1

ACCESS FOR ALL SERIES

POLICIES FOR INCLUSIVE TOD

Access and Gender

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POLICIES FOR INCLUSIVE TOD

In many cities and regions around the world, the automobile and its related infrastructure have deepened social divisions between the haves, those who have access to the services and opportunities that cities bring, and the have-nots, those who are excluded from these. Low-income communities tend to live either farther from their jobs and central business districts or in areas that are poorly served by public transportation.

While there is a trend to design urban centers as areas where people live and work, there is a greater need to build more accessible neighborhoods around transit hubs. Transit-oriented development (TOD) provides integrated urban places that bring together people, activities, services, buildings, and public space, but it does not inherently lead to social inclusion and equality and can result in displacement. There is a challenge to ensure that trendy neighborhoods and new developments that concentrate job opportunities and public services such as education, recreation, and health services can benefit all, without discriminating against different demographic groups.

More than two years after countries adopted the Sustainable Development Goals, the Paris Climate Agreement, and the New Urban Agenda, people expect their city governments to respond to and address major issues such as poverty, climate change, and access. This paper series opens a dialogue on how transport affects everyone differently, especially communities that at times are discriminated against or lack access to services.

This series distills common messages of inclusion, equity, and access for everyone who can contribute to finding solutions to climate change while improving quality of life. In this first issue of the series, the Institute for Transportation and Development Policy (ITDP) and the Women's Environment and Development Organization (WEDO) explore how transportation systems have failed to account for diverse mobility patterns and needs among different genders, creating dynamics that widen gender gaps in societies in both high-income and low-income countries. It provides key stakeholders from civil society, subnational authorities, donor organizations, and national governments with a brief overview of the gender aspects of sustainable mobility and a set of recommendations to promote gender-responsive actions.

Source:
ITDP México.

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Cover photo: Rick Elkins

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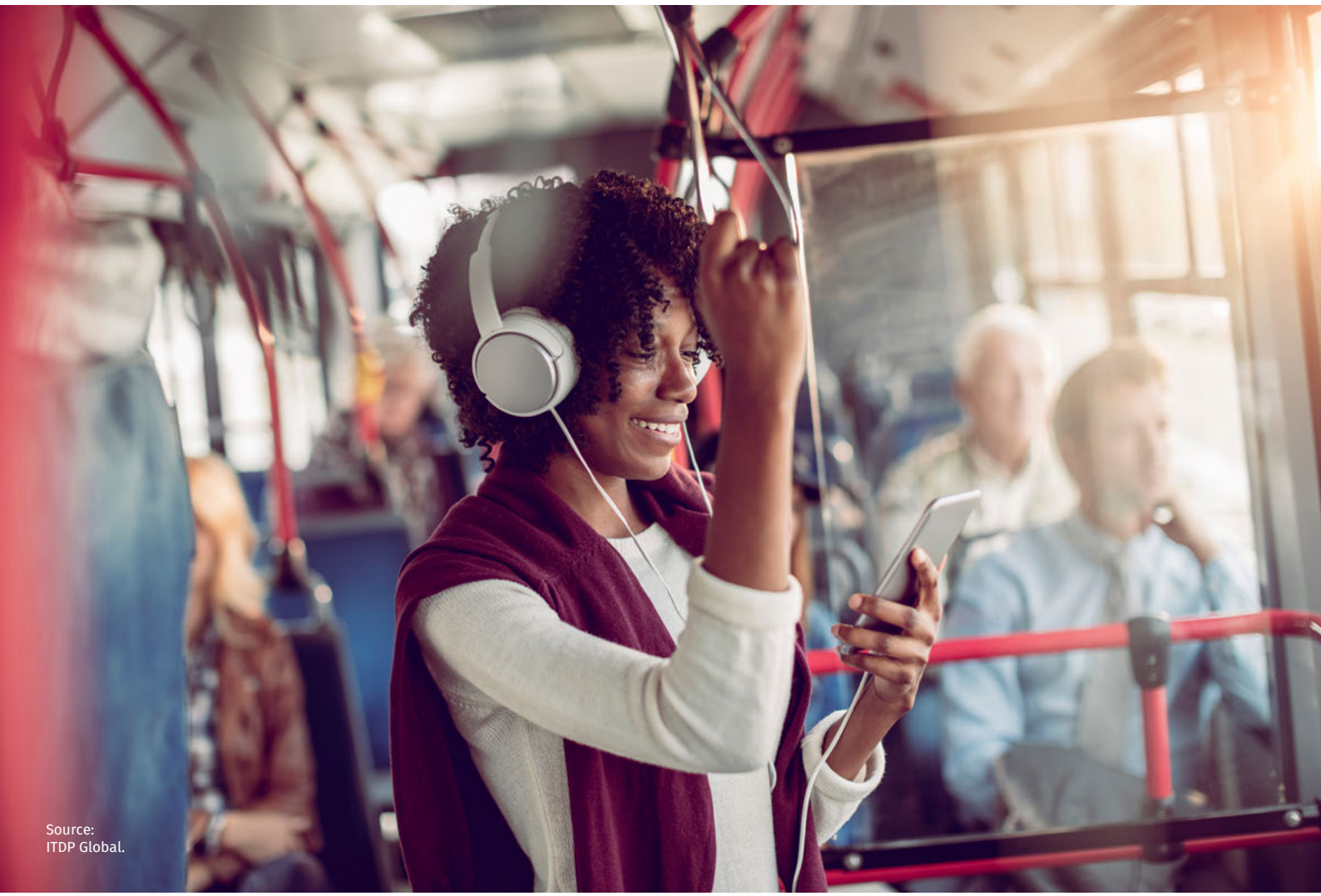
SUSTAINABLE URBAN MOBILITY WITH A GENDER EQUALITY LENS



Source:
ITDP Global.

Sustainable mobility is essentially the connection between people and their lives. It is the efficient movement of people and goods (through improved transportation systems) that seeks to increase access (through improved land use) while minimizing environmental impact. It is how far a person can go within a given time (traditionally known as mobility) while having as many useful and valuable activities as possible accessible (traditionally known as accessibility)[1]. Mobility is a key enabler of social and economic development, either helping people gain access to education, employment, services, and to their community—or hindering it. It is fundamentally how a person experiences a city.

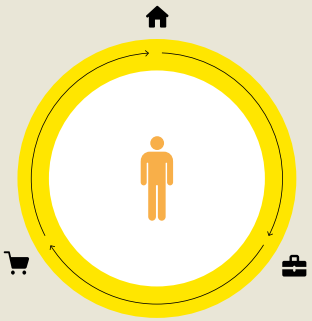
Every person experiences cities differently. These experiences can depend on factors such as accessibility and affordability of transportation, social norms and status, safety considerations, time availability, and urban development patterns, among others. These aspects are profoundly influenced by the level of gender equality.

1 Tom Littman, Evaluation Accessibility for Transport Planning, Victoria: Victoria Transport Policy Institute, 2017. Jarrett Walker, "Transit's Product: Mobility or access?" Human Transit, January 26, 2011, http://humantransit.org/2011/01/transits-product-mobility-or-access.html.

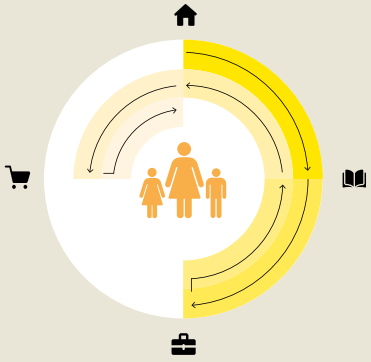
Transportation systems generally reproduce existing power structures in gendered societies. For example, public transit schedules are planned around the formal work economy and prioritize a pendular flow of trips made between peripheral areas and the center. The majority of trips made do not follow the traditional male commute, such as in the United States, where just 16 percent of all trips are for commuting.[2] Additionally, transportation plans often prioritize the movement of cars over other modes, even though that may not be the main way people get around a city. In most cities around the world, the majority of people travel via nonmotorized and public transit over private vehicles. Furthermore, males represent the majority of single-occupancy vehicle ownership and ridership.

Gender is socially determined, based on culture and expectations. It is not unchanging, it is not monolithic, and it is not binary. But gender roles are embedded in institutional practices and therefore in power structures, where men have often dominated, thus normalizing typical male preferences and presenting them as gender neutral. Because traditional structures are more binary and continue to discriminate against women on the whole—failing to meet their needs or recognize their contributions—the paper is framed around experiences of women and men. However, transformational change and sustainable mobility for all requires recognition of male, female, and other genders, along with intersecting identities, such as race, class, ethnicity, and religion, that influence access to rights, resources, and power, and their incorporation into all aspects of urban transportation planning.

Male Mobility Patterns



Female Mobility Patterns



A schematic of typical patterns of mobility by gender, wherein the burden of caretaking responsibilities affects women's mobility needs.
Source: @MonikaWiktoriaM @gemottuab

2 Steven E. Polzin and Alan E. Pisarski, *Commuting in America 2013*, Washington DC: American Association of State Highway and Transportation Officials, January 2015.

Traditional urban development itself also reflects existing norms that are both gendered and carbon-intensive, such as single-use zoning, sprawl, and car-centric planning. Predominant land use and urban form often discount the value of integrated services and uses that allow for better access to activities that support households.
This sprawl and car-centric urban development entrenches high-emissions transport and over-prioritizes a mode that many may not have access to, fostering and embedding inequality.

Gender equality remains elusive worldwide, as evidenced by, for example, the dearth of women in leadership positions (23 percent of parliamentarians worldwide are women)[3], the gender wage gap, and the #MeToo movement. It is further seen in discriminatory laws and policies, women's lack of access to resources and paid work (also known as productive work), and the responsibility for unpaid domestic and care work (also known as reproductive work) being predominantly shouldered by women. Gender inequality in both the productive and reproductive economy has repercussions for mobility.

Systems and frameworks often fail to include non-male perspectives and experiences, and the transport sector is no different. Therefore, taking a gender equality lens to sustainable mobility is necessary. A gender lens means:

- Understanding that patriarchy, power structures, cultural biases, and institutionalized inequalities differently impact each gender (women, men, transgender, gender nonconforming identities), including their mobility.
- Studying how gender norms affect how people use transportation differently.
- Looking at how productive and reproductive work is gendered and how transportation services respond to it (or not).
- Recognizing and challenging the traditionally male-dominated field of transportation and transportation planning.
- Analyzing the impact of certain low-carbon transportation policies to understand how they affect women and men differently.
- Identifying and increasing the visibility of cases of gender-responsive policies, planning, and outcomes so they are well-known as good practices to be adapted, replicated, and scaled up where appropriate in other contexts.

Cities are widely viewed as places of opportunity to improve people's well-being, economic stability, equality, and environmental sustainability, as well as to foster innovation more generally. However, as Lakshmi Puri, former deputy director of UN Women noted, "If gender considerations are not systematically integrated into city design, planning, and governance, the cities and the public spaces become the land of discrimination, exclusion, and violence." [4]

A major aspect of gender and mobility is the issue of safety, particularly for women, and it ties directly to equitable access and use of public space, as well as to access to opportunities for productive and decent work. Gender-based violence and harassment often result in forced immobility and duress when traveling.
This paper will not address the topic of safety in detail because another paper in the series will do so.

3 Nick Robins-Early, "There Are More Women In Parliaments Around The World Than Ever Before," *Huffington Post*, March 8, 2017, https://www.huffingtonpost.com/entry/women-parliament-international-womens-day_us_58c03439e4b0d1078ca30eb3.
4 Gregory Scruggs, "Habitat III seen as important chance to 'engender' city design," *Citiscope*, March 25, 2015, http://citiscope.org/habitatIII/news/2015/03/habitat-iii-seen-important-chance-engender-city-design.

HOW GENDER AND MOBILITY INTERACT

Gendered norms and responsibilities affect women's and men's mobility differently. Broadly speaking, travel patterns and mode choice are different, partly based on gendered roles and responsibilities and partly based on differentials in power and access.

Gender and Work

The productivity of both the care or "dependent" economy and the commercial economy is more sustainable when the gender lens is applied to the transport and urban planning sector. Women still bear much of the burden of reproductive work—that is, the caregiving and domestic work done to support the functioning of the household.[5] This can include childcare, eldercare, shopping, education, health services, and so forth. This results in women taking more, but shorter, trips and practicing "trip chaining." Trip chaining involves making multiple stops along one trip or journey, often related to reproductive work such as getting children to and from school, household tasks like shopping, and caretaking tasks like medical visits with elderly family members or children's after-school activities.[6] As such, women more than men tend to travel with children, the elderly, people with disabilities, or with goods, which can be an additional burden as the infrastructure, from sidewalks to buses, may not easily facilitate that. Often, these trips are during off-peak hours, when service is less frequent and destinations may not be located or integrated to existing transit lines. Women's trips tend to happen consistently throughout the day, during both peak and off-peak times.

Women often travel with goods or packages, making their trips more complicated with more duress like this women struggling to get on to a bus in India with big steps that are hard to navigate. Source: Aimee Gauthier, ITDP

5 "Facts and Figures: Economic Empowerment," UN Women, last updated July 2017, http://www.unwomen.org/en/what-we-do/economic-empowerment/facts-and-figures.
6 Deike Peters, *Gender and Sustainable Urban Mobility,* Nairobi: UNHS, 2011.

Productive work—that is, work done for a wage usually outside the home—is mainly conceived of as formal sector, nine-to-five jobs. Women tend to choose jobs located closer to their homes even if their wages are higher at a further location, to avoid a long commute. Women's productive work tends to be more varied, with women being overrepresented in informal economic activities, service (including domestic service), and part-time jobs. These jobs are not often in the commercial business districts and do not follow schedules that mirror peak transit times. More and more women, however, are entering the formal workforce worldwide, a rising trend that cities will need to address.

Women are more likely to work in the informal sector than the formal sector.
Source: ITPD Africa

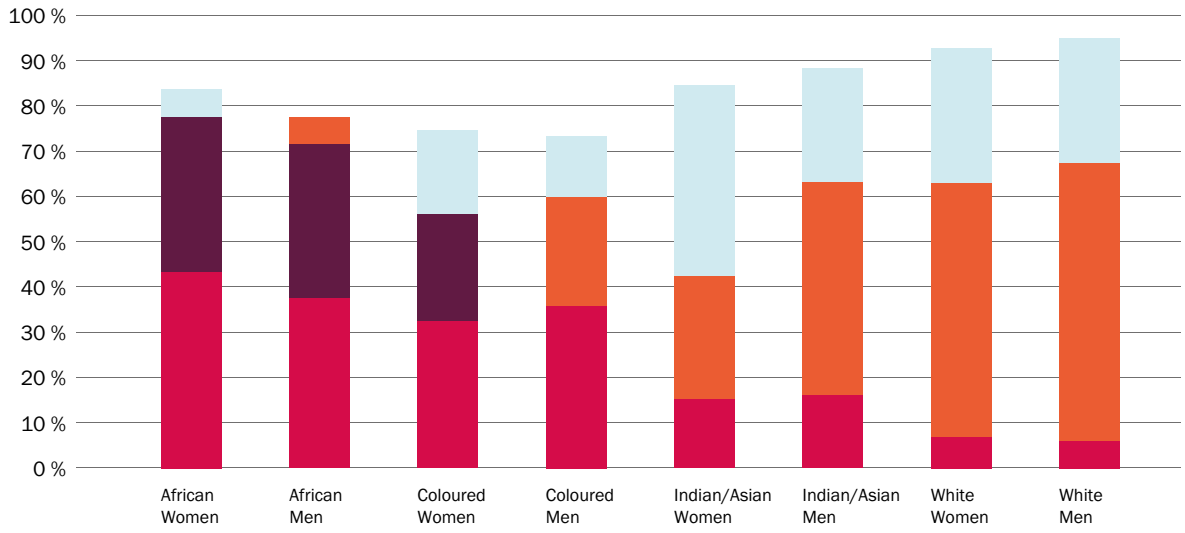
Gender and Transport Modes

In addition to different travel behavior due to different roles and responsibilities, women also use other modes and experience those differently than men, in part due to systemic inequality that leaves them with a lack of access to either assets or money and that prioritizes male travel (times and modes). This lack of choice in transportation mode affects mobility and increases time poverty. Time poverty, for example, can translate into less time for education, especially secondary and tertiary education for girls in lower-income countries, which then limits productive work opportunities.

Typically, women use public transit more than men and are more dependent on it, having less access to private vehicles. Women are particularly more dependent on buses because they are more convenient for shorter trips and have more accessible stops than metro or light rail. Using public transport during off-peak hours takes more time and offers less choice in terms of services and routes that can make trips more arduous, more circuitous, and costlier.[7] Public transport during peak times can be overcrowded, leading to more harassment. Often vehicles are designed for men, with taller steps or high grab bars and with little space for goods or strollerscequired for off-peak travel on public transport is not always feasible, which may push women to use private cars if they have the means to do so. Further, if fare systems are not integrated to allow riders to access multiple modes of transit or free transfers within a time period, the costs of a journey can be higher, as one journey requires multiple trips and payments.

7 Sonal Shah, Kalpana Viswanath, Sonali Vyas, and Shreya Gadepalli, *Women and Transport in Indian Cities*, ITDP and Safetipin: New Delhi, 2017.

Mode Choice Grouped by Race



This data from Johannesburg, South Africa (2006), shows that women from different groups travel differently from each other, with African women having the least access to cars broadly and walking more. White women mode choice is more similar to white men than African women.[8]

Intermediary forms of transport, like rickshaws, allow women to travel with families more easily. Source: Carlos Felipe Pardo, Despacio

 Aimee Gauthier and Mike Kunieda, *Gender and Urban Transport: Smart and Affordable,* Bonn: GTZ, 2007, pg 7.

Good walking environments include accessible crossing of the streets that help strollers, small children, and the elderly to easily cross at level.
Source: Aimee Gauthier, ITDP

Across the board, women tend to walk more, not out of choice, but mainly because they lack access to other options.[9] In lower-income countries, women and girls may walk with heavy loads (including household food, water, fuel) that impact health and well-being. Sidewalks are often used as parking spaces, are poorly maintained, offer little shade, or are unprotected, when they exist at all. While more and more women are cycling, the percentage is still very low, with the main impediments being perceptions of safety, lack of safe infrastructure, lack of access to a bike, and cultural taboos. Women use intermediate modes and local services (like rickshaws, shared taxis, bicycle taxis) more than men, particularly in low-income countries.[10] These forms of transport tend to be more affordable and thus more accessible to women, also allowing them to carry packages and travel with children or with the elderly. These are rarely part of integrated fare systems, adding to cost, especially when they are last-mile options or the safest mode.

"Woman" is not a uniform category or concept. As income levels rise and choices expand, women will adopt different travel behaviors, including more taxis and private car use. In lower-income communities, women often have less access to money and thus men may use public transport more, and women will use lower cost modes, such as nonmotorized or intermediate forms. This is compounded when race, ethnicity, and class factor in as well. Ultimately, women make the most practical choices given their gendered roles and responsibilities, which includes balancing affordability (in both money and time), reliability, and convenience—the same as men. The difference lies in what services and modes are being offered to meet their needs, including reproductive work, and what they can access given their socioeconomic status. Therefore, it is important to track transport usage in a disaggregated way to understand the subtler differences.

Source:
Ana Lucia Jimenez, Flickr, and Macleta.

Case Study: Cycling Education in Santiago

"We are not trips, we are people. We should not forget that the results of transport are fundamentally experienced through the body." —Sofia Lopez, Macleta in Santiago, Chile

The Ministry of Transport and Telecommunications in Santiago discovered that women only comprised 10 percent of cyclists in Santiago.[11] From 2007 to 2012, the ministry created a cycling master plan that quadrupled the number of cycle tracks but failed to attract female riders. Macleta (Women on Bikes), a local NGO in Santiago, discovered that few women knew how to ride or were afraid to use bicycles in the city. To encourage women to bike, Macleta offered two levels of classes: a 'Learn to pedal' course for beginners and a 'Get off the sidewalk' for women who knew how to ride a bicycle, but were uncomfortable with riding around the city. Women and girls now constitute 37 percent of all cyclists in the city.[12]

9 Deike Peters, *Gender and Sustainable Urban Mobility,* Nairobi: UNHS, 2011.
10 Deike Peters, *Gender and Sustainable Urban Mobility,* Nairobi: UNHS, 2011.
11 "Cycling in Santiago," Contact Chile, last updated on August 09, 2014, http://www.contactchile.cl/en/santiago-blog/cycling-insantiago---everything-you-need-to-know!-20140908.
12 Nathan Waintrub, Tomas Rossetti, Ignacio Oliva, Patricia Galilea and Ricardo Hurtubia, *Caracterización socioespacial de los ciclistas urbanos de Santiago,* Intersecciones 2016, II Congreso Interdisciplinario de Investigación en Arquitectura, Diseño, Ciudad y Territorio, Santiago: CEDEUS, Ediciones ARQ, 2016

Gender and Urban Development

Local development patterns and policies are key determinants of sustainable urban mobility, or of how easily a person can access key productive and reproductive destinations through low-emitting transport options. Successfully moving oneself for remunerated work, medical and other appointments, household shopping or leisure activities, whether necessary or desired is often dictated by local zoning regulations or existing land uses. When neighborhoods lack basic household or care services, it typically falls on women to travel to reach those activities and hinders sharing of reproductive work more equally. Because they need to balance their reproductive and productive responsibilities, women are more sensitive to long-distance trips for remunerative opportunities, often forgoing an opportunity for decent work if the trip is too long. For example, when residents were displaced in Delhi from an existing informal settlement to the periphery, employment fell by 27 percent for women (as compared to 5 percent for men) because travel time increased threefold.[13] Sprawl, single-use zoning, and suburban development, with an assumption of the car as the dominant mode of travel, all reinforce gender relations and travel patterns.[14]

Having shops and services nearby makes it easier for women and girls to make trips via walking and cycling. Source: Aimee Gauthier, ITDP.

Source: ITDP Brazil.

Case Study: Women's Access to Services in Recife's Metropolitan Area

Through focus groups and workshops that ITDP Brazil conducted in 2017, women from low-income and peripheral areas of Recife's metropolitan area described how a lack of multiple transport modes available in their neighborhoods exposes them to urban and gender violence, as well as decreases their access to a mix of services and activities, such as jobs, schools, child care, health care, markets, recreation and public spaces. In a city where over 65 percent of women depend on public transport or walking to reach school or work, only 23 percent of its total population lives near transit. For women interested in biking to work or to complete other activities, Recife's cycling routes pose limited options because only 19 percent of public transport stations, 15 percent of public daycares and 11 percent of health centers are located within 300 meters of the city's bike network. Due to a lack of integrated urban mobility and land use policies and absence of the developed areas outside the central business district, women in Recife travel farther, spend more money, and lose time to fulfill their caretaker responsibilities.[15]

13 Geetam Tiwari, *Planning and Designing Transport Systems to Ensure Safe Travel for Women,* Paris: International Transport Forum, 2014.
14 Deike Peters, *Gender and Sustainable Urban Mobility,* Nairobi: UNHS, 2011, 23.
15 Leticia Bortolon, *O Acesso de Mulheres e Crianças à Cidade,* Rio de Janeiro: ITDP Brazil, 2018.

Gender and Employment in the Transport Sector

Although the gender gap in the transport sector is no secret, women's ideas and needs continue to be left out of the planning and policy process. When women are not represented in leadership or on staff, they have little to no role in the planning process and less access to decision-making. For example, women account for only 17.5 percent of the workforce in the urban public transport sector in Europe.[16] Additionally, women are underrepresented in leadership positions within those occupations. In the United States, only three of the eighteen national transportation secretaries have been women.

As the world transitions to sustainable mobility, reflecting the push for a "just and equitable transition" to a nonfossil-fueled economy, the transport sector will need to transition workers to the new economy. The transition often considers those moving out of carbon-intensive positions, but a just and equitable transition will also ensure entry points for new workers, including women, indigenous peoples, persons of color, LGBTQI, persons with disabilities, and others as it expands decent work and diversity, including in the transportation sector.

Women work in the transport sector, including drivers like this woman for the MBTA system in Boston, Massachusetts. Source: Aimee Gauthier, ITDP.

Women should be included in the planning and implementation process to make public transport safer, such as this gender audit workshop held by ITDP Indonesia, UN Women and Transjakarta during Safe Bus Journey in December 2017. Source: ITDP Indonesia.

16 Magdalena Olczak, "Women in transport," International Transport Forum, June 12, 2015, http://2015.internationaltransportforum.org/women-transport.

CLIMATE CHANGE AS A DISRUPTER

Transportation is the fastest growing source of carbon dioxide (CO2) in the world. According to the International Energy Agency, greenhouse gas emissions from transportation are expected to increase by 120 percent from 2000 to 2050, largely as a result of a projected threefold increase in the number of cars worldwide.[17] As of 2010, 14 percent of global greenhouse emissions came from the transport sector.[18] A crucial aspect of sustainable mobility is addressing climate change, pollution, and environmental degradation by reducing transportation emissions. While there is a general recognition of this, the trajectory on the ground is still headed the wrong way, with transport ". . . contributing to gross inequalities in access to economic and social opportunities, rising numbers of deaths resulting from transport-related accidents, intensive fossil fuel use, massive emissions of greenhouse gases, as well as air and noise pollution."[19]

Extreme weather events, like the intense rain that Chennai, India, faced in 2015, receiving 41 inches of rain in the month of November and causing unprecedented flooding, are becoming more common.
Source: Shreya Gadepalli, ITDP India

Climate change is a disrupter, not only because addressing it demands extensive changes in transport systems and urban development patterns worldwide, but because it will force the global community to address inequalities, as it will exacerbate and magnify them. Without measures to address the injustice of climate change and its impacts, those with the fewest resources, countries and individuals alike, will be most susceptible to its negative effects; and those in positions of wealth and power will be the first to benefit from transitions in the economy toward a low carbon society. Already, the UN estimates that 80 percent of the people displaced by climate change are women.[20]

Cities and transportation will be affected by more severe and intense climate-related disasters that often directly impact transportation systems and therefore mobility. This is already happening, as seen in the record heat and intense flooding that has hit cities from Karachi to Chennai to Houston. These types of disasters result in shutting down mobility systems and disrupting livelihoods. After Hurricane Sandy in the United States, many low-income or single mothers lost their income, because they were unable to travel to work while also maintaining their care responsibilities. Others forced to work to save their jobs faced hardship: "Ms. Sainvilus estimated that on Thursday, she had traveled eight hours to work for five, making her effective pay less than $4 an hour," in the aftermath of Hurricane Sandy.[21]

17 Lew Fulton, *Transport, Energy and CO2: Moving Toward Sustainability,* Paris: International Energy Agency, 2009.
18 "Global Greenhouse Gas Emissions Data," U.S. Environmental Protection Agency, last updated April 13, 2017, https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data.
19 Mahmoud Mohieldin and Nancy Vandycke, "Sustainable Mobility for the 21st Century," *World Bank,* July 10, 2017, http://www.worldbank.org/en/news/feature/2017/07/10/sustainable-mobility-for-the-21st-century.
20 Christina Haigh and Bernadette Vallely, *Gender and the Climate Change Agenda,* London: Women's Environmental Network, 2010.
21 Julie Turkewitz, "Unemployment Deepens Storm's Loss as Businesses Stay Closed," *New York Times,* December 27, 2012, https://www.nytimes.com/2012/12/28/nyregion/unemployment-deepens-the-loss-from-hurricane-sandy.html.

Emissions and pollution from transportation are already impacting health, but changing disease vectors due to climate change will also bring new illnesses that demand reproductive care. Studies have concluded that high levels of air pollution from traffic fumes create a greater risk for infertility in women;[22] children are likely to be more severely impacted by higher levels of air pollution in cities, and those who develop asthma will require higher levels of care from their parents, often taking the mother away from her productive activities.[23] Studies show that climate-related illnesses are leading to an increase of an hour per day on care by women in informal settlements in Delhi and Dhaka.[24]

Addressing the complexities of inclusive climate-responsive transport requires diversity in the decision-making process, especially as the burden of care falls to women. Women and women's rights and gender equality organizations across the world are already developing and implementing mitigation actions and local solutions to climate change impacts. These efforts to transition to safe, appropriate renewable energy should be assessed to understand their positive impacts on sustainable mobility. Some examples, including women's energy cooperatives and use of waste cooking oil for biodiesel, can be seen in an annual publication of Gender Just Climate Solutions.[25]

Source:
Carlos Felipe Pardo,
Despacio

Case Study: Incorporating Gender into Bogotá's Bus Rapid Transit System

Through a gender lens, transport agencies can apply a more holistic approach to climate-responsive transportation planning and integrate different genders' mobility needs, such as accessibility and employment. Bogotá's bus rapid transit (BRT) system, established in 2000, has reduced emissions by over 1.6 million tons from 2001 to 2008 by providing an alternative mode to private cars and minibuses.[26] Although TransMilenio did not initially have a gender-sensitive component, it eventually evolved to include women's perspectives. To attract new riders, attention was given to gender differentiations, including designating seats for women and children and having separate entry doors for pregnant women and other vulnerable riders. This helped bring more riders to the use the system. This initiative also created direct and indirect job opportunities. To provide a better gender balance in the workforce the system prioritized employment of different groups, including single mothers. As a result, women now make up 24 percent of the workforce.

Similar to other mass transit systems, TransMilenio struggles to address women's safety. Particularly during peak hours when buses are overcrowded, women face increased levels of harassment. Studies show that in Latin American cities, about six in every 10 women are physically harassed, in which Reuters in 2014 ranked Bogota as the most unsafe public transport, specifically for women walking home from the bus at night.[27]

22 Lisa Rapaport, "Air pollution and traffic fumes tied to infertility risk," *Reuters* January 15, 2016, https://www.reuters.com/article/us-health-fertility-airpollution-idUSKCN0UT2MF.
23 Sarah Milner-Barry, "Gender, Climate Change, and Urban Environmental Sustainability in the Developed World," Unpublished. Prepared for The New School and WEDO, 2016.
24 Ammar A. Malik and Jared Stolove, "In South Asian slums, women face the consequences of climate change," *Urban Wire,* August 22, 2017, https://www.urban.org/urban-wire/south-asian-slums-women-face-consequences-climate-change.
25 *Gender Just Climate Solutions, 3rd edition,* New York: Women and Gender Constituency, 2017.
26 Nathalie Eddy, Rachel Harris and Gail Karlsson, *Financing Mitigation: Exposing Gender Gaps in Financing Climate Change Mitigation* – and Proposing Solutions, New York: WEDO, 2013.
27 Reuters Staff, "Exclusive Poll: Latin American cities have most dangerous transport for women, NYC best," *Reuters*, October 28, 2014, https://uk.reuters.com/article/women-poll/exclusive-poll-latin-american-cities-have-most-dangerous-transport-for-women-nyc-best-idUKL6N0S32MQ20141029.

WHAT CAN BE DONE: FIVE KEY RECOMMENDATIONS

To redress the gender imbalances in cities, their urban form, and transportation systems and to ensure respect for human rights, there are five key steps to take:

1. **Incorporate** women, women's human rights, and gender considerations **into the planning processes and policy frameworks**
2. **Design complete streets** that are safe for all users, beginning first and foremost with good walking environments, but also for facilitating cycling, intermediate modes, and public transport, which is also green and climate resilient
3. **Develop complete communities** by ensuring land use and transport are well integrated and deliver a mix of activities and services at the neighborhood level
4. **Provide inclusive transport services and vehicles** that meet varied trip patterns and needs beyond the commute
5. **Enable progress with funding, education, and outreach** to achieve inclusive sustainable mobility

When applying a gender lens to urban transportation and planning, it is not only women that benefit, but everyone does. A gender lens strengthens both the economy of the individual household as well as the productivity of the broader economy. It also helps everyone move more easily and complete more effective trips throughout the day. But most of all, a gender lens recognizes the needs and experiences of 50 percent of the population as equal, facilitates equitable decision-making, and enables a much needed change in the quest for gender equality.

For more information on these high-level recommendations, below is a breakdown of each with some key actions to take.

Source:
ITDP Mexico

RECOMMENDATIONS IN DETAIL

Key words: data, definitions, targets, participation, leadership, policy frameworks, rights

Recommendation 1
Incorporate women, women's human rights, and gender considerations into the planning processes and policy frameworks

- Make sure to **define** the public to include women.
  When defining the problem to solve for transportation systems, be sure to reflect the diversity of users and their contributions, rights, and needs (both economic and noneconomic). This means defining the public to explicitly include women and their travel patterns, especially for reproductive work and the mobility of care. Beyond gender, women from different income levels, housing situations, employment levels, and races should be included to reflect their diverse perspectives and needs.

- Collect **data** disaggregated by gender.
  This should include ensuring that women are adequately represented and included in data collection efforts—from household surveys (i.e., not just have responses from the typically male heads of households) to time-use diaries to focus groups to understand latent demand. Gender disaggregated data can include people near transit (PNT), mode shares, median trip time, cost of transport per month, or percentage of jobs or services that are accessible within a fifteen-minute walk. Disaggregating gender by income, class, and ethnicity, among others, is also critical to understanding the differences experienced by women.

- Set goals and **targets** for meeting transportation needs of women.
  What is measured is managed, monitored, and reevaluated. Setting explicit targets for meeting the needs of women will help understand the progress being made and help evaluate impact. For example, to measure how a city can create safe and comfortable walking environments for women and girls, outcomes indicators can include median block length, level of perception of safety and comfort, percentage of street network with lighting for footpaths and cycling paths, and others.

In London, women make up over 51 percent of the population and use public transport more than men. Source: Transport for London, Flickr.

- Ensure women **participate** meaningfully in an inclusive planning process. This can begin with an intersectional approach, through regular outreach to women's organizations and more specific groups, such as women of minority groups or low-income communities. Conducting gender audits and focus groups can illuminate different problems that women face, help define which challenges to address, and help develop innovative solutions. To avoid tokenization, planners and policy makers should give women roles in planning and execution, instead of just consulting them on the process. Support women to participate by providing childcare during planning meetings, going to where they are (i.e., markets), having meetings at different times of day, etc. This may also include financial support.

- Cultivate women in **staff and leadership** roles within the transportation sector. Support advancement and retention of women in transportation fields (planning, manufacturing, operations, management) by recruiting them in schools and universities for transportation careers and mentoring them. Set targets for diversity in hiring, including on boards.

- Ensure **policy frameworks,** especially climate change plans and policies, incorporate transportation and include women and other gender perspectives from the beginning.
  Make working linkages between energy, transport, and economic development departments to reach climate change goals. Create local resiliency and adaptation plans that include transportation planning for disaster mitigation strategies and understand the transportation differences by gender. Draw from the Sustainable Development Goals on gender (#5) and cities (#11). Ensure women's participation in developing these frameworks and the decision-making process by providing women and women's organizations with financial and other resources, and by incorporating their leadership at all institutional levels.

Case Study: Gender Mainstreaming Policies in London

In London, women make up over 51 percent of the population and use public transport more than men. Similar to men, women use public transport for their commutes to work, but they also use it to fulfill caretaker responsibilities. Studies show that women felt particularly vulnerable walking to/from subway and bus stops.[28] Transport for London (TfL) introduced gender mainstreaming policies by consulting with over 140 women's groups across London and creating a comprehensive action plan that addresses five key categories: accessibility, safety and security, affordability, information, and employment.[29] To address employment in the transport sector, "Action on Equality" (2016–2020) promotes increased access to transport services for women and equal employment opportunities. Initiatives like the Single Equality scheme (2012–2015), for example, included accessible bus stops, clearer maps, real-time information on buses, and equal employment opportunities. Other initiatives under this action plan are safer streets for pedestrians and cyclists, faster customer service, improved lighting around bus stops, and priority seating.[30]

28 Angelica Hibbett and Nigel Meager, "Key indicators of women's position in Britain," *Economic & Labour Market Review,* October 2003: 503–511.
29 Susan Herbel and Danena Gaines, "Women's Issues in Transportation - Summary of the 4th International Conference," *Volume 1: Conference Overview and Plenary Papers.* Irvine, California: Transportation Research Board of The National Academies, 2009. 112–113.
30 Sonal Shah, Kalpana Viswanath, Sonali Vyas, and Shreya Gadepalli, *Women and Transport in Indian Cities*, ITDP and Safetipin: New Delhi, 2017, 28.

Key words: walking, cycling, intermediate, public transport

Recommendation 2

Design complete streets that are safe for all users, beginning first and foremost with good walking environments, but also for facilitating cycling, intermediate modes, and public transport

- Create a complete network for **walking** that includes unobstructed, sufficiently wide, safe sidewalks that are accessible by all users and connected by safe, wide, all-accessible crosswalks.
  Good walking environments include short block lengths with walking and cycling connections prioritized over motor vehicles; visually active and physically permeable frontages that help bring activity to the street at different times of the day, making it more inviting and safer from crime because of informal observation; shade, seating, garbage bins, lighting, and public toilets are all important design features of a good walking environment. Direct, at-grade connections should be the norm, not underpasses and footbridges. Particularly for caretakers, children, the elderly, or people with disabilities, footbridges and overpasses are difficult to access and cross, as well as not being as safe.

- Create a complete network of **cycle routes,** including protected bikeways and slow-speed, shared streets.
  Good wayfinding and clear demarcations of cycling spaces is important. On shared streets, traffic calming measures are recommended to help enforce slow speeds. Bike boxes or indications of cycling space in intersections remind drivers to expect cyclists. Safe and secure cycle parking needs to be readily available at transit stations and stops, as well as at and in buildings.

- Support **intermediate modes** of transport service.
  Intermediate modes of transport range from bicycle taxis to cycle and auto rickshaws to shared taxis to on-demand taxis to vanpools. Some are privately operated and some are employer organized. Have good information that integrates with the rest of the transportation system. Include spaces for drop-off and pickup that are well lit and that provide shelter. Clear and consistent fare policies also benefit women, who may face discrimination in negotiating fares. Sensitize drivers to the issues affecting women.

- Ensure that frequent, high-quality **public transport** is within walking distance of almost all residences.
  Public transport should be well integrated throughout a city and be accessible to almost all in the city—a comprehensive network that connects the entire city. Public transport should also have well-lit, universally accessible stops and stations, with information and communication at each stop. Public toilets should be available at major interchanges. Driver and conductor sensitization can make public transport easier for women to use.

Source: Enrique Abé, Secretaría de Medio Ambiente de la Ciudad de México.

Case Study: Cycling Infrastructure and Programs in Mexico City

In Mexico City, the introduction of dedicated bike lanes in 2006 and a public bikeshare program, ECOBICI, in 2010 increased the number bike trips throughout the city.[31] In 2010, over 80 percent of Mexico City's cyclists were male and less than 20% were female. Today, female ridership increased to 38% and now about four out of 10 of ECOBICI cyclists are women.[32] A report from the Ministry of Environment shows that 87 percent of total trips made on ECOBICI are also combined with other modes of transport, such as the bus.

31 *Conteo 2011: Ciclocia Paseo de la Reforma,* Mexico City: ITDP Mexico, 2011.
32 Ruth Perez Lopez, *Encuesta ECOBICI 2014,* Mexico City: Secretaria del Medio Ambiente del Distrito Federal and Centro de Estudios Mexicanos y Centroamericanos, 2015.

Key words: mixed uses, local services, connected, parking reduction

Recommendation 3
Develop complete communities by ensuring land use and transport are well integrated and deliver a mix of activities at the neighborhood level

- Encourage a **mix of uses and activities** that allows women to access local services and employment opportunities near their residences.
  Mixed-use zoning should be the norm that allows a multiplicity of uses, activities, and services in a neighborhood, including schools, health services, childcare, open space, and grocery stores. This reduces the distance that women have to travel for the reproductive work of the household. Many more activities can be reached by short trips such as with walking, which would benefit women who lack access to money or vehicles, and generally improve health in the community.

- Encourage transit stops and stations to co-locate **local services**, like childcare, health services, fitness centers, grocery stores, and markets.
  Using transit stops and stations to bring local services in proximity to the transit system can help ease the burden of reproductive work and the time or distance needs of trip chaining. It also facilitates redistribution of reproductive work among women and men. Transit-oriented development or station area planning can help deliver this.

- **Connect** people to activities through a dense network of streets and paths.
  A compact network of streets and paths with short blocks allows for more direct walking and cycling routes. A more permeable urban fabric can help link people to activities in a short and direct way.

- **Reduce parking requirements** in buildings so that more developable land can be used for people-oriented activities.
  When space is required in the building code for parking, it removes that space for other productive or reproductive activities. By reducing the by-law requirements for parking, that space can be reclaimed for more valuable uses, while also reducing emissions from car use.

Source: Construction and Technology Group for Urban Planning, City of Vienna

Case Study: Mixed Uses and Activities in Vienna

Vienna created an apartment complex pilot that was for and designed by women. It included a series of apartment buildings with courtyards, on-site kindergarten, pharmacy, and doctors' offices. It was also in close proximity to public transit to facilitate running errands and getting to school/work.[33]

Vienna instituted gender mainstreaming policies into its urban planning, and since 1993 over sixty urban projects have been completed and designed with women in mind.[34] Vienna now has improved street lighting, parks more accessible for girls, widened pavements, and new social housing and neighborhood structures to fit the needs of women.

Within these sixty projects, more than a kilometer of pavement has been widened to improve walkability for women, such as female caretakers with strollers, and there are twenty-six new street lighting projects. Also the above "Women-Work-City" pilot led to gender analysis requirements for all bids for city social housing contracts.

33 Clare Foran, "How to Design a City for Women," *Citylab*, September 16, 2013, https://www.citylab.com/transportation/2013/09/how-design-city-women/6739/.
34 Odette Chalaby, "How Vienna designed a city for Women," *Apolitical*, August 23, 2017, https://apolitical.co/solution_article/vienna-designed-city-women/.

Key words: frequent, reliable, convenient, service, fare policies, integrated, bus, bike, pricing

Recommendation 4

Provide inclusive transport services and vehicles that meet varied trip patterns and needs beyond the commutet

- Plan **reliable, convenient, and frequent service** all day, not just during peak hours. Women travel more frequently off-peak, so having reliable and convenient service that helps them meet their reproductive and productive responsibilities is critical. Service standards should not just be developed for peak times, when the system is the most stressed. By providing better service, overcrowding at stations and in vehicles can be avoided. Allow flexibility in service as appropriate, such as flexible stopping at night to bridge the distance women have to walk by themselves.

- Develop **fare policies** that allow for trip chaining and multi-stop journeys more easily. By having a fare policy that allows for a free transfer or a time window so that a person can stop along the route to do an additional activity, a person can combine reproductive activities and productive trips more easily. Daily or weekly passes facilitate multiple stops in trip chaining.

- Improve trip planning with better and **integrated** information and **integrated** fare media. Reduce the costs of travel through integration of information and fare media so that women can better plan their trips and not have to pay multiple times with multiple means as they trip chain for their reproductive responsibilities. With real-time information, women can better plan their trips, reducing the waiting time and hopefully alleviating some of women's time poverty. This also helps with safety concerns women face when using public transport.

- Make sure vehicles, such as **buses and bikes**, are designed with all users in mind. People with strollers, walking assisted tools, and wheelchairs should all be able to easily access buses and rail cars, as well as stations. Steps should be designed for shorter leg spans to ensure easy access. Inside buses and cars, having lower grab bars or straps allows women and children to hold on more easily. Providing space for strollers or goods inside the vehicle is also important in vehicle design. To address women's safety, cameras or emergency call buttons can be installed at public transport stations, inside trains and buses, and along sidewalks, but they may not provide as much deterrence as having staffed stations. Finally, for women to cycle more, bikes will need to be designed with greater carrying capacity, whether it be children or groceries. Since bike share systems are a way for women to gain access to bikes, these systems may want to consider this for future bike design.

In Santiago, fare integration allows up to two transfers in a two-hour period without additional payments.
Source: Aimee Gauthier, ITDP.

- Appropriately **price** car use in order to decongest streets and make space for other modes.
  As income levels rise and choices expand, women will adopt different travel behaviors, such as increased private car use and taxi ridership. Women, however, often lack access to these modes, and tend to use other modes first. Pricing private car use can benefit other modes that women may depend on as a priority over the car and give space to those modes as well. Pricing the use of private cars can include congestion charging, on-street parking fees, and low-emission zones. The revenue from this should be used to ensure that public transport can be competitive with the convenience of solo driving, including the complex trips currently not served by the transportation system.

- Promote **intermodality**, facilitating the use of different modes to accommodate or trip chaining.
  Giving people the flexibility to use multiple modes of transport to complete their trips promotes efficiency and economic development. Integrating fares, providing information for connections and waiting times, planning for integration with service design, and the physical location of complementary services are key to achieving intermodality. Public bike share programs as well as locating other services such as rickshaws can accommodate trip chaining and help fill the last-mile gap.

Case Study: Fare Policies

One way to support the need for trip-chaining is through a fare policy that has a time window for travel, allowing passengers to make multiple stops along their journey. In Santiago, there is an integrated fare policy that includes all public transport modes in the city, which includes all buses, metro lines and suburban rail. Currently, an average of 5.2 million journeys are made across all public transport modes during the work week, which represent 45.8% of motorized journeys in the city. Integrated fare across all modes in public transit are made possible through Bip!, a contactless smart card. Fare integration allows up to two transfers in a two-hour period without additional payments, or reimbursing a small difference if the connection is made with a higher fare system.[35] In Seattle with the Orca card, each passenger has a two-hour window for unlimited transfers. The Oyster card in London gives passengers a 70 to 315 minute maximum travel window depending on which zones they are traveling to and from. Within this time limit, the second trip is free. London also offers the hopper fare policy, which is a one-hour bus and tram ticket, enabling passengers to use two or more different buses within a 60 minute time frame without having to pay a separate fare each time.[36]

35 Directorio de Transporte Público Metropolitano (Metropolitan Public Transport Board), *Informe de gestión 2017 (Management report 2017),* Santiago: Ministry of Transport and Telecommunications, 2018.
36 "Hopper Fare," Transport for London, https://tfl.gov.uk/campaign/hopper-fare.

Key words: well-funded, education, outreach, awareness raising

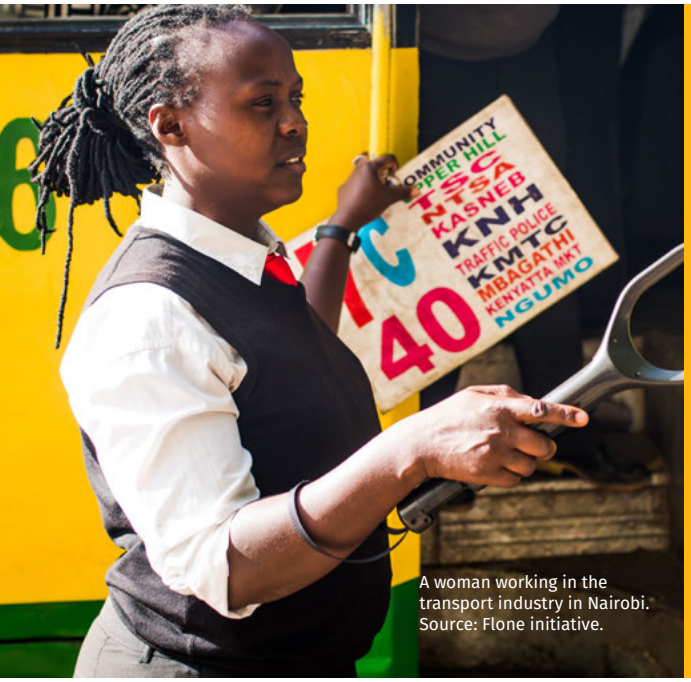
Recommendation 5
Enable progress with funding, education, and outreach to achieve inclusive sustainable mobility

- Ensure all these activities are **well-funded,** including inclusive planning practices, gender disaggregated data collection, and gender-responsive infrastructure, like sidewalks, as well as its maintenance.
  Unless these activities or projects are in the budget, they will never happen. Similarly, if disaggregated data collection is not required from public and private operators alike (bike share companies, bus operators, taxis, etc.), then proposing changes in policy will be more difficult. Data is needed to build evidence for what works and what does not. Collection and analysis it is key to include in the budget the support of sustainable transport such as sidewalks, cycling infrastructure, and public transport.

- Develop outreach and **awareness raising activities** that encourage women to cycle or use public transport.
  Car-free days allow safe spaces for cycling and encourage more people to start cycling. Bike riding and repair classes have also proved to be good ways to get women cycling.

- Employ diverse methods of **education and outreach** within government agencies to enable a transformation of gender and transport planning norms.
  Building awareness within transport agencies and departments about using a gender lens for understanding urban mobility will be critical to ensuring that this ultimately gets mainstreamed.

- Design **education and outreach** to support shared use of space and zero tolerance for gender-based violence and harassment.
  Planning and building inclusive spaces can only accomplish so much for gender equality, and raising awareness of all people using those spaces and services will also need to happen. For example, gender-based violence and harassment underscores women's experiences across all modes and services. Therefore, proactive campaigns, awareness raising, and mechanisms for reporting abuse need to occur concurrently for long-term sustained change for women.



A woman working in the transport industry in Nairobi. Source: Flone initiative.

Case Study: Gender Sensitization Trainings in Kenya

The Flone Initiative in Kenya is a nonprofit in Kiambu that focuses on ending violence against women and girls in public spaces. In response to increased cases of sexual harassment in public transport, Flone created "Usalama wa Uma," a public safety certificate program that provides gender sensitization trainings, as well as personal and professional development workshops for public transport providers and operators.
As of March 2018, 554 public transport operators in Nyeri, Githurai, Bungoma, Mombasa, Nairobi, Kisumu, Kayole, Embakasi and Nakuru completed the program. Flone also developed the "Report It, Stop It" program, an online crowd mapping platform to track areas with high incidents of sexual harassment and violence. This platform is then utilized to develop intervention activities and create target areas for Usalama wa Uma.[37]

37 "Who we Are," Flone Initiative, http://floneinitiative.org/#services.

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