate Initiative (IKI). This showed that the transport sector has the second highest number of positive linkages after the industry sector but also the second highest number of negative linkages after the power industry. Out of the 102 linkages between mitigation action and SDGs for 84% were considered positive while 16% were found to be negative (Tilburg van X. et.al., 2018)

A. Increase sustainable low carbon mobility options

64. In order to strengthen gender responsive urban mobility it is important that urban areas reconsider their current planning approach to the development of their growing urban mobility sector. A group of experts within the German Corporation for International Cooperation GmbH has developed and further refined a comprehensive set of planning guidelines organized in ten principles, which implemented in a comprehensive manner can substantially enhance the sustainability of urban mobility (GIZ, 2023). These proposed measures can make a major contribution to the realizing urban transport related SDG targets as well contribute to the decarbonization of urban mobility.

65. These planning guidelines apply in principle to all genders. However, to ensure that both men and women benefit equally from their implementation it is important to overcome societal patterns and address social norms that cause current gender based differences in urban mobility.

Table 2. Principles and measures for low-carbon sustainable urban mobility

Principles	Measures
1. Planning compact and accessible cities	<ul style="list-style-type: none"> • Redistribute road space to people • Develop urban sub-centres • Encourage leisure activities nearby • Develop mixed-use neighbourhoods (e.g. 15-minute city) • Create safe and liveable public spaces • Support affordable housing
2. Developing transit-oriented cities	<ul style="list-style-type: none"> • Encourage urban growth along transit corridors • Create attractive high-density housing around public transport stations • Place jobs close to transit stations • Locate shopping facilities in major transit stations • Provide bike parking at transit stations • Improve design of intersections for pedestrians, cyclists, and public transport • Ensure land value capture to finance mobility

Principles	Measures
3. Getting the infrastructure right	<ul style="list-style-type: none"> • Build high-capacity public transport (BRT and rail) as a backbone • Enable comfortable interchange • Enforce speed limits and traffic rules • Design complete streets • Provide charging infrastructure for EVs • Limit expansion, scale-down or remove urban motorways
4. Encouraging walking and cycling	<ul style="list-style-type: none"> • Prioritise active modes in planning • Create a complete urban cycling network • Regulate micro-mobility • Provide bike-sharing • Design shared spaces • Build safe street crossings (but no pedestrian bridges) • Connect suburban quarters with high-quality cycle routes • Use high quality street design standards
5. Advancing smart mobility management	<ul style="list-style-type: none"> • Introduce congestion charging • Allow work from home policies and flexible working hours • Mandate night-time delivery windows for freight vehicles • Set 30 km/h / 20 mph as a standard speed limit • Facilitate rideshare programmes • Encourage mobility budgets for employees • Separate car ownership from car use
6. Enhancing public transport and shared mobility	<ul style="list-style-type: none"> • Prioritise public transport and ensure reliable, accessible, and clean public transport • Establish bus lanes • Electrify buses • Ensure safety and quality of (moto-)taxi services • Regulate paratransit • Design networks gender sensitive • Integrate public transport planning and ticketing • Provide WIFI and e-payment
7. Parking: Managing first, not supply	<ul style="list-style-type: none"> • Abolish parking minimums • Balance parking supply • Price on-street parking • Phase out informal fee collection • Use parking revenues for sustainable modes • Reduce on-street parking and transform into green space or bike lanes • Enforce parking rules
8. Electrifying all vehicles	<ul style="list-style-type: none"> • Build charging infrastructure • Procurement of electric public vehicle fleets and buses • Establish (ultra-) Low emission Zones • Tax transport fuels appropriately • Reward EVs and cargo bikes • Incentivise vehicle scrapping and retrofit • Establish (ultra-) Low emission Zones
9. Winning support of stakeholders and citizens	<ul style="list-style-type: none"> • Encourage public participation and enable virtual participation • Initiate an open data policy & Use and access of open data • Develop integrated mobility solutions • Encourage street experiments • Advertise cycling and public transport
10. Empowering cities to avoid, shift and improve	<ul style="list-style-type: none"> • Develop a Sustainable Urban Mobility Plan (SUMP) • Provide national funding to cities (NUMPs) • Integrate transport into climate action plans • Internalise the external costs • Integrate urban and transport planning authority • Create institutions responsible for sustainable urban transport • Integrate cities and rural regions • Involve a diversity of stakeholders including women and people with disabilities

66. The way in which the different measures to improve the sustainability of urban mobility impact the life of city dwellers, and are experienced by them, varies depending on factors such as gender, age, race, ethnicity, religion, disability, and socioeconomic status. Moreover, the interplay of these factors and mobility is highly contextual and will differ across cultures and geographies. However, currently

the lack of disaggregated data hampers cities from both understanding the unfulfilled mobility needs of women and from designing appropriate climate and gender policies (Allen, 2020).

67. A large majority of the measures should be part of a dedicated effort to make urban mobility policy making more gender responsive. The detailed implementation of these measures is important to ensure that women are able to fully benefit. It is important therefore to conduct a location and target group specific analyses and include measures that take account of the specific gender specific local circumstances. Does a current policy or plan explicitly consider the specific mobility needs of women in public transportation? Expanding cycling lanes may not necessarily benefit those specific city dwellers groups such as women and vulnerable groups if they are not able to afford, own or use bicycles due to economic constraints and social norms. Traveling by public transport goes beyond the transit itself and includes walking and waiting (Allen, Vanderschuren, and the University of Cape Town, 2016). To improve women’s access to public transport, stations, stops, and vehicles must be barrier-free, safe, and well lit (Peters, 2013). Investments are needed in even walkways, easier road crossings, and gender-balanced public signage (Borker, 2022a).

68. Emerging trends such as shared mobility or mobility as a service, can help to improve accessibility and connectivity for specific groups but are not expected to play a meaningful role in deep decarbonization of transport. It can, however, attract more female than male users and when given better alternatives, some women may be ready to give up driving altogether. If cities want to further encourage the development of such flexible modes, policies that will address women users’ preferences should be implemented for women to be the dominating users (Ng and Acker, 2018) (IFC and Uber, 2018). Greater digital literacy is key to bolstering the use of smart mobility options (e.g. web- and app-based technologies that promote access to mobility as a service) by a wider group of city dwellers, in particular women and vulnerable groups.

69. Electric mobility is another new, rapidly emerging area and one for which limited information is available on how to make policies in this field gender relative. UNEP has initiated a dedicated project, funded by the German government on this, entitled: E-Mobility as a Driver for Change project - Towards a gender transformative and just transition to electric mobility. The project looks to improve the data availability and analysis and identify knowledge gaps on gender and E-mobility; enhance gender mainstreaming in global, national and local E-mobility initiatives; build capacity, skills and jobs for a just transition (increasing economic opportunities); and build partnerships to enable replication, and ambition raising with global outreach and advocacy. The goal of the project is to map electric mobility stakeholders, players, and projects around the world and to compile resources on how to improve the gender inclusiveness of E-mobility projects.¹

70. While improving public transport it is important to address gender-based violence in public transport, which can be an important discouraging factor for women to take public transport, especially at night. This requires capacity building, the use of public awareness campaigns and a range of other measures to shift norms and behaviors.

Box 5. Good practices to prevent gender-based violence in public transport

“Using technology and training to prevent Violence Against Women and Girls on buses in Mexico City”

In Mexico City’s public transport system, 65% of women experience violence in transit vehicles and public spaces in the transport system such as Metro and bus stations. In this context, the World Bank Group, working with the local Ministries of Transport and of Women, private bus companies, local NGOs, gender equality and transport system experts, application developers, a mobile telephone company and transport local authorities, have developed a project to encourage community participation to address sexual harassment against women in Mexico City’s urban public transport. The aim of the project is to trigger non-confrontational bystander interventions interrupting the sexual harassment using a mobile phone application. The mobile application was designed for use by passengers to report sexual harassment and other abuses in a reliable and accessible manner, with the aim of allowing the compilation of data for further diagnostics and policy attention. (World Bank Group, 2015)

“Shifting social norms driving sexual and gender-based violence on public transport in Sri Lanka”

¹ Personal communication Heather Allen, UNEP consultant

In Sri Lanka, the ‘Not on my Bus’ campaign was co-created with support from the Oxfam and local partners, with the aim to reduce sexual harassment in public transport through promoting bystander intervention. It sought to promote positive norms that bystanders should intervene and that it is everyone’s responsibility to uphold everyone’s rights to violence-free public spaces. The multilingual campaign (in English, Tamil and Sinhala) mainly targeted bystanders, especially bus drivers and conductors, young people (including school children) and rush-hour commuters. The strategic activities of the campaign included social media campaigns (Instagram, Facebook and Twitter) to communicate the importance of bystander intervention, and dialogues with government institutions that aimed to challenge the negative norms and promote positive norms that encourage bystander intervention. (Oxfam, 2019).

Free to Be, geolocating app Delhi, Kampala, Lima, Madrid and Sydney

The online safety map "Free to Be" identified transport hubs, trains and bus stations as prime locations for harassment. In five cities (Delhi, Kampala, Lima, Madrid and Sydney), young women and girls can use geolocating to drop a "good" pin on locations where they feel safe and a "bad" pin where they feel unsafe (IFC, 2020).

71. Further policy guidance in support of better safety for women making use of shared mobility options is given by Ng and Acker, 2018. They recommend careful driver profiling, sharing of vehicle information and expected time of arrival, provision of emergency alert features, hiring and training of women drivers, greater co-ordination with the police, and increasing commuter education and awareness as measures that can increase the safety of taxi, informal transit and ride sharing services. Some of these regulations can be easily and cost efficiently implemented and enforced with the use of technology in the form of apps and GPS tracking. As door-to-door transport services that will improve personal mobility continue to grow in different cities across the world, it is important that these are safe transport options for all users regardless of gender.

B. Employment of women in urban transport

72. Employment of women in urban transport needs to be an important part of gender responsive urban mobility policies. It should be considered that in making policy changes for sustainable urban mobility planning, transport companies can implement gender-responsive policies for their workers are adopted (e.g. ensuring that more women are hired, providing skills trainings targeting women, supporting access to creche facilities, ensuring that workers with children have working hours that allow them to balance parental and work responsibilities, etc.). Another key aspect is that gender-targeted policies for workers must be in place if women workers are to benefit from new job opportunities arising, for instance, from the expansion of public transportation options.

73. The Flone Initiative, 2023, has formulated a number of policy recommendations to be taken up by public transport companies:

- Promote attraction of female professionals into the transport sector by investing in or employing female professionals and encouraging women to take up work in the industry
- Deliberate selection of women into e-Mobility careers by adhering to the two-third gender rule in each department and prioritizing applications from women applying for leadership positions
- Enhance retention of women workers by ensuring an enabling working environment safe from sexual and gender based violence and guaranteeing job security and equal opportunities for career advancement
- Support women during career interruptions by ensuring that they benefit from paid maternity leaves and participate in career advancement opportunities
- Support re-entry of women into the transport industry by providing nursing and babysitting facilities and flexible working schedules for nursing mothers
- Realization and advancement of women in the public transport industry by granting equal pay and equal opportunities for promotions to women
- Governments and donors could also support women led startups to ensure they thrive.

Box 6. Promoting Green Jobs for Women: the Pune, Bangalore and Kochi Metro Lines in India

EIB is a member of the 2X Collaborative initiative, a global industry body that convenes various investors to promote gender and climate responsive investing. EIB financed two metro lines in Pune and Bangalore, in India. The lines are estimated to save 29 million hours in travel time, while reducing GHG emissions and improving air quality in both cities. Provisions to make the metro a more inclusive workplace were included in the design of the investment. 33 per cent of the positions as drivers and station controllers will be filled by women and specific skills trainings were provided for them to become drivers. Crèche facilities were provided for employees and women drivers are scheduled to work at stations close to where they live. Working schedules are also designed to be respectful of women's needs. For instance, women with small children who are not able to perform night shifts, have priority to take up morning or afternoon shifts (ILO, 2022).

Another example of empowerment of women through the construction of a metro system is the Kochi metro. AFD has been working with local authorities and the Indian government to support the Kochi Metro project since February 2014. One feature of this project stood out: Nearly 80% of the Kochi metro team is made up of women working a wide range of positions, cleaning staff, ticket machine operators, train drivers, station managers and more (AFD, 2019).

74. Shared mobility options, also known as ride hailing are an important potential source of employment for women in urban mobility. To attract women as drivers (and as riders) the ride-hailing industry needs to continue to enhance security features and minimize perceived threats. Another area where action is required is financial and digital exclusions, which continue to form barriers to women's participation in ride-hailing and in the sharing economy more broadly (IFC and Uber, 2018). Recruiting more women drivers into ride-hailing could create a virtuous cycle by attracting more women riders.

75. Policy choices to improve access to public transport for women can have a negative impact when it comes to the employment opportunities for women. Cashless payments are understood to make it easier for women to make use of public transport. At the same time however the introduction of such systems can lead to displacing workers in the ticket vending sector, who are predominantly women workers around the world (International Transport Workers Federation, 2022).

VII. Implementing Gender responsive Policies for low carbon sustainable urban mobility

A. Putting in place gender responsive national and urban policies on gender responsive urban mobility

76. Effective action to improve gender responsive urban mobility require a robust policy framework. In the previous chapter an overview was given of the elements of such policies and the need to ensure that these policies are gender sensitive.

77. The responsibility for policy making on gender responsive urban mobility rests primarily with local, city governments. Considering that in many cases funding for the improvement of urban mobility needs to come from the national government is it also important to consider its role in policy making in the field of urban mobility. In many cases, however, action on urban transport taken is not policy based but through individual projects. In such cases the gender dimension will need to be integrated into the project design. National government agencies can add a gender component to urban mobility projects, or insist on cities doing so, if funding is provided by the national government. It is encouraging that internationally donor funded transport projects now include on a standard basis a gender assessment and increasingly also a gender component.

78. The integration of gender in urban mobility policies as well in specific urban mobility projects requires the availability of better data on gender and transport in design, implementation, and evaluation of urban mobility projects (Women Mobilize Women, 2022). Gender data helps to address historically overlooked behaviors to enable more inclusive mobility.

Box 7. Gender responsive data collection in the transport sector

Sensitize to the importance of gender-sensitive data:

- Demonstrate the importance and potential of gender-disaggregated data
- Clearly define what data disaggregation means
- Disaggregate by gender and socio-economic dimensions
- Highlight the risks of gender-blind interventions
- Sensitize for the need for context- specific data collection methods

Collect gender-disaggregated data:

- Develop systematic, standardized and harmonized data collection and analysis methodologies
- Ensure periodic data collection with modernized and updated collection methods
- Ensure data collected is representative and inclusive of all vulnerable groups, as well as non-users
- Ensure adequate resources and funding are available for data collection and analysis
- Guarantee that the scope of data collected is supportive of objectives (qualitative and quantitative)

Build capacity on gender data collection, analysis & monitoring:

- Build capacity in transport ministries at national and local level
- Ensure knowledge transfer between national, regional, and city level
- Secure accessible and comprehensive capacity building offers

Ensure women are at the table:

- Improve gender balance at national and local levels in transport ministries and transport authorities
- Encourage and support female graduates in engineering, transport planning, and related topics
- Design projects and working conditions to accommodate caregivers e.g. by considering appropriate timing and locations for meetings

Champion open access data:

- Establish viable partnerships
- Make data more accessible to those in the public domain
- Make data more accessible to those in the research / academic domain
- Ensure data privacy is considered

Mainstream data in gender responsive design:

- Develop and standardize gender indicators
- for projects and interventions
- Ensure gender-sensitive data is collected from beginning to end
- Conduct gender assessments
- Introduce inclusive monitoring and evaluation standards

79. The World Bank recently carried out a survey to find out whether countries in their policy making and planning explicitly considered the specific mobility needs of women in public transportation. (World Bank, 2024). Globally, only 27 out of 190 economies explicitly recognize such needs. One example is Argentina, which has a gender and mobility plan that incorporates a gender perspective for infrastructure planning and actively promotes female professionals in the Ministry of Transportation. Such plans are important because mobility patterns of women, including the use of public transport often differ from that of men.

80. The basis for policy making on urban mobility can be a Sustainable Urban Mobility Plan (SUMP), which in recent years has gained in popularity as a planning tool. SUMPS aim to create a sustainable urban transport system (ITF, 2022) which:

- is accessible and meets the basic mobility needs of all users
- balances and responds to the diverse demands for mobility and transport services by citizens, businesses and industry
- guides a balanced development and better integration of the different transport modes
- meets the requirements of sustainability, balancing the need for economic viability, social equity, health and environmental quality
- optimises efficiency and cost-effectiveness

- makes better use of urban space and of existing transport infrastructure and services
- enhances the attractiveness of the urban environment, quality of life, and public health
- improves traffic safety and security
- reduces air and noise pollution, greenhouse gas emissions, and energy consumption

81. Drăguțescu, Land and Meskovic, 2020 recommend that to ensure SUMP are gender sensitive in the development of a SUMP in each of the steps of formulating the SUMP a cross cutting approach is taken: (a) to understand the different target groups to involve in the planning and implementation process; (b) to facilitate the participation of women and representatives of vulnerable groups in decision-making processes; (c) to include gender-specific measures or measures that target increased accessibility; and (d) to establish monitoring and evaluation systems that provide clear evidence on gender mainstreaming and accessibility levels. See Box 8 for further guidance on how to link equality and decarbonising transport actions (Ng and Bassan, 2022).

Box 8: Guiding Principles for Linking Equality and Decarbonising Transport Actions

- Capacity building, knowledge management and communication
 - Strengthen awareness of the gender, transport and climate change policy nexus
 - Adopt gender-based analysis when considering decarbonising transport policies
 - Government has a role in lifting the skill of the whole sector through multistakeholder engagement and integrated policy making
 - Create a platform for knowledge sharing between ministries and stakeholder groups
- Gender balance, participation and women’s leadership
 - Build diverse teams
 - Enhance women’s participation and leadership in the transport workforce
- Implementation
 - Ensure budget processes provide incentives for gender-based decarbonising transport policies
 - Identify synergies between policy goals to quickly and efficiently transition to a zero-carbon transport system
- Monitoring and reporting
 - Establish evaluation, monitoring and reporting systems for countries and companies
 - Identify and implement appropriate gender analysis tools in decarbonising transport policies

82. Apart from national policy making there are also numerous bi-lateral or multistakeholder partners that have made or promote commitments to the diversification of the sector. Examples include the joint agreement to strengthen women’s employment in public transport signed in 2019 by the International Transport Federation (ITF) and International Association of Public Transport (UITP). These two parties are working with unions and employers to implement the agreement in a selected number of pilot cities (ITF and UITP, 2019).

B. NDC and VNR process

83. There are two global process linked to the Paris Agreement– Nationally Determined Contributions (NDCs) and the 2030 Agenda on Sustainable Development – the Voluntary National Reviews (VNRs) which countries use to report on their ambition in support of low-carbon and sustainable development.

84. Under the Paris Agreement, all Parties to the UNFCCC must submit national climate action pledges, known as Nationally Determined Contributions or NDCs, every five years. These cut across mitigation and adaptation, involve multiple actors and sectors of the economy, and offer unique opportunities to integrate gender equality in climate action at scale. Currently, a majority of countries

have submitted their second generation of NDC and preparations are ongoing for the submission of the third generation of NDCs in 2025

85. Through the years, the transport community have developed a fairly detailed tracking mechanism how transport is covered in the NDCs (Changing Transport, n.d. and GIZ and Slocat, 2021). The general picture is that a large majority of NDCs are referring to action on mitigating climate change in the transport sector. Between the first and the second generation of NDCs the number of transport references has grown considerably, with Improve related measures still by far the largest group, followed by shift and avoid. As indicated above, shift related measures (e.g. public transport, walking and cycling) offer the best opportunities for women to obtain better accessibility and connectivity.



Figure 6. Comparison Avoid-Shift-Improve measures in first and second generation NDCs

86. It is important to be aware that NDCs are not necessarily the best or most complete resource to determine the level of ambition in action on transport and climate change. The Asian Transport Outlook, 2023 in a survey of 15 economies, observed an exponential growth in transport related statements of ambition, targets, and policy measure recommendations across economies in Asia. A linked survey of the same 15 economies, revealed that NDC-listed transport measures constitute only about 10% of total recommended measures on transport climate mitigation and adaptation. These surveys demonstrates essential limitations to NDCs as an indicator of low carbon transport policy and, thereby, action on the decarbonization of transport. The same pattern was also revealed in a global survey of the Partnership on Active Travel and Health looking at the coverage of walking and cycling policy measures in NDCs (PATH, 2023).

Box 9. Discrepancies between national policies on active travel and references to active transport in NDCs

- Two thirds of UNFCCC countries have some sort of active travel policy in place.
- Only a quarter of NDCs include active travel. Yet 56% of countries have a walking policy and 22% a cycling policy that could, if connected, significantly help reduce emissions quickly.
- Only 13% of NDCs highlight the need to improve walking and cycling infrastructure, compared to 35% and 20% of national walking and cycling policies
- Just eight countries have consistently linked walking and cycling between national policies and NDCs to deliver on climate, environment, and equity goals. Apart from Singapore the others are all low- or middle-income countries and include Bangladesh, Bhutan, Colombia, Costa Rica, Ethiopia, Rwanda and Uganda

87. Gender, in relationship to the transport sector, is still very much a blind spot in NDCs. The NDC tracker of Changing Transport only mentions two cases where a specific reference to gender is included in relationship to transport. (GIZ and Slocat, 2021) conclude that NDC transport actions fail to exploit opportunities related to gender, the SDGs, equity and other aspects that would enable a wider transformation.

88. At a general level, however, there is much better coverage of gender in NDCs. Parties to the UNFCCC are increasingly recognizing gender integration as a means to enhance the ambition and effectiveness of their climate action. Most Parties (75 per cent) provided information related to gender in their NDCs and some (39 per cent) affirmed that they will take gender into account in implementing them (UNFCCC, 2022). As of September 2022, 102 of 120 UNDP Climate Promise-supported countries and territories submitted, updated, more robust NDCs. Promisingly, 97 integrated gender equality considerations, which is quite an improvement compared 49 in the initial round of NDCs. (UNDP, 2022). As can be expected, till now generic assessment reports on the inclusion of gender in NDCs do not go into detail on what sectors are being covered. To overcome this challenge the (NDC Partnership, n.d.) recommends to engage the national gender machinery to support the climate-related sectoral ministries to strengthen the integration of gender into their policies and implementation plans, and to build their capacity to effectively manage, monitor, and report on those plans.

89. The Partnership on Sustainable Low Carbon Transport has been reviewing the VNRs submitted since 2016 to assess whether and how VNRs have been covering the transition to low-carbon sustainable transport. In its most recent report (Slocat, 2022) it concluded that there is still no systemic coverage of reporting on progress in the implementation of transport related SDG targets. Instead, most of 2022 VNRs only describe the adverse impacts of the ongoing crises (Covid and Ukraine) instead of presenting concrete policy measures. And when they do, the measures do not fully address the urgent systemic transformations necessary to enable equitable access to transport and mobility for all. There was however, compared to previous years, a slight increase among 2022 VNRs in references to gender-sensitive transport policies (SDG 5), possibly because SDG 5 was in focus at HLPF 2022. The examples of Argentina and Eswatini were quoted which enforced laws to prohibit sexual and gender-based violence that is widely prevalent in transport and public spaces. Slocat recommends that countries need to optimise the use of transport and mobility measures in support of the implementation of the SDGs at the national and sub-national levels. In doing so, the level of ambition, the concreteness and the systemic approach in transport measures need to drastically increase.

90. Currently there are no ongoing dedicated efforts to report on progress in realizing gender-responsive urban mobility. Manuals which promote gender specific reporting on the implementation of the SDGs such as ESCWA, 2019 and UN Women, 2020 provide worthwhile general recommendations but fail to provide sector specific guidance, including for the transport sector.

C. Women and Mobility Initiatives

91. Despite a lack of dedicated gender friendly urban mobility policies and measures it is important to note that there are a growing number of dedicated networks on women and mobility where policy makers and practitioners working on gender responsive transport can derive inspiration and practical guidance from dedicated networks on women and mobility. Urban mobility is covered by a significant number of these initiatives which can be either global, regional or national in scale. In recent years, there has been a large growth in such initiatives and groups. SUM4ALL, 2023 provides a comprehensive overview of 26 gender and transport initiatives and networks throughout the world. In some cases these are general in nature covering different modes of transport, in other cases they focus more specifically on specific modes of transport like railways, public transport, cycling or logistics. Urban mobility is covered by a significant number of these initiatives which can be either global, regional or national in scale. Table 3 details the activities of a selected number of initiatives, including

Women Mobilize Women initiative which has been groundbreaking in raising the attention on gender and urban mobility.

Table 3. Examples of initiatives on women and mobility

<p>The Transformative Urban Mobility Initiative (TUMI) initiated Women Mobilize Women (https://womenmobilize.org/) is a network of female change makers from all over the world, seeking to actively transform the mobility sector to become more diverse. In addition, Women Mobilize Women aims to raise awareness to the topic of gender and transport amongst planners and decision-makers in the transport sector. Since its inception in 2019 it has resulted in:</p> <ul style="list-style-type: none"> • An international annual conference on women and mobility since 2019 • E-Learning course: An introduction to gender and mobility in emerging countries • Remarkable Feminist Voices in Transport – Recognizing of over 200 women as leaders in transport - https://womenmobilize.org/remarkable-women-in-transport/ • International mentoring programme for female young professionals • Setting up a special initiative on bridging the gender data gap in transport https://genderdata.womenmobilize.org/
<p>Women on the Move in Asia is an initiative of the NDC Transport Initiative for Asia. (https://www.ndctransportinitiativeforasia.org/news/peer-network-for-women-on-the-move-transport-asia). As part of its activities it has launched an online, year-long mentorship programme to connect women in Asia with similar goals and areas of focus. https://changing-transport.org/women-on-the-move-mentorship-programme/</p>
<p>Mujeres en Movimiento (WIM)- Women in Motion (WIM) (https://www.mujiresenmovimiento.net/directorio) is an international initiative led by women that was born within the framework of the International Transport Forum in Leipzig, on May 24, 2018. It seeks to strengthen women's leadership in sectors that lack diversity and gender equality through a network of active cooperation and governance of the civil, private and public sectors. We seek to promote women leaders who lead the construction of inclusive, safe and sustainable cities.</p>
<p>The Gender and Electric Mobility Working Group. https://summit.itf-oe.cd.org/2023/summit-programme/launch-of-the-gender-and-electric-mobility-working-group/. This network is part of a new global project 'Mobility as a Driver for Change- Towards a Gender Transformative and Just Transition to Electric Mobility' implemented by UNEP. The new global Working Group will bring together a consortium of transport stakeholders who will contribute their time, knowledge, and expertise to establish best practices, create frameworks, provide policy advice and tools and ensure that global efforts on the topic are better synergized.</p>
<p>The Ambassadors for #DiversityInTransport (https://transport.ec.europa.eu/transport-themes/social-issues-equality-and-attractiveness-transport-sector/equality/diversity-ambassadors-transport_en) seek to promote diversity, equality and inclusion within the EU transport sector, through raising awareness and sharing information on and developing and implementing initiatives to promote diversity in the EU transport sector, both from the perspective of transport workers and transport users.</p>
<p>Safetipin is a social impact organisation working towards Building Responsive, Inclusive, Safe and Equitable Urban Systems in a world where everyone can move around without fear, especially women and other excluded groups. https://safetipin.com/. Safetipin works to make communities and cities safer by providing information and data collected through our different technology tools and apps. It collects and analyses data on several parameters that impact safety and play a role in creating inclusive spaces for a diverse set of people, with a focus on vulnerable groups, especially women with activities currently in 75 cities in 16 countries.</p>

Women in Cycling (<https://cyclingindustries.com/wic>) is an initiative aiming to help women to get more visibility, impact and leading seats in the cycling industry and in the entire sector. Women in Cycling seeks to boost equality and diversity in the sector, bring women working in the cycling sector in the spotlight and to provide networking, mentoring and training opportunities.

92. In addition to these global and regional initiatives on women and mobility there are countless national and local initiatives that aspiring policy makers can tap into for guidance.

93. Furthermore, in addition to these initiatives on women and mobility there are also a number of rosters of female experts that either are exclusively focused on the transport sector, or include it. For example, the TEC, as part of a joint activity with the CTCN on Gender and technology, has committed to provide guidance to their secretariats in developing and maintaining a roster of female experts in the field of climate technology, and female and male gender experts in the area of climate change². The GIZ internal sector network TUEWAS (Transport, Environment, Energy and Water in Asia) is another example of such a network³.

D. Women and Mobility Tool kits

94. Policy makers and practitioners working on gender-responsive urban mobility can benefit from a rapid growing collection of gender focused toolkits. These toolkits cover a wide range of topics from mapping gender concerns in urban mobility to indicators that can be used to assess progress in the implementation of policies, programs and projects to develop gender-inclusive low-carbon urban mobility systems.

Table 4. Selection of toolkits on women and mobility

Title	Publisher	Publication Date	Details	URL
Gender Equality Toolkit In Transport	Future Transport Visions Group	Not dated	To inform transport professionals how the work that they do and the decisions that they make impact women's mobility and to provide a resource to encourage them to be gender responsive	https://www.the-get-it.com/
ITF Gender Analysis Toolkit for Transport	International Transport Forum	Not dated	Hands-on, easy-to-use method for incorporating a gender-inclusive perspective into transport projects, plans and policies	https://www.itf-oecd.org/itf-gender-analysis-toolkit-transport-policies-0
Improving gender equity through electric mobility	Solutions plus	Not dated	Provides a checklist for gender inclusive e-mobility projects.	https://www.living-lab.center/files/ugd/6a0a2f_d9dbbe600ba4eb399b55ec4604163a5.pdf

² See <https://www.ctc-n.org/network/gender-climate-expert-roster>

³ See <https://tuewas-asia.org/>

Title	Publisher	Publication Date	Details	URL
MobiliseYourCity Training Materials Catalogue	MobiliseYourCity	Updated on regular basis	Contains a wide range of training materials including a dedicated module “Introduction to gender and its relevance for urban mobility planning”	https://www.mobiliseyourcity.net/training-materials
Toolkit for making road infrastructure projects gender responsive	Department of Public Works and Highways, Philippines and World Bank	2011	These set of tools will help facilitate gender responsiveness in developing and implementing road infrastructure projects.	https://www.dpwh.gov.ph/dpwh/gad/toolkitinmaking
Gender Tool Kit: Transport	Asian Development Bank	2013	This Gender Tool Kit provides users with a set of tools and case study examples to help design transport projects that are gender-responsive and inclusive	https://www.adb.org/documents/gender-tool-kit-transport-maximizing-benefits-improved-mobility-all
Gender Sensitive Mini-Bus Services & Transport Infrastructure for African Cities: A Practical Toolkit	UN Habitat	2019	This Toolkit provides minimum standard guidelines and practical tools for creating safer and more accessible public transportation systems for women in African cities	https://unhabitat.org/gender-sensitive-mini-bus-services-and-transport-infrastructure-for-african-cities
Topic Guide: Addressing gender equity and vulnerable groups in SUMP	ICLEI European Secretariat	September 2020	Support to mobility practitioners and local authorities in understanding where gender equity and inclusivity meet transport planning	www.mobiliseyourcity.net/sites/default/files/2021-02/sump_topic-guide_gender-equity_vulnerable-groups_final.pdf
Toolkit for Gender-Sensitive Data – Improving the safety of women and girls on public transport	La Trobe University, RMIT University and Monash University’s YXX Lab.	October 2021	A toolkit designed to help improve public transport safety for women and girls.	https://www.latrobe.edu.au/data/assets/pdf_file/0006/1298886/Public-Transport-Data-Collection.pdf
Toolkit for Enabling Gender Responsive Urban Mobility and Public Spaces,	World Bank	2022	Guidance notes for government agencies, groups, and institutions that develop programs for safer and more	https://openknowledge.worldbank.org/entities/publication/128bcb06-0fc4-5c1d-9a2b-fc6e9ce47b03

Title	Publisher	Publication Date	Details	URL
India - Volume I: policy makers Volume II Implementing Agencies			inclusive transport for women in cities	
Gender Imbalance in the Transport Sector: A Toolkit for Change	Sustainable Mobility for All	2023	A Toolkit for Change which provides practical and actionable policy guidance on how a gender-sensitive approach can be mainstreamed in the transport sector.	https://www.sum4all.org/data/files/gender_imbalance_in_the_transport_sector_a_toolkit_for_change.pdf
She Rises	Safetipin	2024	A gender assessment framework by which cities can be audited for their responsiveness towards the needs of women and girls in cities. The framework consists of 37 indicators across five pillars.	https://smartcities.gov.in/sites/default/files/2024-03/SheRises.pdf

III. Key findings and Recommendations

A. Key Findings

95. This policy brief was developed to provide guidance on how action on gender and low carbon urban mobility can become mutually reinforcing. Both are topics of concern. As the world continues to urbanize and develop economically urban passenger transport will continue to grow. Decarbonization of urban transport is a key part of effective climate policy. While decarbonizing urban mobility systems these systems are also expected to contribute to sustainable development as defined in the SDGs and the transition to sustainable, low-carbon urban mobility needs to be just and equitable. This cannot be achieved if it does not ensure that all genders and especially women participate fully and equally, enjoy the same access and connectivity while feeling secure.

96. Policy makers need to be aware that under the current status quo people in all their diversity are living in an imperfect world when it comes to urban mobility in terms of access, safety, comfort and environmental performance. Substantive action at scale will be required for urban mobility to make its contribution to the targets set by the Paris Agreement and the 2030 Agenda on Sustainable Development. In addressing the sustainability of urban mobility special efforts will, however, need to be made to address current inequalities, including gender inequality. Otherwise, there is a clear danger that future urban mobility may be low carbon but that it leaves groups in vulnerable situations behind in how urban mobility serves their economic and social needs. The current system is inequitable and does not serve the needs of at least half the world's population. Gender-responsive low carbon mobility

can ensure both gender-equal access as well as access to and use of low carbon climate friendly options by all. This is both a rights and an effectiveness argument.

97. Due to gender roles and social norms, women often have different travel needs and behaviors if compared to men. These differences are not just based on their gender but also on other characteristics including race, ethnicity, sexual orientation, gender identity, disability status, and class which “intersect” to create unique dynamics and effects. While women are disproportionately vulnerable to the impacts of climate change and experience considerable inequalities in urban mobility systems, , they are not a homogenous group and may have different experiences depending on these intersecting factors. At the same time, women are change agents who are taking initiatives to improve their own lives as well as that of men and children.

98. There is considerable evidence that urban mobility systems in their current shape do not provide women with the same access and connectivity as they do for men. This is in part because women’s needs were often not kept in mind by the (often male) designers of these systems. Also, data on the specific needs of women, like those of other groups in situations of vulnerability are not collected in a systemic manner. New public transport systems in many cases may not be affordable for large groups of women and if they are able to use them inadequate provisions have been made to protect them from harassment and gender-based violence. Lastly, urban mobility does not provide equal opportunities for women when it comes to employment.

B. Recommendations

99. A helpful policy framework to design sustainable, low-carbon mobility systems is the Avoid-Shift-Improve framework, whereby especially measures under Shift component (e.g. improvement of public transport, walking and cycling) have a strong potential to improve access and connectivity for women. A secondary, supportive framework is the 4 A’s: availability, affordability, accessibility, and acceptability.

100. The realization of gender-responsive sustainable, low-carbon mobility systems will require a large number of, often mutually supportive policies measures that promote the realization of more and better urban transport infrastructure and systems, incentivize their use while discouraging the use of unsustainable, private car-based transport. This includes:

- Planning compact and accessible cities;
- Developing transit-oriented cities;
- Getting the urban mobility infrastructure right;
- Encouraging walking and cycling;
- Advancing smart mobility management;
- Enhancing public transport and shared mobility;
- Parking: Managing first, not supply;
- Electrifying all vehicles;
- Winning support of stakeholders and citizens;
- Empowering cities to avoid, shift and improve.

101. An important part of promoting gender-responsive sustainable low-carbon urban mobility needs to be greater employment opportunities for women in this field. This will help to ensure that the transition required will be just and equitable for all.

102. This policy brief establishes that the policy choices and options have been well documented and that the emphasis now needs to shift towards integrating these actively into policy, program and project documents at the national and especially the urban level. There is a dual challenge here, that needs to be tackled simultaneously; there is a need to strengthen policy making in general in the field

of urban mobility while better integrating gender considerations into such policies. Using a gender-responsive lens yields better and stronger urban mobility policies that benefit all. Ensuring the application of gender-considerations in urban mobility policies as well in specific urban mobility projects, requires the availability of better data on gender and transport in design, implementation, monitoring and evaluation of urban mobility projects.

103. The visibility of and need for gender- and climate responsive urban mobility policies would be raised if they were reflected in the reporting mechanisms under the Paris Agreement (e.g. NDCs) and the 2030 World Agenda on Sustainable Development (e.g. VNRs). Both can serve an important function in setting national commitment on the topic of gender-responsive urban mobility policies and serve as a framework for action on both climate change and sustainable mobility actions.

104. In recent years there has been a rapid growth in hands-on resources that can help policy makers and practitioners transition towards sustainable and low-carbon gender-responsive urban mobility policies. The reference section of this policy brief contains valuable guidance and so do the various dedicated initiatives and tool kits on women and mobility.

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