Approaches for Gender Responsive Urban Mobility

Module 7a
Sustainable Transport: A Sourcebook for Policy-makers in Developing Cities

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Preface

Cities grow rapidly: Since 2000, there are more people living in urban areas than in rural ones. Ninety-five percent of all urbanization is expected to occur in cities in developing countries and this is where the majority of cities with populations over 10 million will be. (UN Habitat 2016) Transportation systems make cities function and provide access to goods and services. As cities grow so does demand for transport. In 2050, there may be three to four times as many passenger-kilometers travelled as in the year 2000 (UN Habitat 2012). A lot of this growth is happening in the form of slums, or in conditions of poverty – and the majority of the urban poor are women.

While the impacts of urban growth are well documented, the impacts of this growth on men and women are not, and there is still no systematic inclusion of women's needs in transport projects. Transport is often seen as gender neutral – a road or bus system will benefit all equally. In fact, it´s not! Women and men have different expectations, needs and constraints for using transport. Without taking this into consideration, planning and projects do not adequately meet this demand, and transport is not efficient and is unsustainable.

In 2017, the debate about sexual harassment of women has caused an international outcry and led to increasing public attention for the restrictions of mobility women face in their daily movements in the city. It has given momentum to long overdue debate in transport policy, planning and operation. While the differences between how men and women use transport are widely known and acknowledged, approaches on how to address them are just recently being discussed, researched, tested and implemented- and it has given momentum to a discussion long overdue in transport policy, planning and operation.

This sourcebook has also been developed to look at where gender and urban transport intersect, seeing the concept of gender as a transversal topic that is relevant in all phases of planning, design and implementation and one that needs to be urgently addressed. It examines transport systems around the world to establish what is important for transport users in general and how gender affects the ways users view and experience transport.

To date much of the current work on gender and transportation in developing countries has focused mostly on rural transport and there is a lack of analysis of gender responsive transport planning and projects in urban areas. This module aims to bridge that void and bring together current best practices.

Box 1: Definition of the use of the term gender in this report.[1]

Gender is defined as social, cultural and economic constructs, norms and expectations based on binary biological characteristics, male and female. Women often get equated with gender. For the sake of this report, other gender(s) and their access to mobility/transport will not be explored, such as transgenders or intersex.

Gender equity means that men and women are able to enjoy the same conditions and opportunities to exercise their rights and achieve their social, economic, political and cultural potentials. It differs from **gender equality**, which only means that the same opportunities are there, but does not include if they can be accessed.

Gender mainstreaming is the process of assessing the implications for women and men of any planned action, including legislation, policies or programs, in all areas and at all levels. It is a strategy for making women's, as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programs in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated.

Gender responsive planning is a differentiated planning culture that considers the gender-,age-,and group-specific interests.

Gender integration means taking into account both the differences and the inequalities between male and female in program planning, implementation, and evaluation. This should contribute not only to more effective development programs but also to greater social equity.

A Gender Action Plan (GAP) is based on sex-disaggregated data and detailed gender and social analyses, which identify key gender inequalities and constraints that a project will aim to improve. It should have clear targets and include specific features and activities that will help to achieve them within a defined time frame (e.g. timelines, authorities responsible and budget allocations).

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[1] Please see Chant (2016), Damyanovic, Reinwald & Weikmann (2013) and Reeves & Baden (2000) for further details and reading.

1. How to use this book

Taking into account the specific needs of women in transport has broad impact on cities, their economy and people. Many of the issues addressed here do not benefit women only, but affect other population groups as well, especially when they are vulnerable in some way.

Even though the specifics differ due to local situation - and this always has to be kept in mind–there are some obstacles that women face regardless the region or cultural background, especially in developing countries. Good practices from all over the world have been evolved. They can serve as an inspiration and might be partly transferable.

The chapters of this sourcebook module focus on different aspects of women in urban transport and gender responsive planning.

Structure of the sourcebook

Introduction/background	Concrete steps of gender responsive planning
Introduction (Chapter 1)	Assessing gender in urban transport (Chapter 4)
Gender policy framework (Chapter 2)	Good practice examples (Chapter 6)
Challenges (Chapter 3)	Conclusions (Chapter 7)
	Designing gender responsive solutions (Chapter 5)
	Implementation (Chapter 8)
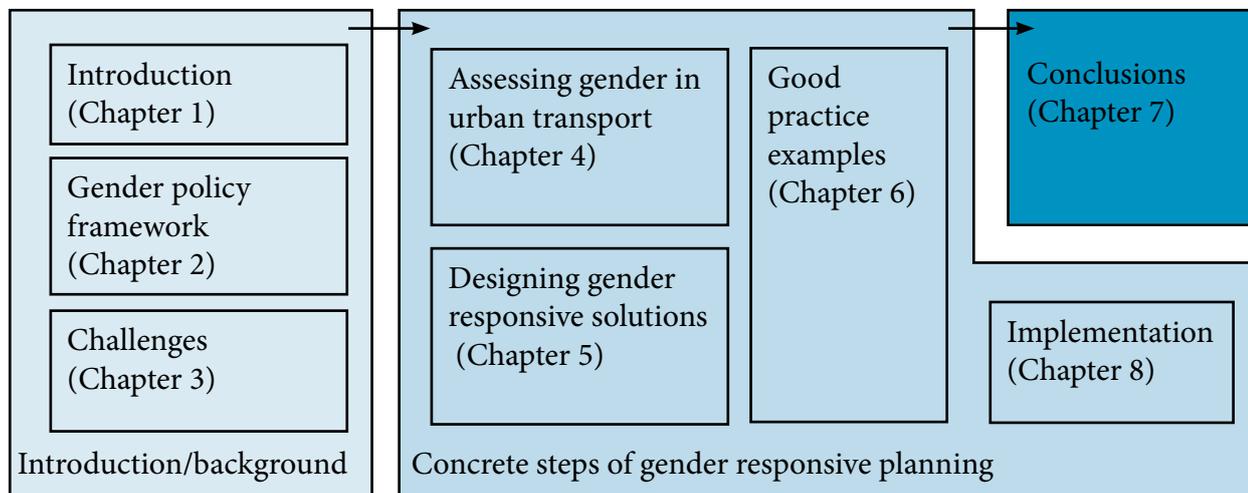
Figure 1: Structure of this Sourcebook.

Following this orientation chapter, the chapter 2 summarizes the current international gender policy framework.

In chapter 3, the challenges for women with respect to urban transport that have been summarized in the table before will be elaborated more in detail, namely the connection between gender and poverty, the impact on travel patterns, safety and security concerns, specific requirements for public transport, access to private vehicles, and the role of urban design and land use.

Chapters 4 and 5 provide concrete tools and recommendations regarding assessment and implementation and possible solutions, and are followed by a selection of good practices in chapter 6.

After the conclusion in chapter 7, the final chapter (8) provides concrete recommendations on implementation. This is mainly directed at planning departments, mayors, and other stakeholders involved (or to be involved) in gender responsive transport planning. Recommendations on further reading can be found in the appendix.

The table below identifies main problems for women with respect to mobility and suggests exemplary approaches, which will be elaborated upon in the course of this module. This table can be used for a first overview, an orientation, or a concrete hint on which sections of the module are relevant for the specific situation.

Less access to economic opportunities and a gender pay gap	Affordable public transport (social tariffs) Walkability Encourage Biking / Bikeability	Investments in Public Space in Bogotá Gender Survey Windhoek FemiBici
Shattered destinations and travel times, frequent and short trips	Investment in re-scheduling transport Walkability Encourage Biking / Bikeability Integration of land use and transport Social Infrastructure nearby Lighting	Investments in Public Space in Bogotá Assessment of Everyday Network Tool Gender Survey Windhoek FemiBici
Time poverty, trip-chaining	Fare Structure to subsidize shorter trips Integrate fare system Encourage biking/ Bikeability Provide School Transport for Children	Investments in Public Space in Bogotá FemiBici Gender Survey Windhoek
Frequent traveling with children and/or loads, physical restrictions	Spatial Accessibility: avoid steps or kerbs, provide elevators and keep them functioning, ensure sufficient capacity of public transport Ensure density and frequency of the network	Investments in Public Space in Bogotá Gender Survey Windhoek
Harassment in public space and higher vulnerability to crime	Women only doors in public transport Reserved seats Door-to-Door Services Female Staff Awareness raising campaigns and trainings Urban design that allows visibility and social control Enabling and educating women Ensure sufficient capacity and frequency of public transport Provide possibilities to call help	Raye 7 Pink Rickshaw SafetiPin Gender Sensitization Trainings FemiBici #PT4ME
Issues of Orientation	Information at the stops and online (e.g. via apps) Enabling and educating women	Digital Matatus SafetiPin
Social norms inhibiting certain travel options	Awareness raising, trainings	Gender Sensitization Trainings FemiBici #PT4ME

Figure 2: Where to find what?

2. Gender policy framework

Freedom of movement, mobility rights, or the right to travel is part of the concept of basic human rights, declared in Article 13 of the United Nations' 1948 Universal Declaration of Human Rights – it is therefore a right that belongs to every person in the world, from birth until death. This right encompasses the right of individuals to travel from place to place within a city or a country and to leave the country and return to it. The right includes not only the right to visit places, but changing the place where the individual resides or works.

There have been a number of developments within the international policy agenda over the past few years that should help to accelerate the planning and implementation of sustainable transport and the empowerment of women. These include the 2015 Paris Climate Agreement, the 2030 development agenda and set of 11 Sustainable Development Goals (SDG) and the New Urban Agenda (NUA) agreed at HABITAT III in Quito in 2016. All of these provide guidance for national and city governments on gender aspects.

Women make up 20 million of the 26 million people estimated to have been displaced by climate change and are often hit much harder during disasters, so it is recognized that women are disproportionally affected by climate change.

Gender equality and the effective participation of women in climate change was first formally recognized in the **United Nations Framework Convention on Climate Change (UNFCCC)** process **Cancun Agreements** (2010) and since then this topic has grown in importance. The full participation of women is considered vital for all aspects of the global response to climate change - especially in adaptation. However, the connection of gender and sustainable transport and the opportunities for mitigation actions from this community has not been researched to date in any depth.

Box 2: Declaration by the United Nations on gender equality and the 2030 Sustainable Development Agenda

The Declaration *Transforming our world: the 2030 Agenda for Sustainable Development*, adopted by the General Assembly of the United Nations states that "*Realizing gender equality and the empowerment of women and girls will make a crucial contribution to progress*" (United Nations 2015). The prioritization of gender equality and women's rights is reflected in a crosscutting manner throughout every part of the 2030 Agenda, including the declaration; goals, targets and indicators; means of implementation; global partnership; and follow-up and review.

The **Sustainable Development Goals (SDG)** goals seek to change the course of the 21st century by addressing key challenges such as poverty and inequality with targets for governments until 2030.

Goal 5 specifically relates to women's empowerment and to end all forms of discrimination and eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking, sexual and other types of exploitation. Indeed, women have a critical role to play in all of the SDGs, with many targets specifically recognizing women's equality and empowerment as both the objective, and as part of the solution.

Additionally, within the SDGs, a number relate to transport, cities and inclusive development. In particular Goal 9 – to build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation; Goal 11 to make cities and human settlements inclusive, safe, resilient and sustainable.

Figure 3: The sustainable development goals, Source: WRI 2015

There is also a major component of gender equality in the **New Urban Agenda (NUA)**, a non-binding but widely recognized accord on city development; the text from paragraph 114 refers to mobility and is quite specific. The outcome document[2] outlines the challenges and opportunities for cities while ensuring that urban development is sustainable, gender-inclusive and gender-responsive; in this context, the NUA strategically supports the implementation of the 2030 Agenda, in particular mainstreaming gender equality and women's empowerment across all social development goals. It offers a chance to respond to the challenges and the ever-changing dynamics of cities and recognizes the crucial aspect of women's rights in the urban development agenda. (UN Women 2016)

Box 3: Paragraph 114 of the New Urban Agenda from HABITAT III
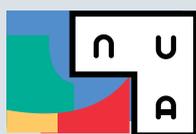
IMPLEMENTING THE NEW URBAN AGENDA

Para 114:

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, in particular through supporting:

o(a) A significant increase in accessible, safe, efficient, affordable and sustainable infrastructure for public transport, as well as non-motorized options such as walking and cycling, prioritizing them over private motorized transportation;

o(b) Equitable "transit-oriented development" that minimizes the displacement, in particular, of the poor, and features affordable, mixed-income housing and a mix of jobs and services;

o(c) Better and coordinated transport and land-use planning, which would lead to a reduction of travel and transport needs, enhancing connectivity between urban, peri-urban and rural areas, including waterways; and transport and mobility planning, particularly for small island developing States and coastal cities;

o(d) Urban freight planning and logistics concepts that enable efficient access to products and services, minimizing their impact on the environment and on the livability of the city, and maximizing their contribution to sustained, inclusive and sustainable economic growth.

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[2] This document can be found under http://www.unwomen.org/en/digital-library/publications/2016/10/gender-equality-and-the-new-urban-agenda

3. Challenges for the mobility of women

Just as transportation systems define the structure of the city, gender is an integral part of the broader social context interacting with class, race, ethnicity, age, income, education, religion, geographic location and physical movement. Gender defines how men and women are expected to act, dress, and behave; this includes travel behavior and patterns. Indeed, travel patterns are one of the most clearly gendered aspects of life (Levy 2013).

Why gender responsive planning?

Mobility is the prerequisite to accessing goods and services, such as health, jobs, education, and leisure. Women face more restrictions to mobility, and their travel patterns differ from those of men. This is largely based on the double or triple burden they carry, juggling care and reproductive roles with income generating activities. They are also typically time poor and they generally have less time available to fulfill these roles than men. At the same time, women are in higher risk of being victim of harassment and violence. Therefore, women have different requirements of transport systems and space. In addition, they actually perceive things in a different way to men – a situation that a man may feel is reasonably secure, a woman (depending on her age and life stage) may perceive as not being safe or secure.

These diverse perspectives need to be integrated into planning. Without this, transportation, planning and projects will not adequately meet demand and there will be inefficiencies in the system.

Women face more restrictions to mobility, and their travel patterns differ from those of men due to their differences in needs and tasks. This is also based on the fact that in almost all societies they still assume the majority of child care and reproductive responsibilities, sometimes referred to as the double or triple burden. Due to this they are generally time poor, lack access to the same resources as men and tend to be less able to be economically active.

At the same time, women are in higher risk of being victim of crime and violence. Therefore, women have different requirements of transport systems and space than men.

This chapter outlines the main challenges that need to be taken into account and addressed in gender responsive transport planning.

3.1 Women and poverty

Since women are more likely to be poor, thinking about gender in transport necessarily includes the implications of poverty for urban mobility - there is a strong correlation between the two. Transport serves two major purposes for the urban poor. It is both a service to be consumed and paid for, and it provides an opportunity, especially for those migrating from rural communities into urban areas, for employment.

Figure 4: Low-income woman in Nairobi fulfilling daily household chores by foot. Photo by Carlosfelipe Pardo.

The majority of the global poor are women, according to the United Nations Development Program (UNDP) Human Development Report. This is more pronounced in urban areas.

The International Labor Organization (ILO) globally defines a quarter of all women as 'unpaid contributing family workers' (International Labor Organization 2016). As well as other inequalities, women do at least twice as much unpaid care work as men, often on top of any paid work. This includes tasks such as cooking, cleaning and looking after children and other family members, including people who are sick or elderly. Gender stereotypes, which traditionally see men as 'breadwinners' and women as caregivers, mean that even where women are increasingly responsible for earning an income, unpaid care and domestic work still falls largely to them.

In Latin America and the Caribbean (IADB 2013) the participation of women in the work force was 53.6% (compared to men 79.5%) and unemployment rates were higher for women (9% compared to 5.9% for men). A CEPAL/ECLAC (UN Economic Commission for Latin America and Caribbean) study in 2012 estimated that over 30% of women in the regions were without income compared to 11% for men. Living standards have risen and poverty has fallen in much of the world and considerably across Sub-Saharan Africa since the late 1990s. A World Bank study about poverty and headship in Africa (Milazzo and van de Walle 2015) shows that nearly one in four households in Africa is headed by a woman. Southern Africa has higher rates compared to households in West African countries, which are least likely to be headed by a woman. Using data from the last 25 years and covering 89% of Africa's population[3], this study shows quite clearly that the probability that a woman aged 15 or older heads a household has been increasing over time in all sub-regions and at every age, so it can be concluded that female headship has been increasing in all countries.

This growing number of women as head of household is a global trend, especially in urban areas of the developing world (see Chant and McIlwaine 2016). There appears to be a number of reasons including migration into cities.

Female-headed households face a greater need to work shorter and/or flexible hours to accommodate their children's hours, sick days, school breaks and holidays. Lone parenthood is a phenomenon largely confined to women, and is considered a central underlying factor contributing to the persistence of gender inequalities. Often the best or sometimes only option is some type of informal work, such as market trading. This requires them to travel not only with children but also with the goods that they will be selling.

Figure 5: Women are often to be found in small scale, informal or entrepreneurial occupations such as selling goods on the streets. Source: SUTP 2017.

From the Argentinean national census 2010 based on 12 million households, 44% have a woman as head of household. This implies a growth of 10% in female headship compared to 2001. According to their marital status, Argentine heads of household are more than a third single.
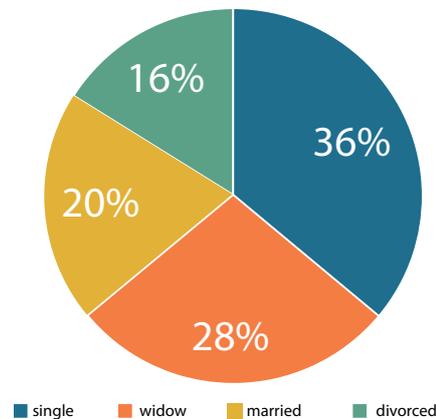
Figure 6: National statistics from Argentina on female heads of household and civil status. Source: INDEC, 2010.

Referring to this statistic from Argentina, female headed, lone parent households are the poorest of these poor. Widows (60+ years) are the second poorest and deteriorating urban transport conditions have a particularly severe impact on poor people, who have high time constraints, and less financial security. In Mexico City and the Kyrgyz Republic, household surveys revealed that households were spending up to 25% of daily earnings on transport; in Nairobi 14 to 30% of income; and in Delhi 20 to 25%.

Poverty is one of the largest challenges to urban transport and to providing public transport. A cross-cutting issue in all developing cities is expense. Everyone has to make choices about how much and whether to pay for transport. Thus, it

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[3] This study did not differentiate between urban and rural areas.

is often the case that the poor pay more for less convenient, comfortable or convivial transport while the rich pay less.

If the costs of transport are high, the time and money that the poor must spend meeting basic mobility needs means they spend more of their disposable income on transport. This also keeps low-income families from accumulating the assets that would lift them out of poverty.

Poverty complicates mobility and lack of transport options complicates poverty.

It is widely acknowledged that low-income passengers are forced to curtail the number of trips that they make, use modes of transport that do not incur a direct cost, such as walking or cycling, or to live in locations that minimize their transport costs. This is particularly true where urban transport services are provided by private operators who are under pressure to be financially self-supporting, rather than cities where might have social tariffs or explicit / implicit subsidies.

Women and girls in particular are affected in this respect. They are not only more likely to be poor, but they will be the first in a family to forgo a trip if it means allowing the man to get to work or the children to go to school, yet she is also the most time burdened.

Women often have to take care of various issues during the day, like dropping off and getting children, running errands, buying goods, etc. – which explains the tendency to make chained trips: they need to combine various trip purposes to save time and be able to fulfill all their tasks; in some cases, by combining different purposes in one chained-trip, money for transport can be saved. However, in many cases tariffs are charged per trip (in contrast to a time-based charging), which might mean a high overall traveling cost for women due to their travel patterns.

Women are known to forgo an opportunity to work outside their neighborhoods if they perceive transport fares and services to be expensive and unreliable.

As a higher value is attached to income generating trips, more often than not, men pay for transport, since it is usually work related. Women may be able to pay for motorized transport but may make the choice not to if this means they can save money and use it for other things. A social assessment in Ashgabat, Turkmenistan found that job turnover rates were high and in order to avoid long commutes, people tried to find work near their homes. It is known that women will turn down better-paid jobs if the travel conditions (time of day, time spent and expense are not suitable to their lifestyle) more than men will.

Box 4: Orientation and Confidence

In a qualitative study with women living in a slum in Buenos Aires, Argentina, it was found that orientation issues might be a relevant restriction for women with a low socio-economic status (Mark 2017). Due to other restrictions, many of the women mainly move in their direct living environment, and especially those who do not work outside their settlement perceive the city as dangerous and chaotic.

It was found that a lot of them are not able to read a map, the bus stops do not provide any information and even though the women almost have universal access to smartphones, they hardly used it for orientation. Instead, they avoid having to move outside their known routes and modes.

Besides the lack of information for public services, a common problem in many cities, this hints at the lack of self-confidence and shows the importance of approaching mobility restrictions also from a subjective point of view, enabling the women to move in the city confidently. (Mark 2017)

Figure 7: Tree in Buenos Aires serving as a "bus stop" without providing any information. Photo by Laura Mark.

3.2. Differences in travel patterns

Naturally, there is no such thing as a universal definition of man or woman. Within the categorization of men and women, characteristics differ with age, income, race, ethnicity, and the composition of the household. A woman or man who is single, married with no children, or married with children, etc. will all have different transport needs and these needs will change as they enter different stages of their life (for a comparison see Mark 2017). It is clear that as the household composition changes, so do the travel requirements. This is especially the case when children come along, and both men and women's travel behavior changes, with women usually taking up the extra transport burden especially when the children are young. It is the moment when most families buy motorized transport of some kind (be that a car, motorcycle, van etc. depending on budget and needs).

Generally, when compared to men, women show different travel patterns, characterized as mobility of care. Women tend to take more and shorter trips, at more varied times. They use public transport and walk more than men and tend to make more non-work related trips, traveling to more disperse locations. Many trips women have to make on a daily basis, especially trips to accompany children to and from school, are fixed in space and time and therefore restrict the possibilities of women to take on (formal) work, since it pre-structures their day and only leaves time-windows of a few hours (as found by Mark, 2017 for Buenos Aires).

Many of such trips have to made by foot in areas where there is little suitable walking infrastructure, by low capacity (combi-taxis or minibus services) or poor quality public transport. In Latin America and the Caribbean, Inter-American Development Bank (BID) states that over 50% of the users of public transport systems are women (Granada I. et al, 2016). In this report, more than half of women's trips in Santiago, Chile, are for caring purposes (shopping, health and/ or picking someone up) and travelling for work was only 15% of the trips, compared to men (35%). Women also walk more in Santiago (55.3% compared to 39.5%) and cycle less (men 10% compared to women 3%).

## Use of public transportation by gender
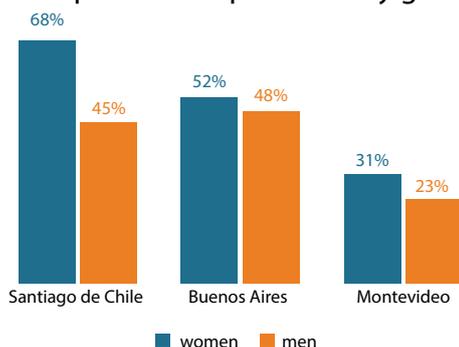
Figure 8: The use of public transport by gender in Latin America. Source: Own figure, data by InterAmerican Development Bank 2016.

Women are more likely to be employed as part-time and informal workers than men, especially as domestic workers, so their destinations are not necessarily concentrated in the Central Business District (CBD) or in one or two main areas of employment, but also the residential areas. As they need to organize their days around their own work and their children's timetables, their travel times can be much earlier or later than the typical work day around which most transit is planned. Women make more trips associated with their reproductive work in maintaining the household. They are also more likely to trip chain, meaning that when they travel, they tend to have multiple purposes and multiple destinations within one "trip". For example, their ultimate destination might be the market or their job, but on the way there, they might stop at day care or the school to drop off a child, pick up a prescription for them or another family member at the pharmacy etc. For that reason, women tend to value flexibility and convenience over time savings in their travel choices. It also means that women may need to use a number of different modes of public transport and may have to pay for each of these trips (if there is no tariff integration). Women (and their dependents, such as children/elderly) have less access and time to go to the doctor, annual check ups, etc., due to the lack of access to transport. In developing countries, older girls may forego attending school to serve as a caretaker for an ill parent or childcare for younger siblings, while mother earns income.

As income-generating (productive) trips are more valued than care-based (reproductive) trips, men usually get access to motorized transport – both mass and individual – before women, underpinning a gender imbalance. Thus, the majority of women especially in the developing world has to walk or use informal transport and public transport to fulfil their transport needs, and typically, this influences their transport horizons.

There is little difference between the way women use public transport in the developing and the developed world. When Transport for London (TfL) collected disaggregated data for their TfL Gender Plan (2007 - 2010), they found that women without children used trains and the subway more often, while the majority especially those with children were considered to be 'heavy' users of buses, making 25 per cent of their journeys by bus (see TfL Gender Equality Scheme). Women use buses in London more, partly because of cost, but also because of the proximity of the bus stops to a journey's beginning and end, the directness of routes, speed and convenience. However, this may not be out of choice. It could be due to practical preference or because a woman will have less access to a car. Having a young child in the home increased women's trips by 23%, as women are three times more likely to take the children to school and 80% more likely to trip chain, i.e. make stops on their origin and destination journey. Therefore, women require

low-cost, reliable, and consumer-friendly, flexible, door-to-door service with many route options to meet their needs.

Socio-economic differences create different travel patterns

A woman of low income will not have a lot in common with one of high income in terms of trips needs and patterns, and this has a lot to do with choices. There is less of a difference between men and women's travel behaviors in the higher socio-economic classes as they can make choices and afford to travel as they wish, while the poor and especially the very poor are limited in both choice and by affordability. However, the transport options available to women of all social classes vary between countries usually due to other reasons such as culture or faith and not income. Transport thus plays a significant role in ameliorating or exacerbating the social conditions of women, particularly those who are poor. As women's incomes increase, differences in travel behavior between men and women decrease.

Transport also plays a significant role in ameliorating or exacerbating the social conditions of women, particularly those who are poor. As women's incomes increase, differences in travel behavior between men and women decrease.

Generally, women have lower rates of motorization in urban areas than men and may choose to walk even if they have the choice.

In transport-user surveys in the Turkmenistan, Ashgabat Urban Transport Project found that the use of various modes of transport services is highly differentiated by gender. For example, 28% of women walk to work compared to 14% of men; only 7% of women commute by car as compared to 20% of men; and 10% of women use transport provided by the workplace as compared to 20% of men (World Bank. 1997). Women's waiting times are longer than men's and their average total journey time is 10 to 15% greater. Women were also found to have lower incomes. Therefore, improvements in public transportation, and particularly, in bus and trolley services were seen to directly serve the needs of women.

3.3 Safety and security concerns

Safety and security are of primary concern for any transport system. Travelers expect transportation to be safe and to be able to use it without personal risk.

3.3.1 Safety

Safety means being protected from danger, risk, or injury; on the other hand, security is the state of being free from danger or threat of harm or injury, in other words freedom from danger.

The variables to predict and ensure safety are easier to examine, as they usually depend on a technical solution. Security is more complex as this also depends on human interactions, which are less predictable, and depends, to a greater extent, on emotional rather than rational actions and reactions. Improving technical safety aspects do not always positively impact security to the same extent, but there are nonetheless strong connections between the two areas.

Safety is a concern for both sexes, although it has a wider context for women. Both men and women are interested in road safety - including technical standards of vehicles, traffic management, driving behaviors and infrastructure construction norms.

Figure 9: Two school children cross a street in Accra. Photo by Aimee Gauthier

Figure 10: Due to narrow and crowded sidewalks, people tend to walk on the streets – with negative implications for safety. Source: SUTP.

Women are less likely to use a bicycle without the provision of cycle lanes or safe areas for cycling. Bike paths protected bikers from traffic, but they do not provide security against theft or sexual harassment.

3.3.2 Security

Figure 11: Lighting in a Mass Transit system such as Metrovía in Guayaquil is an efficient means to increase security during operating hours. Photo by Guayaquil Municipality.

Personal security is an issue everywhere and for everyone, and there is a clear link between it, public space and public transport. Security differs from safety as it is more subjective and different people have differing levels of what can be considered to be 'safe'. Indeed, the perception of security between men and women is quite different, it also varies significantly between different women of differing socio-economic status, race, age, education and cultures. People also change their opinion about the same service to the same destinations according to the time of day.

Women encounter violence and harassment when they are using public space in general and public transport in particular. Gender-based violence is an umbrella term for any harmful act that is perpetrated against a person's will. Women and girls are more commonly affected by gender-based violence due to the subordinate status of women in many societies, discrimination against them and their higher vulnerabilities to violence. Gender-based violence takes many forms, including sexual, physical, and psychological abuse.

However, women's personal security can be a proxy for all vulnerable groups especially young girls and boys, the LGBT (Lesbian, Gay, Bi, Transgender) communities and the elderly, and improving security therefore can benefit everyone, not only women.

Freedom of movement and equitable access to education and employment is not only a basic human right but is also core to delivering the Sustainable Development Goals and the New Urban Agenda.

The Thomson Reuters Foundation (in partnership with Yougov.com) surveyed over 6000 women in 15 of the world's largest capital cities and collected information on:

- Levels and frequency of verbal harassment
- Levels and frequency of physical harassment
- Feelings of safety about travelling at night (or after dark)
- Public responses
- Confidence in authorities
- Levels of Safety in the city (generally)

The order of ranking of the cities surveyed put Bogotá, Colombia in first place i.e. the place where women felt least secure, followed by Mexico City and Lima (Thomson Reuters Foundation 2014).

All forms of harassment affect women in particular and influence their confidence and quality of life. Harassment can take various forms such as verbal harassment, such as cat calling or unwanted teasing; visual harassment such as leering or staring and physical forms such as men exposing themselves, groping or other forms of touching etc. It often takes place in public places as women travel to and from places of education/schools or to and from work. It especially seems to occur in relation to public transport. This may be in or around bus and train stations, or other public transport hubs and stops and on the vehicles themselves, especially if they are crowded.

Harassment is a daily occurrence for many women when using public transport in both the developed and developing world.

This has been confirmed in a number of studies and came to the forefront after the distressing event in 2012 when a young student was raped and murdered while attempting to return home by bus in Delhi. This horrifying event stimulated action. Before, no significant actions had been put in place despite of a study in 2010 by Jagori, that showed over 90% of women had faced some form of sexual harassment in the previous year while using public space (including public transport). A more recent study by them has found that 51% have experienced harassment inside the public transport vehicles while 42% happened while waiting for it (at bus stops or stations). The ADB study of Tbilisi, Karachi and Baku found similar results (ADB 2015).

Box 5: Example - Survey on transportation environment in Karachi, Pakistan

Results of interviews with women show that:

- Over **70%** have experienced harassment in public transport

- **75%** say the perpetrator was another passenger, **20%** say it was the conductor, **5%** say it was the driver

- In **34%** of cases, women were touched or groped, **7%** of cases involved following, stalking etc.

- **Less than 4% of the vicitims asked for help!**

From this same study, it can also be seen that harassment in public transport has severe social and economic impacts: 31% of students, 23% of working women and 20% of homemakers said they reduced the use of public transport after harassment – alternatives are more expensive forms of transport.

40% of women avoid traveling after dark – limiting severely their opportunities for further education or social life.

Source: ADB Policy Paper: A Safe Public Transportation Environment for Women and Girls (2015), modifed by authors.

Ella se mueve segura (2017), a study in three Latin American cities (Buenos Aires, Argentina, Quito, Ecuador and Santiago, Chile) show that a large number of public transport users (women and men) experience harassment in public transport. In Santiago, 89% of women either saw and/or experienced it themselves and 82% of men saw such incidents, while in Buenos Aires and Quito the numbers only were slightly lower. Harassment in this context also includes petty crime. The majority of harassment experienced is verbal or visual (including staring, leering and taking unwanted photos) but 1 in 5 women experienced some sort of physical harassment and 1 in 4 has experienced severe harassment. The majority of the cases were not reported and there is little confidence in any of the cites of either effective or sympathetic responses from the official security agencies. This confirms the information in other studies (Allen, H. & Vanderschuren, M. 2016) where the majority of cases of harassment also go unreported – making it difficult to ensure that city and security authorities take notice as it does not show up in traditional transport or safety statistics. A 2015 survey commissioned by the United Nations Population Fund (UNFPA) even revealed that 90 per cent of women in Sri Lanka have experienced sexual harassment on public transport, while only 4 per cent sought help from the Police.

Cases of theft and other petty crime more likely to be reported than cases of (sexual) harassment as they are less easy to explain to security agents and authorities. In addition, women are usually more emotionally upset by harassment (sexual or otherwise) and this sort of behavior does not fit into many criminal codes. As many women are 'time poor', they usually do not have the time to go to a police station and spend several hours making a statement (that they feel is unlikely to make any difference or bring the perpetrator to justice). Also in many countries, police forces are the source of harassment, so women are less likely to report (see ITDP 2018). Women are usually more emotionally upset by harassment (sexual or otherwise) and this sort of behavior does not fit into many criminal codes.

There is a number of risk factors that women identify that are directly connected with the quality of public transport such as overcrowding that create more opportunities for harassment, but not enough people travelling on the system can also pose problems. Waiting areas around public transport, stops and stations themselves and traveling out of daylight hours are considered risky.

UN Women have a Safe Cities program that works specifically at improving the safety and security of public spaces for women and girls but they also note that:

Violence in public places, particularly on public transport systems, reduces the freedom of movement of women and girls.

It reduces their ability to attend school or work and to participate fully in public life. It limits their access to essential services and to enjoy cultural and leisure opportunities. It also has a negative impact on their health and well-being.

The finding of a study in Windhoek, Namibia (Kriek B., 2016) includes observations about discrimination against women with disabilities in Namibian society. A considerable number of interviewees reported discriminating attitudes and behavior towards girls and women with impairments, which included high levels of gender-based violence. Although violence is a real threat to all girls and women, those with visual, intellectual/mental or multiple impairments are particularly vulnerable. Sexual harassment and assault was especially frequent on the way to/from school and when using buses or taxis. Here, the perpetrators can be the drivers themselves or other passengers.

"Sexual harassment is defined as any unwanted, unwelcome and uninvited physical or non-physical action that makes a woman uncomfortable because she is a woman."

3.4 Public transport and women

After walking, mass transit is the most common form of transport for both men and women. For the urban poor in developing countries, urban mass transit usually means buses (BRT and city), minibuses, and various forms of shared taxis, as there are few rail-based systems. In Latin America, large buses predominate, but minibuses have a growing share of the market. In African cities, city buses represent a marginal share of the public transport market, and minibuses or combi-taxis heavily dominate.

Figure 14: Informal means of transport are especially relevant for poor women in order to transport goods. Photo by Carlosfelipe Pardo.

Cities in the developing world are trying to solve their challenges with the introduction of more mass transit, especially Bus Rapid Transit (BRT) systems or metros. More BRT systems are being constructed every year and from anecdotal evidence, benefits women. In Yichang, PR China the newly constructed BRT provides higher levels of comfort and frequency, for a comparable price to the previous city buses. Women were also encouraged to work as drivers and station managers in the new system. Many services are designed on median dedicated lanes (i.e. the BRT bus lanes run in the central area of the road), which means that there may be a large number of stairs to access the services if there are no escalators or they are not working. This is a significant barrier to women, for example when walking with a stroller, the elderly and the disabled. In addition, if the system is overcrowded, it is just as difficult for women to use as a regular bus service.

Many formal bus and rail systems in the developing world fell into financial difficulties by the end of the twentieth century, and the private sector stepped into the void. Currently in most cities and towns informal (although regulated) public transport options such as minibuses, jeepneys, ankots or other local services, city buses, taxis and motorcycle taxis are operated by the private sector. This is characterized by a large number of small operators, owning one or two buses or vehicles. Sometimes they have formed associations, but generally the landscape most city authorities have to contend with is one of numerous, disperse and highly profit driven individuals who are resistant to change or regulation in any form. Even though often these services are quite expensive, especially for women in informal settlements they play an important role, since in some cases it is their only option to access private transport modes (or to motorized transport at all), which they need in case of an emergency or if they need to transport goods. This means that low-income women are often forced to pay high prices for transport even though they cannot afford it. (See e.g. Mark 2017)

Figure 12: Escalators not working at a BRT station. Photo by Heather Allen.

Figure 13: In some cases, stairs provide a difficulty for women carrying loads or traveling with their children. Photo by Carlosfelipe Pardo.

From studying household census data from 10 cities in Europe and Asia, a report from the International Transport Forum (ITF) shows that women use buses more than rail services. Men travel further than women: for example, men travel 42.6% further in Jakarta, Indonesia; 39% further in Kuala Lumpur, Malaysia; 36.8% further in Hanoi, Vietnam and 29.8% in Manila, Philippines. This is typical if one considers that rail based transport is designed to cover longer distances more efficiently than road based transport (ITF 2017). This is also validated in other reports and in Mumbai, it was observed that women made 45% more trips by bus than train, which increased to 67% for households with incomes less than R 5000 per month (World Bank, 2011). In Delhi, India, 34% of women commuted to work by bus compared to 25% men, and the corresponding figures for Chennai were 34% (women) and 22% (men) (Chennai City Census, 2011).

Figure 15: Women waiting for a bus – their main mode of transport – in an informal settlement in Buenos Aires. Photo by Heather Allen.

On the other hand, the ITF 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. Overall they have less choice of modes than men do.

Possibly of great importance is the risk of losing the majority users of public transport over concerns about personal security. It is clear that women will avoid using public transport if they perceive it to be insecure and unsafe – they will also pass this value on to their children both boys and girls. Therefore, future generations may avoid public transport because they think it is generally unsafe and lead them to buy a motorcycle or car.

Women are not only more interested in security aspects but also in levels of comfort and quality. Overcrowding in public transit and poor levels of reliability affect both men and women but they affect women more as they are more concerned about their own personal security as well as the security of their children. In the report Safe and Sound[5], it was found that women would forego better jobs or educational opportunities if they felt that the transport connections were not safe for them. (FIA Foundation 2016)In many countries allowing women to come into close contact with unrelated men is considered to be totally unacceptable and inappropriate. This can extend to not being able to share the same public spaces as men, or be in vehicles, let alone allowing a male non-family member drive them anywhere. In a number of countries, they can be as frightened of what 'might happen' as the actual reality of the level of security. Thus the discomfort, social stigma, actual physical and/or verbal harassment as well as the fear of harassment when or if they try to be transport independent, seriously limits their movements and distances that they feel comfortable travelling alone.

Figure 16: Crowding in buses is common in many mass transit systems. However, it is an uncomfortable situation, especially for women. Photo by Carlosfelipe Pardo.

Overcrowding becomes a security issue for women as that facilitates groping and inappropriate behavior. Typical engineering norms set 4 or more people per m2, and this is frequently used for BRT planning although it is known that this is not comfortable for women . However, women are also not comfortable travelling alone on empty services when they can be easily targeted.

Figure 17: Woman with stroller trying to enter bus. Photo by Carlosfelipe Pardo.

Women and the disabled meet with discrimination in transport services. They find physical barriers, such as high kerbs and steps more of a problem than able men, and all of those suffering from a physical disability find accessing public transport difficult. They have a harder time boarding and alighting, whether it is because they are travelling with children and packages or because the steps are too steep. In addition, in many countries populations are aging, so there are more older women than men as they tend to live longer. Older women in both the developed and developing world become more isolated if they are not able to use suitable public transport services, especially as they tend to be on low, fixed incomes.

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[5] This report can be found under https://www.fiafoundation.org/connect/publications/safe-and-sound.

Moreover, men are often the operators of the informal transport services mentioned above. Common practice is for conductors to stand outside the vehicle calling for customers, as the vehicles (especially minibuses) need to be full before they can start. At peak times this is less of a problem, as they are in high demand and can fill up quickly but in off-peak times (when women tend to use them), passengers may need to wait a long time before they can leave. This can be very inconvenient – and if they are obliged to wait too long they may well have to forego the whole trip as women naturally plan their trips more than men and can become concerned about the return trip (it may be getting too late to go there and back safely or they may need to pick up the children and find that there is not enough time left). As they will have paid for this trip, it means wasted money and time. In addition, as these services usually only run on approximate routes with no marked stops (but stops are typically 'known' to those that regularly use the service), women find that if they are waiting with shopping or children, the minibus driver/conductor may not allow them on as they will take up more space than allocated for one passenger. In extreme cases, they are made to alight if there are two adult fare-paying passengers available!

3.5 Access to private vehicles

Vehicles are an important asset that families use to lift themselves out of poverty. A bicycle can reduce daily commuting costs by saving bus fares, and reducing travel time otherwise spent walking. Even the poorest families, once given access to a pedal bike, can usually cover the costs of its maintenance (Hook, 2006). Still there are some challenges besides access to bicycles, as e.g. learning how to ride and repair bicycles and a greater concern for safer riding environments along with harassment.

More men than women cycle, although it is a suitable mode for short urban trips. In Chennai, even with poor bicycling facilities, bicycling rates for low income men were 8% compared to 1% for women (Uteng and Cresswell, 2008). Special programs have helped to increase this such as in Santiago, Chile where increasing the women's share of cycling was specifically targeted. This was done not only by teaching them how to ride bikes but also to create women's cycling groups that helped to build confidence in dense traffic. These actions were complemented with major cycle infrastructure improvements.

Men are typically the first to motorize – co-opting new technologies first in the household

Figure 18: Public Space in most cases is not suitable for cycling safely. Photo by Manfred Breithaupt.

The first motorized vehicle a family purchases is usually a motorbike, and this is almost always owned and driven by the man. Motorcycles are now very cheap to buy, especially in Asia and in rapidly urbanizing and developing countries such as Vietnam and China. They are usually the first motorized vehicle that people can afford and motorcycles signify success in breaking out of the poverty cycle through increased movement and independence.

Automobile ownership rates are rising rapidly but are still quite low in much of the developing world. Women face an additional constraint since men are more likely to get access to private vehicles in the household; the vehicle that is purchased may not be suitable for them to drive. In some regions, travelling on some modes such as motorbikes is restricted by social norms.

However, there is a trickle-down effect, as women gain access to older vehicles of all types, bicycles when men move to motorcycles, motorcycles or scooters when men move to cars, etc. In 1990, only 35% of households had access to some form of motorized vehicles in Ho-Chi Minh City, Vietnam. Four years later, that percentage rose to 63%, mainly due to motorcycles. In the capital Hanoi, the share of trips made by motorcycles rose by 5 to 10% annually and now accounts for 37% of all trips. Meanwhile the share of bicycles has fallen from 65% to 45%. Previously, women made up half of all bicyclists; then, they were the majority, as men move to motorized means of travel. In Nairobi, Kenya, 9% of women heads of households used a private car, compared to 24% of men. In Belo Horizonte, Brazil, 6% of women used a car to get to work, compared to 23% of men.

3.6 Land use and urban design

Typically, transportation and land use policies are considered separately, which often results in inefficient use of resources, including time and money, and greater environmental damage. The outcome tends to lead to automobile dependence and sprawl. The structure and location of the household influences travel patterns and choice in transport mode. Women's trips are typically shorter so the number of opportunities available within a short walk or public transport trip are more important to them than to men, therefore they value proximity more highly.

The reality is, though, most cities in developing countries may not have land use plans and if they do, may not be able to enforce the plans and/or do not integrate land use and transport. Additionally, the secondary road network is very often inadequately developed resulting in increased trip distances. By integrating land use and transportation planning, efficiency improves, negative environmental effects and the costs of infrastructure investments are reduced, and access to jobs and services is ensured. This topic is extensively discussed in the GIZ Sourcebook Module 2a: Land Use Planning and Urban Transport.

Transport infrastructures such as urban freeways also split communities and cause many social problems, as people may need to walk several extra kilometers in order just to cross the highway on a specially built bridge/overpass. Typically, people will try to run across the road rather than walk the extra distance, hoping to avoid the vehicles with obvious consequences. The elderly and women with shopping, and young children or strollers are often constrained by the large number of steps at the overpass – creating social exclusion and hardships.

Figure 19: Wide streets can become barriers and dangerous crossing-situations (here in Bhutan). Photo by Carlosfelipe Pardo.

Figure 20: Very low quality pedestrian infrastructure in Buenos Aires. Photo by Heather Allen.

In many cities, the natural environment itself constitutes a barrier. Sandy roads and a lack of pavements make it difficult for wheelchair users to move around and persons with visual impairments have problems orientating themselves. Therefore, mobility outside the individual motorized transport is quite a challenge for both men and women. Physically impaired persons using a wheelchair face specific barriers. In Namibia, and many other similar cities there are deep drainage ditches to evacuate the heavy rain but there are almost no ramps or other facilities to help the disabled overcome these barriers (Kiek et al. 2016). Because of the lack of pavements in most towns, wheelchair users are forced to drive on the streets, which can lead to severe or even fatal accidents. Especially in informal settlements, deteriorated public space and a lack of services often lead to dangerous and uncomfortable situations. Women and girls may have to undertake trips for water and sanitation and face sexual harassment.

Public space in slums often does not allow free sight and includes many narrow passages and corners. Even during the day, dark and scary spaces are created, and at night usually there is no lighting (see chapter safety and security). Both the low walkability and the sense of insecurity lead to many women avoiding parts of their settlements altogether, not only at night. (Mark 2017)
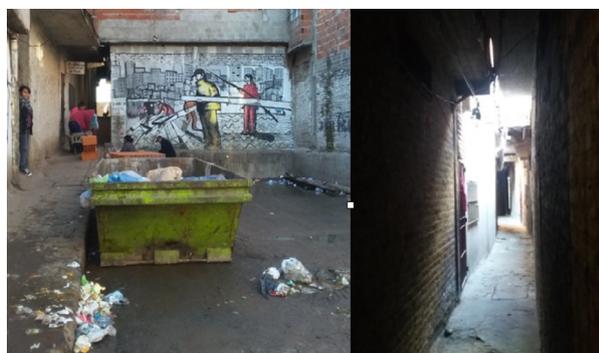
Figure 21: Poor walking conditions in a slum in Buenos Aires: steep steps, contamination with trash, and small passageways, which do not allow easy movement when carrying things and create spaces of fear, even in the light of day. Photos by Laura Mark.

4. Assessing gender in urban transport

Providing gender sensitive and attractive transport services can only be successful if the specific cultural contexts and mobility behavior is better understood and accounted for in urban transport design and planning. Before the planning process starts and before measures are implemented, the gender-based challenges need to be understood in detail. The following approaches and tools should therefore be recognized and applied.

4.1 Gender analysis

Gender analysis begins by recognizing that we live in societies full of gender differences and inequalities and that each intervention has gender implications.

A gender analysis seeks to reveal the differences and inequalities by examining the situations and relationships between women and men in a particular context. It provides informed understanding of the potential differential affects proposed programs or projects have on women and men. Such information facilitates identifying effective strategies.

The process is what makes the gender analysis a powerful and essential gender-mainstreaming tool.

There is a number of different frameworks and approaches to gender analysis - each suited to a particular context and/or situation, for example the Harvard Analytical Framework, the Gender Analysis Matrix and the Social Relations Framework amongst others. Different kinds of statistics can be generated, e.g. sex-disaggregated statistics which simply provide numbers of women and men in a given population and gender statistics which can reveal the relationships between women and men that underlie the numbers).

4.2 Data collection

The first step in providing an equitable urban transport system is to collect data on all users to understand how they use existing services and what they need – in other words, understanding the disaggregated demand. There is a variety of ways of getting this data.

The important point here is that the data has to be disaggregated for different groups and be sensitive to gender concerns. Conventional transportation surveys either do not count or tend to undercount non-motorized trips, because they are shorter, leisure trips, travel by children, or are just considered to be the walking links of motorized trips. These not counted trips include walking, cycling and cycle rickshaws.

The traditional approach to understanding travel behavior is through the household survey – using the household as the appropriate unit of analysis. However, the household survey assumes that a man and a woman in a household have access to the same resources, have similar needs for transport, and will make the same travel decisions. The main problem with this is that it ignores the division of labor within a household and the different impact that has on the individual in a household's transport needs.

The way the trip is defined will structure the information going into the traffic model and the main output of traffic modeling – the transport plan.

A trip is typically thought of as having an origin, a destination, a specific mode of travel, a specific purpose. This obscures the complex patterns of linked multi-purposed trips (trip chaining), which are typical to what many women use.
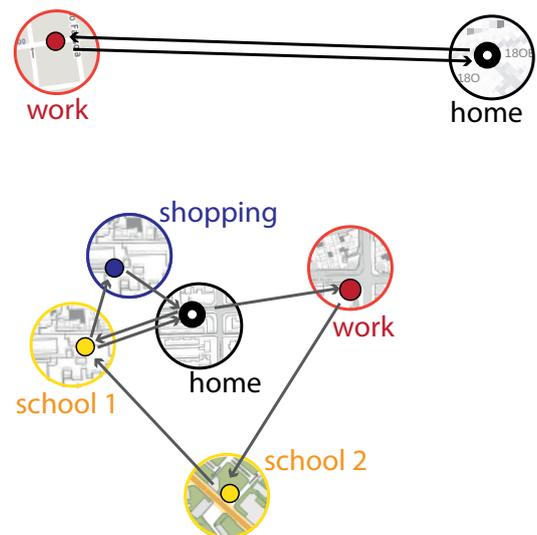
Figure 22: Women tend to make trip chains instead of single-purpose trips. The trips displayed below show the typical day of a women interviewed in a slum in Buenos Aires. Source: Mark, 2017.

Trip chaining is the recognition that "trips" are often more than just origin and destinations, but a chain of related trips. They are defined by anchors (home, work) and look at what happens between those anchors. In addition, trips are usually prescribed and prioritized as "wage-earning" trips. Thus, unpaid trips are not accounted for as highly. An alternative data collection approach that makes care-trips more visible is for example the concept of Mobility of Care by the Spanish architect Ines Sánchez de Madariaga (see examples chapter 6).

4.3 Measuring gender equity in urban transport

A measurement of gender equity in urban transport should assess the differential impacts on men and women; the extent to which women have been able to take full advantage of support mechanisms and opportunities offered; and how appropriate the project assistance has been for the socially disadvantaged (women included). Issues to be addressed in a project include training opportunities, credit, and other support mechanisms.

The project indicators should assess the different role and nature of consultations and participation among women and men, and suggest what the best organizational forms would be for enhancing women's roles and benefits through the project. Care must be given to the weighting of the multiply disadvantaged such as women with disabilities so that they also benefit from the project and ultimately the benefits of transport through increased mobility and accessibility.

Some indicators that would help measure the degree of gender integration in urban transport are:

- Passenger-mile by sex and age units reflect a mobility perspective that values automobile and transit travel, but gives less value to non-motorized modes because they tend to be used for short trips.

- Disaggregated data by sex, age and trip purpose is more meaningful than Passenger-mile which only reflects how mobile people are and tend to clue distance (i.e. automobile and mass transit travel), but gives less value to non-motorized modes which may be the main mode of travel for many women (see also mobility of care).

- Accessibility planning using gender place centers of interest such as crèches, schools, health/day care centers is helpful for gender responsive planning. Only collecting data per-trip by sex and age units reflects an access perspective, but not give gives equal value to automobile, transit, cycling, walking and telecommuting.

- Mode share disaggregated by gender to include not only include what percentage of men and women use which modes, but also, what percentage of walking, cycling and public transport trips are by men and women. This can give clear targets to increase women's modal shares.

- Transport related expenses by sex and age on individual level- lower-income households should pay a smaller share of their income, or gain a larger share of benefits, than higher income households and transportation modes should be affordable.

- Travel time and distances by gender and age units reflect an access perspective that gives higher priority to walking, cycling and transit travel, because they tend to represent a relatively large portion of travel time and indicates time poverty.

- Existence and mechanisms of special discounts for transport services based on income and economic need regardless of sex.

4.4 Participation

The participation of the transport users, male and female, may be the most important element to ensure thorough involvement and monitoring of gender integration in urban transport. Gender equity and inclusive transport for all can be achieved by appropriate planning, using the fact that the urban population is more concentrated than in rural areas, and that there are better communication facilities. In addition, participatory planning raises the awareness of both urban residents and the municipality or local urban government, which leads to better transparency at different stages of decision-making and appropriate urban transport governance.

Including women in the process of planning is an important element, as they can reveal their travel needs. Care needs to be taken to ensure that local women's groups are consulted and included in the public engagement processes about new developments and transport projects. A common engagement strategy would be to ensure childcare is provided at these meetings. If the consultations are only held at night it is unlikely that women will take part as they are looking after the family at that time and there would be no possibilities for child care, and women in much of the developing world do not go out at night.

Figure 23: Women need to be represented in decision-making. Source: SUTP 2017.

Women can also give useful inputs into the location of routes and services. In Bangladesh some public transport routes serving an area of factories (where the majority of workers are women) were revised after consultation with local women public transport users and the bus stops put nearer to the factories. This meant that more women could take up employment and the employers did not need to put on extra staff-transport, whilst in other locations factories frequently provide their own staff -transport so women can work. This can be worthwhile for employers as they can pay women workers less than men.

A similar example comes from MiCiti, BRT services in Cape Town. Here, bus stops were relocated and put further away from a cluster of bars and betting shops, and put nearer to a church. Before the relocation of the stop, women would get off at a less convenient stop and walk further to access the church.

Figure 24: Example for a participatory workshop. Photo by Encuentro Laboratorio Cambio Social, Santiago.

4.5 Safety audits

Safety audits are one way to incorporate safety and security issues into the project combined with assessment of transport infrastructure and streets. This is possible in any phase from planning, to design, to implementation. Safety audits not only help prevent accidents but are also a crime prevention initiative that aims to reduce opportunities for crime, particularly violent crime, in public places.

Safety audits allow local people to provide accurate and useful information to planners, designers and service providers and to participate in bettering the environment through consultations. They are about improving the physical environment in ways that will reduce the opportunities for crime, making public places like parks, bus stops and streets safer for everyone. Ultimately, a safety audit allows recommendations to be made to policymakers and planners directed at removing or reducing opportunities for crime and allows for monitoring.

UN Women uses and recommends using safety and security audits in the context of the initiative Safe Cities and Safe Public Spaces. The audit generally consists of exploratory walks in the field by groups of 3 to 6 people. It may also involve city planners, architects and city counselors for sensitizing, awareness building and decision-making processes. At each specific site, participants identify where the potential for a crime is high or where women, or others, may feel unsafe.

The audits are meant to increase awareness of crime and violence against vulnerable groups and to help decision-makers to understand how men and women experience their environments. It legitimizes women's concerns and is an effective tool to build community safety. Women in cities international published a detailed review with concrete recommendations and best practices, which can be found online (http://mirror.unhabitat.org/downloads/docs/7381_86263_WICI.pdf).

5. Designing gender responsive solutions – General directions

Providing gender responsive transport solutions is possible, but needs to base on the differences faced by men and women living in urban areas. Policymakers should seek improvements in transport that benefit the urban poor increasing social equity while also improving men and women's mobility and the urban environment.

Policies that aim to achieve gender equity include, but are not limited to:

- Ensuring geographical disbursement so that transport investments and service improvements favor lower-income areas and groups including women;

- Creating a more diverse, less automobile-dependent urban society and urban transport that effectively serves non-drivers, of which a majority are women;

- Emphasizing sexual harassment and how it can be addressed as a component of a gender equitable mobility plan.

- Improving non-motorized accessibility such as bicycles, which women may use for short or chained trips;

- Incorporating universal design that (accommodates the needs of not only people with disabilities but also the special needs of women with loads (transporting goods) to the market, the elderly or mothers using strollers) in transportation services and facilities;

- Providing required special mobility services for people with special mobility needs; and

- Combining urban travel centers with other services, such as medical services, schools, employment opportunities and other basic activities.

Policies should aim to reduce air and noise pollution through a modal shift to clean mass transit and non-motorized transport, as this improvement in the urban environment ultimately benefits the urban poor, of which at a disproportionate number are women. Nevertheless, it must be kept in mind that one of the biggest challenges in peri-urban areas is the lack of availability of public transport and an (unregulated) informal public transport, thus a frequent and adequate public transport network and fleet could is most relevant.

Transport policy and design should emphasize access and equity. Static information -with gender neutral signage- can include directional signage, maps with major destinations, and locations of public facilities. Static and real time information can also be helpful to reduce waiting time.

Below are some suggestions towards addressing these issues and all suggestions have been detailed more extensively in other modules of the GIZ Sourcebook.

5.1 Safety and security

Road safety

Changing infrastructure in order to increase road safety should be a key element in a Sustainable Urban Mobility Plan (SUMP) which addresses more strategic topics such as reducing traffic, improve public transport systems and encourage walking and biking. Implementing safe infrastructure includes traffic signs, road marking and delineation as well as the improvement of road surfaces.

The best way to increase road safety is to slow traffic down. One way to help reduce speeds and increase safety is by using traffic calming measures such as traffic humps and bumps, raised crosswalks, reducing sight lines, medians and forced turns to name a few. They are low-cost, self-enforcing design-based solutions, using physical design to enforce driver compliance. The way a street is designed gives physical and visual clues to the users – how fast to drive, where to walk, and where to ride. This is especially critical in resource constrained environments where typically enforcement has been lax.

Figure 25: Elderly women is unable to cross the street in Kuala Lumpur. Kuala Lumpur lacks street level pedestrian crossings because its urban landscape is dominated by elevated pedestrian pathways. Elevated pedestrian walkways present solutions for cars, not people. Photo by Christina Jang, February 2018, Kuala Lumpur, Malaysia.

Appropriate pedestrian and bicycle infrastructure is necessary for road safety. Pedestrians may have to cross the street in darkness in non-designated areas, and are forced to walk the main road with vehicles coming on from behind due

to the lack of marked crossings, lighting and traffic signals. Non-motorized transport that use the road, such as bicycles, also have to compete in already constrained road ways, while pedestrian infrastructure is also frequently used by hawkers or by drivers to park their cars/motorcycles. Road safety would be greatly improved with a better non-motorized transport infrastructure.

Road safety can also be increased by changing the paradigm in which mass transit is provided. Most private paratransit operators are paid per passenger and the incentive is to pick up as many passengers as possible. Bus operators essentially fight in the streets, competing to get the passengers, quickly pulling over to get one more cent, cutting each other off in order to get a passenger. Drivers work 12 – 16 hour days and operate unsafe, polluting, old vehicles. By building a competitive industry instead of an industry that competes within itself, the incentive then becomes providing a good service. After TransMilenio, the bus rapid transit system in Bogotá (Colombia) was built, fatalities along the corridor decreased by 93 percent after one year of operation.

In many countries in the developing world, driving tests can be easily passed without proper preparation and drivers may obtain licenses, especially to drive mini buses, without knowledge of the road and traffic laws.

Education is another means towards reducing injuries and fatalities – both in raising awareness and teaching safe driving. One campaign painted over 1,500 black stars on the streets of Bogotá, Colombia, as a stark reminder of each pedestrian death caused by car crashes over the last five years. The educational campaign promoted by the government asked Bogotá, "We are getting used to this; what's the matter with us?"The campaign aimed to reduce the death rate by 10 percent. Driver education on road safety is another form of increasing safety on the streets. This can be accomplished with formal training and education classes offered or through public awareness campaigns, such as seat belt use. These and other strategies are discussed in detail in the GIZ Training document on Public Awareness and Behavior Change in Sustainable Transport. More information on road safety and urban transport can be retrieved from giz publications as the SUTP Module 5b - Urban Road Safety or the iNUA paper# 4 Enhancing Road Safety.

Personal Security

Personal security encompasses a number of aspects not only violence but also physical and verbal harassment, assault, mugging, theft, rape and murders.
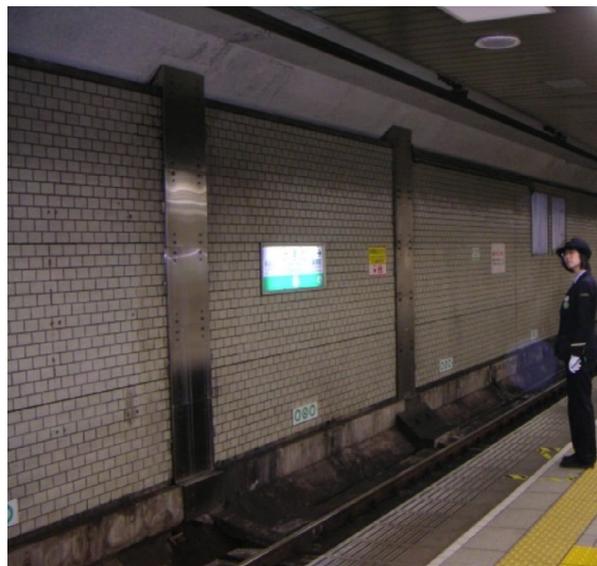

Figure 26: Woman staff in Tokyo subway supervises train arrival. Photo by Mika Kunieda.

Some ways to solve this issue in transit are greater security personnel presence on buses and at stations, a greater and gender-mixed staff presence from transport officials, a concerted effort to not have overcrowding in cars and buses. In some countries they have introduced women-only carriages on rail services, segregated parts of buses and/or put on women only bus or taxi services. The success of these measures depends largely on the local context and how they are implemented. As many examples of success as failure, it is difficult to assess it as a solution, but where really necessary it does appear to help women to be able to take public transport if otherwise they would not be able to, and only when it is part of larger range of policies and measures.

Women Only Services

Figure 27: Mumbai women-only train wagon, Photo by Manfred Breithaupt.

The segregation of men and women is seen by some to be a solution; however, it does not address the underlying issue that both men and women should be able to access the same transport choices and services. It also fails to address that sitting on the bus or taking the metro, is only one part of the woman's journey; there are large security concerns related to walking and waiting at stations. Women-only coaches in the subway or trains have, among others, been introduced in Brazil, Bangladesh, Egypt, Japan, India, Iran, Indonesia, Israel, Malaysia, Mexico, Taiwan and the Philippines, and several cities have introduced women-only bus services.

Examples include, **Mexico City** where there are a number of buses, with pink signs on the front to distinguish them, serving different busy routes. **Pakistan** introduced 'women-only' bus service to help tackle the problem of physical harassment of the female travelers a few years ago. The 'women-only bus' could be identified by a pink stripe along the bus. The buses had male drivers but they have female conductors and are not considered to be a success. Dhaka, Bangladesh had an unsuccessful trial of women only services and tried allocating sections in buses. The trial was only partially successful, as women who used the service were more satisfied and comfortable but as the section of seats reserved for women may not always be filled up, it caused resentment from men in the overcrowded male section of the bus. Women passengers usually prefer to have a female conductor and stated that it would be better to provide the female bus driver and female conductor for the 'women-only' bus service. Women only carriages on the **Dubai Metro** are not physically separated, but separated by a cord. This metro service is not yet overcrowded and there is respect for this segregation culturally. However, a lot of tourists and Westerners use the service and report that there is no stigma to them not sitting in the women's carriage (if they are female).

Typically, the differences between segregated rail and road based services also point at their success. In many cases, the demand for women only services is not high enough for them to be financially viable, as they double the operational service levels. Women are already generally poorer than men are, so there is little opportunity to increase the fares for women to pay for the service. It also creates tensions as women, who have to wait longer for 'their' bus, are frustrated at not being able to board the first bus to arrive if it is going to their destination. On the other hand, designating some rail cars to women allows them to enjoy the same level of service as men but in less crowded circumstances.

Women-only taxi services are in operation in a number of cities, for example in Russia, the UK, Egypt, India and Dubai. Those can be operated by different kinds of vehicles and also include women-only services by Rickshaw (see examples chapter 6).

In most cases separated carriages or special seating in place for security and not cultural reasons are viewed as temporary solutions that do not address the underlying problem. Indeed, to some extent it seems to confirm and might reinforce the notion that women should not be allowed to travel freely and need special attention.

In all contexts they should not be seen as solving harassment but rather a temporary 'fix' that at least allows women to travel with some levels of freedom as other packages of measures are being implemented.

The safety and security of public transport are important considerations for ensuring continued public transport use. This includes lighting for both stations and vehicles, and the approach to the station. It is equally important to think about door-to-door security. Potentially dangerous areas are dark streets, recessed doorways and dark spaces, deserted or abandoned buildings. Good lighting and good landscaping is extremely important on streets and around public transit stations and terminals. By strongly aligning mixed land use policies with transport, active spaces are created where women will not feel isolated and more vulnerable to attack. By having commercial spaces open and near to transit, there is a constant public presence that helps reduce possibilities for crime. As Jane Jacobs called it, "eyes on the street" is one of the best deterrents to crime. When spaces are dead, such as abandoned buildings and boarded-up store fronts, it is more likely that the activities that do occur will be of a violent or criminal nature.

There are a number of smart solutions for women and transport

There are a number of 'applications' that help women to better access transport via their smart phone and to also increase their safety – those should be used and promoted. Apps that indicate safer areas of the city are for example Safetipin (see examples chapter 7), India or Harassmap, Egypt. Apps that provide information about where to get transport (for example Digital Matatu, Nairobi, see examples chapter 6) or ride and car sharing apps can also increase security and make traveling easier. In cities where ride hail services such as Uber, Lyft or Grab taxi are allowed to operate, women can switch quickly from using other public transport and regular taxis to them. A large number of mobile apps exist, but communication in reaching communities that would benefit from them the most is lacking.

5.2 Access

"A developed country is not a place where the poor have cars. It's where the rich use public transport."

-Enrique Peñalosa, Mayor of Bogotá, Colombia

Figure 28: Inappropriate pedestrian infrastructure near Petronas Towers in Kuala Lumpur, despite the great space dedicated to automobiles. Photo by Carlosfelipe Pardo.

Most women have no choice but to walk to school, to market, to work. Walking distance plays a major role as it affects women more than men. However, there is very little pedestrian infrastructure to protect these walkers. Where there are sidewalks, they are often occupied by parked cars and obstructed by vendors. This means many walkers are walking on roads, crossing roads wherever convenient but putting themselves at risk of being run over by a speeding car. Creating dense street grid networks or non-motorized transport pathways that improve the pedestrian network should be considered.

The first consideration is actually providing sidewalks with sufficient width to accommodate demand. Raised crosswalks, crossings and street signals are all part of improving the environment for pedestrians. Bollards work well to protect sidewalks from cars, special attention is required for two-wheelers as they must be able to pass through. Sidewalks need to be accessible to all users, such as women with strollers and physically disabled.

Figure 29: In Johannesburg, a woman with stroller doesn't use the safety median in street because there are no ramps to access it. She remains in the street, competing with big trucks. Photo by Aimee Gauthier.

There is a greater extent of non-motorized transport, from handcarts to three-wheeled cycles, in use in cities in developing countries. These tend to operate in the roadway at much lower speeds than motorized vehicles, causing inherent conflicts leading to accidents. These, too, need to be incorporated into plans and designs, such as cycle tracks that can accommodate three wheeler widths.

Mass transit projects present an opportunity to improve environments around the main stations. For an adequate gender sensitive transport planning the entire travel experience should be taken into account – not only the journey with public transport. New stations can create new social areas and public space designed and adapted for use by women. This includes creating wide areas for walking, good levels of lighting and clear sight lines. With such improvements, women will also be more inclined to use the new services, as they will perceive that they are safer. Another problem is that a large majority of the urban population lives in slum areas where there are not many roads, those roads are not paved, and most access is through dirt walking paths – when improving public space, these areas should be focused especially, as has been done in Bogotá (see examples chapter 6).

Figure 30: Women carrying babies in transport are a frequent sight. Photo by Carlosfelipe Pardo.

More often than men, women are travelling with others and can be carrying children or packages when travelling. Steps make it difficult to easily board and alight buses, and metros or subways should have escalators or lifts.

Reserved seats, women only doors whereby women board and alight from the front whereas men board and alight from the middle or back can also help. Spaces for goods, strollers or wheel chairs in buses can also help in addition to wider gangways, lower handle bars.

Good, conscientious design can improve all of these issues, including pre-paid, on-level boarding at stations. Terminals and stations are critical to the experience of the consumer, both women and men, including integrating other services into them. Public toilets are an often overlooked but much needed transportation infrastructure facility. Other services that can be found at transit stops include grocery and convenience stores, as well as childcare facilities, such as Kid Stops, which are child daycare centers located at commuter rail stations in Maryland, USA and Tokyo, Japan, It enables parents to easily drop off and pick up their children on their way to work.

5.3 Modes of transport and women

Intermediate Means of Transport (IMTs) are of special relevance, for women. IMT vehicles range from wheelbarrows and handcarts, to bicycles, three wheelers, animal-drawn carts, to mopeds and motorcycles, tend to be overlooked as an efficient means of transport. However, there is some evidence that IMTs provide economic benefits for women, in particular those that may be involved in market gardening or small holding activities on the outskirts of towns and cities.

A World Bank report describes a situation in Ghana. Women transport oranges on their heads to villages 15 kilometers outside the capital city of Accra. In Accra, the supply of oranges is low and the prices are high. A distance like this can easily be covered by bicycle. If these women had bicycles, they could increase their income considerably. Furthermore, they would then have more time and energy to cultivate their land and then increase their production. The bicycle would increase both their sphere of activity and their transport capacity. A bicycle can transport up to approximately 50 kilos of goods at a speed of 8 to 10 kilometers per hour (kph) with less effort, while with walking, it is possible to transport around 25 kilos at a speed of 3 to 4 kph (half the load at less than half speed). The transport capacity of the bicycle is therefore around 5 times greater than on foot, apart from the physical energy and time saved. (World Bank 2008)

Increasingly women are taking to bicycles as a means to earn an income since they provide access to the market, as seen in the case of Vietnam and Uganda, where small bicycle taxis (a padded seat on the back of a regular bicycle) are being used to transport women to and from the market. The use of the bicycle by women in Tamil Nadu (India) has increased, due to a literacy drive, earning potential, and ability to access goods and services including education and health care for themselves and their children. In one district, 50,000 women learned to cycle in one year (see examples chapter 6).

Women living in Santiago, Chile, have started to use the bike more within the city due to better infrastructure. Moreover, the creation of a Woman's cycling academy, where they learn the basics of bike riding and also are able to cycle in groups, builds confidence about cycling.

Further, bicycles should be designed for both genders and differing contexts. Women tend to have shorter torsos and narrower shoulder widths, which affect the frame design. Bicycles can also be designed for the typical activities that men and women do. In Japan for example, the bicycles used mostly by mothers and housewives are called "mamachari" or "mama bicycles". These bicycles are lightweight, have baskets in the front and sometimes the back to transport groceries, or child seats attached to them and have a stable bicycle stand. In a different context, women seem to prefer men's bikes to women's bikes as they perceive them to be stiffer. The bicycle market has developed to a great extent in designing different kinds of bicycles for all uses, but most of these specialized bicycles are too expensive for low-income people.

Figure 31: The bicycle can play an essential role for the transportation of goods. Source: Manfred Breithaupt.

5.4 Operations

Ultimately, when the government decides gender is important to address in transport, steps can be taken to address it easily. Regarding operation, the government can encourage certain practices, such as providing training and hiring women drivers and demanding a gender mix of personnel at stations, on buses, and even in management. In many countries, few women are able to benefit directly from employment in the provision of transport, as driving is a traditionally male-dominated employment sector. They do benefit in other respects as transport hubs and sometime the transport trip itself (especially the longer rail commutes) provide market opportunities for small-scale commerce.

By explicitly requiring and providing means for women to be part of the transport system and encouraging their economic and political representation, the government sets a clear mandate of its social equity objectives. Women can be incorporated into jobs from planning, construction, operations, to traffic enforcement, to street cleaners, to meter maids.

In Peru, women police officers were found to be more effective in enforcing law and traffic management, as they had a reputation amongst drivers as being incorruptible. About a fourth of Lima's traffic officers are women, and Buenos Aires now has gender parity in its city force of traffic agents. Women are playing an increasingly large role in South Africa, where they hold leading positions in planning departments, and make up an increasingly growing cadre of female transport planners at all levels in government.

Figure 32: Female transport agent in Buenos Aires. Photo by Sebastián Anapolsky.

Women are often discouraged or unable to get into the industry – due to various reasons ranging from a lack of capital to a lack of acceptance. There are, however, promising examples, where women are being trained and hired as bus drivers. Because the industry is formalized and regulated, women now have space to enter into these jobs and greater income earning opportunities. Employing women in transport will make women more visible in the transport sector and contributes to reducing urban poverty as these employed women earn an income.

There is a growing number of examples where women enter this job market and enjoy multiple benefits – not only to those who have been able to secure paid employment but also in terms of benefitting from a broader and more diverse employee base.

By providing trainings, women are more inclined to apply for bus and train driver positions. Employers have taken into account how women tend to obey traffic rules more than men (with less examples of speeding and thus fewer fines and accidents), drive in a more steady fashion which uses less fuel, and have more positive interactions with passengers.

Figure 33: Female bus driver. Photo by Carlosfelipe Pardo.

It is up to the government, local municipalities, and road authorities whether women's urban travel needs and behaviors will be adequately considered in the planning and implementation of gender-sensitive urban transport policies and programs and whether women will benefit from transport infrastructure and services. Transport governance should be transparent and approachable so that women will be interested and perhaps involve themselves in improving transport infrastructure and services. Good transport governance will be especially important where public transport systems are in a state of crisis as a result of accelerated urbanization, economic and financial crisis or the lack of a regulatory authority in charge of organizing and coordinating transport modes will impact urban women's lives and in particular low-income women and single mother households.

6. Good practice examples

TfL: Action for Equality

Country: London
Phase: All Phases
Stakeholders: Public

Description: Transport for London, the integrated transport authority for London, issued this plan in 2016, setting out commitments to promoting equality for customers, staff and stakeholders. It is divided in the categories Accessibility, Safety and Security, Affordability, Information, and Employment.

The report is based on disaggregated data on travel patterns and elaborated with participation of the staff and different interest groups like students, disability rights groups, various women´s groups, etc.

It works towards an integrated and clear vision, subdivided in 11 categories, for each of which concrete goals and actions are formulated referring to all transport modes. For example, one category of goals is "Travelling Safely and Securely". Measures include a LED-program, staff training, workshops in schools, lower speed limits etc. Other measures are priority seating, campaigns in cooperation with youth groups and diversity in the workforce, among many others. The plan also includes a system to measure progress on a yearly basis. (TfL 2016)

The full document can be downloaded under http://content. tfl.gov.uk/action-on-equality-tfls-commitments-to-2020.pdf.

TfL 2016

Similar Examples: TfL *Gender Action Plan 2007-10*&Gender Mainstreaming Plan for the City of Vienna

GAP BRT – Corridor Peshawar

Country: Pakistan
Phase: All Phases
Stakeholders: Public

Description: The GAP details specific measures to ensure a social and gender-inclusive BRT operation. Each measure is specified with regards to specific target, responsibility and time frame (see exemplary extract below). In this process, a full-time social and gender specialist has been hired as part of the staff and regular consultation meetings with various stakeholders are done to ensure the timely implementation of the GAP. Progress is monitored and reported regularly, with a distinct section that provides sex-disaggregated data demonstrating the extent of implementation of gender activities and describing challenges met and actions taken to overcome them. (ADB, 2017)

Activity	Target	Responsibility	Time Frame
Ensure all BRT stations are socially and gender-inclusive	Each BRT station is adequately lighted and has (i) separate restrooms for men and women, (ii) priority e-ticketing counters for the elderly and disabled, and separate counters for women, (iii) CCTV facilities, (iv) instruction boards with helpline numbers and color-coded directional signs, in local languages and (v) visible reporting desks to address incidents of harassment and other crimes	Head of Trans Peshawar, Social/Gender Specialist, Project Director and relevant staff of local consultants	All throughout construction stage until the first year of operation
Conduct a study on the impact of the BRT on the lives of Peshawar residents, with specific impacts on men, women, children, elderly, and disabled	a) Report on BRT impact on the city of Peshawar in general, and of the residents in particular submitted to Trans Peshawar with a copy to ADB b) At least 1 video documentary capturing the pre and post-BRT experiences and perceptions of equal number of male and female interviewees	Trans Peshawar Company, Project Director, Social and Gender staff, local consultants	a) Year 2 of BRT operations b) Pre-BRT video: Q3 of 2018; Post video: Year 2 of BRT operation
Hire women staff	At least 20% of staff are women	Trans Peshawar Company, Project Director and relevant staff	Year 1 of project implementation

Example for elements of a Gender Action Plan for the Peshawar BRT-Corridor. Source: ADB 2017, modified by authors

Gender Study in Transport Sector in Namibia (published in 2018)

Region: Namibia
Phase: Assessment // Monitoring
Stakeholders: Public

Description: The Ministry of Works and Transport conducted a study on Gender Mainstreaming in the Transport Sector of Namibia. The aim of this study is to analyse the implementation of gender sensitive policies. The first part of the gender study aims to identify existing and potential gender issues in the transport sector of Namibia. Particularly, the study presents the status quo and gap analysis of participating stakeholders in the transport sector –   by considering transport policy, transport services, logistics, transport education, roads infrastructure and civil works.

The study found that the most significant challenge in Gender Mainstreaming in the transport sector is the lack of technical capacity for gender integrated panning, monitoring and evaluation. Additionally, lack of financial resources to assist with gender programming was found to be a challenge.

The second part of the study is researching on a number of issues around the urban travel needs. The study captures issues of travel patterns; transport modes used; time use - reliability of transport; access to resources for travel; safety, discrimination and harassment; differences in access to and use of transport across social strata; Barriers to transport; Disability and transport use and access. Further the gender study explores how transport is responding to the integration of the needs of the vulnerable, and how infrastructure is enabling alternative modes of transport such as walking and cycling- as well as use of own car.

The study clearly observed that gender disparities have some policy implications, particularly, the implication of women's behaviour on trip planning practices, and women's transport issues on policy development.

Mobility of Care

Region: Worldwide (developed in Spain)
Phase: Assessment // Monitoring
Stakeholders: Public

Description: The innovative concept "mobility of care" developed by the urban architect, Ines Sánchez de Madariaga, provides a perspective for "recognizing and revaluing care work"— and helps to better appreciate the trips that women and men make when caring for others, as the data reveals significant travel patterns otherwise concealed in data collection variables (Sánchez de Madariaga, 2009; Sánchez de Madariaga, 2013;). The figure below represent public transportation trips made in Spain in 2007 and the left graph shows transportation data as it is traditionally collected and reported. It privileges paid employment by presenting it as a single, large category. Caring work (shown in red) is divided into numerous small categories and hidden under other headings, such as escorting, shopping and leisure. The chart on the right re-conceptualizes public transportation trips by collecting care trips into one category. Visualizing care trips in one dedicated category recognizes the importance of caring work and allows transportation engineers to design systems that work well for all segments of the population and improve urban efficiencies. In all EU countries surveyed, women spent significantly more time performing childcare than men.

Traditional Data Arrangement

### Data arranged using the concept of "Mobility of Care"
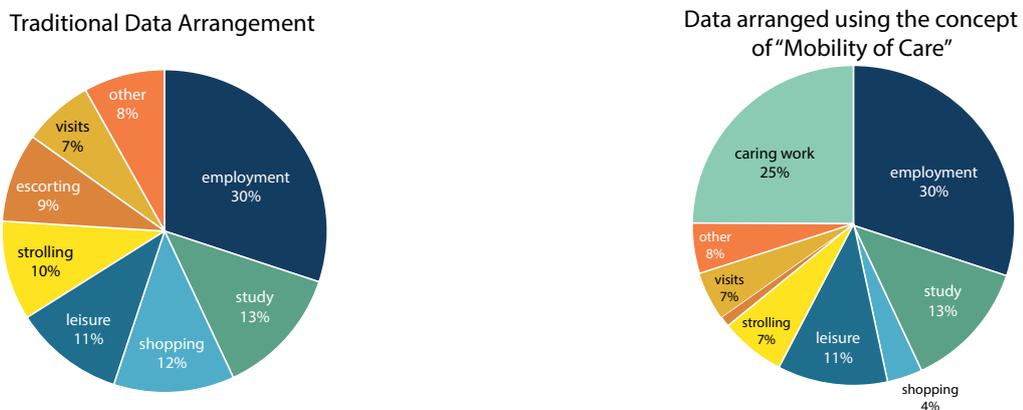
Figure 34: Public transport trips by purpose in Spain (2006 – 2007). Data for Spain is similar to data averaged across the EU (15). In the traditional data collection, trips for caring work are hidden in various trip purposes, and displayed for example as a part of "shopping", "strolling" or "escorting". The same trips are classified differently in the second graphic – and relevance of trips for caring work becomes obvious. Own illustration, based on Sánchez de Madariaga.

Assessment of Everyday Network Tool

Region: Spain/Latin America
Phase: Assessment/Monitoring
Stakeholders: Public/Private

Description: This tool had been developed by the Spanish planning collective Col·lectiu Punt 6. It involves the mapping of frequented destinations and services as well as problems and needs and the direct living environment of women. The maps are usually made in a community group, based on walks and discussions and can help understand the specific problems of a community. (Ortiz Escalante & Gutiérrez Valdivia 2015)

Figure 35: Collective map made by Col·lectiu Punt 6. Source: punt6.org

SafetiPin

Country: India
Phase: Assessment/Monitoring
Stakeholders: Private

Description: SafetiPin is a map based mobile phone application, designed to make communities and cities safer by providing safety related information collected by users and by trained auditors. At the core of the app is the Women's Safety Audit (WSA), a participatory tool for collecting and assessing information about perceptions of urban safety in public spaces. The audit is based on nine parameters:

- Level of lighting
- Openness (sight lines)
- Visibility (overhanging trees, high walls etc)
- Level of crowding or emptiness
- Security (agents)
- Walk/ footpath
- Availability of public transport,
- Usage of the public space (for instance is it male dominated or mixed) and
- Feeling/ emotional response to the space (sometimes also called "eyes on the street").

Safetipin conducted audits to assess the safety of the city of Delhi since August 2013 and collected more than 7000 data points that can be used by the city to improve the safety, such as replace lighting that no longer works, repairing broken footpaths or cutting overhanging trees. They especially concentrated on Last Mile Connectivity, meaning the immediate surroundings of metro stations, and rated them according to nine parameters. SafetiPin has been used in many cities such as Bogotá, Colombia, Manila, Philippines and Mexico City. (Shah et al. 2017)
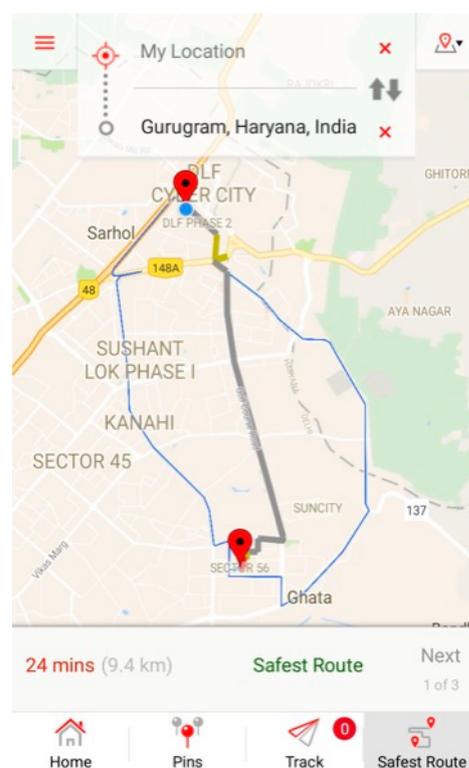
Figure 36: The app SafetiPin can, among many other things, also show the safest route to reach a specific destination. Source: SafetiPin.

FemiBici

Country: Mexico
Phase: Implementation, Awareness
Stakeholders: Private

Description: FemiBici is a feminist cooperative in Guadalajara that sees the bike as a tool for emancipation. They offer different workshops, for example a female bike workshop or classes to ride the bike for women, who are often not used to this mode of transport. They also organize bike rides for women through the city, which increases visibility and the joy to move, and helps to reclaim the city especially at night. Together with an investment in cycling infrastructure, this approach to emancipation and education is essential for encouraging women to us the bike. (FemiBici 2018)

Similar Initiatives can be found in various places especially in Latin America, for example the initiative Macleta in Santiago de Chile (as described by ITDP 2017).

Gender Sensitization Trainings

Country: India
Phase: Implementation, Awareness
Stakeholders: Public

Description: Sensitization for women´s issues in public transportation plays an essential role for changing behavior. An example , as described by ITDP (2017), is the training conducted with the Delhi Transport Cooperation that includes role-plays as a basis for discussions about gender issues in transport, as well as After Trainings Support. Since 2012, a mental health organization in Delhi conducts those trainings and has by now trained over 100,000 transportation employees. For more information, please see ITDP (2018, p.45).

Investments in public space in Bogotá

Country: Colombia
Phase: Implementation
Stakeholders: Public

Description: The introduction of the BRT System TransMilenio in Bogotá was part of a wider urban development project, started by Mayor Enrique Peñalosa, who sought to radically alter the image of the city through the development of public space. Low-income neighborhoods were targeted specifically: recognizing the limited access from roads for people living in slums, and that the majority of slum dwellers do not own cars, the government decided to focus its infrastructure investments on cycle ways, pedestrian paths, open space and parks, schools, and libraries. The paved greenways called alamedas run adjacent to unpaved roads and lead to TransMilenio stations. (Crawford, 2012)

Figure 37: Alamedas in Bogotá were built on the side of dusty roads, showing that pedestrians were more important than automobiles. Source: Por el Pais que Queremos.

Pink Rickshaw

Region: South and Southeast Asia
Phase: Implementation
Stakeholders: Public

Description: For reasons of safety, in South and Southeast Asia women often choose to ride on alternative modes such as rickshaws or qingqis (motorcycle rickshaws). Many middle and lower-middle class women in India and Pakistan for example depend on their brothers, fathers and husbands to get to work, school, hospital runs and for other errands. Public transport is often unavailable, and where it is available, women are frequently harassed while waiting on street corners for taxis, at bus stops and on-board buses. Rickshaws are popular in Dhaka, Bangladesh as in much of Asia, as they provide door-to-door transport, enabling women, girls, as well as, the disabled to travel to the workplace, schools, and other areas without being harassed or feeling uncomfortable in overcrowded buses and inadequate sidewalks. In India

and Pakistan (Lahore, Punjab Chakwal) a number of 'pink rickshaw' services have started which are for women and driven by women. Becoming a rickshaw driver often not only provides women with revenues but it also helps other women to become empowered by providing safe rides for them.

They are much more likely to ride on these modes than men, and they frequently coordinate with other women from their neighborhood and share rickshaw costs to commute to and from work or to visit the market. However, finding other women who live nearby and work in the same area can be difficult.

Similar Examples: Other private women only services include for example: Russia, called 'Pink Taxi' and in service since 2006, in UK (called 'Pink Ladies') from 2006, in Dubai from January 2007, and in Egypt. In Delhi, there have been taxi services uniquely for women such as ForShe Taxis and Sakha Cabs since many years.

West African Transport Academy

Country: Ghana
Phase: Operations, Awareness
Stakeholders: Public and Private

Description: The introduction of the BRT System in Accra was supported by the company Scania through the delivery of buses, planning and management support, an electronic ticketing system a financing model and capacity building for the operators. The capacity building, organized in cooperation with GIZ, included intensive mechanics training as well as training for BRT-drivers. Since women were nearly nonexistent among drivers, a goal of 10% female drivers was set and supported by a campaign called "Women moving in the city".120 jobs for female bus drivers were created and a

free 6-months-course was offered. Through campaigns and role models, interest was and is very high among women to participate - and the 10% mark will surely be surpassed.

To train and employ female drivers leads to fuel-saving and less aggressive driving behavior and a higher feeling of security for female passengers, and it also has a positive effect on their male colleagues. As says Fredik Morsing, Scania Director of West Africa, referring to individual driving profiles they used to monitor the project: "The BRT Management is sure that the male drivers, although in majority, will adapt a more "feminine" driving style with the effect of significant cost reduction".

Figure 38: Awareness raising plays an essential part in the capacity building initiative. Source: giz. Photo by A. Kwesi

Digital Matatus

Country: Kenya
Phase: Implementation (Information)
Stakeholders: Private

Description: Using open data and GPS-date from cellphone users, a map of the city's transit network was developed in cooperation between Kenyan and American Universities and the technology sector in Nairobi. Allowing users to see the routes of informal transport, the map was officially recognized by the city of Nairobi. The data and map provide the first comprehensive visualization of the matatu system and creates a new planning tool for the city. With open data, the technology community developed five mobile applications that provide routing information to the public.
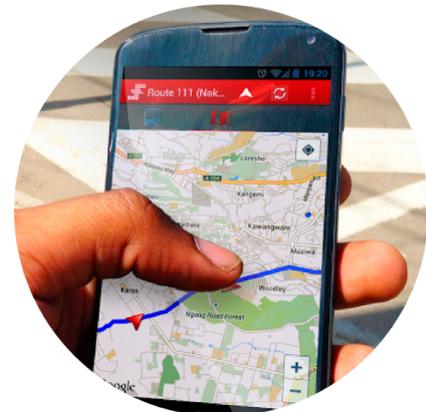

Figure 39: Informal transport trips can now be planned via smartphone. Source: Digital Matatus.

Raye7

Region: In selected countries (originally from Egypt)
Phase: Implementation
Stakeholders: Private

Description: Raye7 is a culturally sensitive urban carpooling application combined with a social networking element. The app matches trips for users who belong to predetermined social communities such as co-workers or friends. With this mechanism, control and information about the other person is much easier and preferences can be adjusted (for example to only take rides with women).
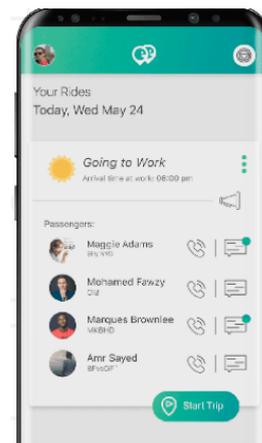
Similar examples: Caronetas Brazil, Jump.In.Jump.Out India; Gett Isreael; She taxi India

Figure 40: Example of how to use the App. Source: Raye7, 2017.

#PT4ME

Region: Worldwide
Phase: Implementation, Awareness
Stakeholders: Private/Public

Description: The global campaign #PT4ME, officially launched on International Women's Day, 8 March 2018, was developed by the World Bank and UITP. It responds how today, still 80% of women are afraid of harassment in public transport. It consists of a number of elements (videos, posters, flyers, etc.) in different languages, and was broadcasted on International Women´s Day to more than 100 public transport Operators and Authorities all around the world, who showed the video in their systems (stations, on-board screens, etc.), disseminating posters/flyers and through social networks. (UITP 2018)

Figure 41: Print on a bus for the PT4ME Campaign; Source: UITP 2018.

7. Conclusions

Transport is not gender neutral and it is time for transport policymakers and experts to stop assuming transport is.

Gender needs to be addressed in urban transport because:

- Women have less access to resources and are economically disadvantaged as regarding the control of the household's finances; therefore, affordability of transport is especially relevant for women and girls. Constrained access to transport can also exacerbate gendered poverty. Women are likely to take inexpensive and therefore slower modes of transport. Therefore, it is essential to improve the overall conditions for traveling to allow women to meet their needs and aspirations as well.

- Women have different travel patterns, and use public transport and walking more than men. They make more trip-chains and also depend on off-peak and off-branch travel. This needs to be understood and taken into account in planning so women can complete their needs and tasks.

- Women use public transport more than men and depend on its accessibility. Besides mass transport, women mainly rely on walking. Many women travel with children, or carry loads. Physical barriers, such as high kerbs and steps, present more issues for female caretakers (such as accompanying children or the elderly) than able-bodied men. Additionally, issues of quality or capacity affect women more due to safety and caretaker burdens.

- Women are more affected by safety and security issues. Women frequently encounter violence and harassment when they are using public space, particularly in public transport. This reduces the freedom of movement of women and girls, their ability to attend school or work and to participate fully in public life.

Developing and implementing gender responsive transport requires both resources in terms of funding and capacity of the city administration. However, when considering the risks, cost and wasted resources of building infrastructure and services that do not attract women to use it (or makes it difficult for women to use), the investment in disaggregated data collection and increasing capacity are considered worthwhile. Integrating gender issues into urban transport planning is efficiently supported when setting up a city-wide

Gender Action Plan (GAP) as part of the City's Sustainable Urban Mobility Plan - and not a separate entity.

Including gender aspects into urban transport planning is no longer an option but is likely to make or break the success of many networks. The risks of not doing so are now great as in order for economies to develop, more women will need join the work force. Currently women rely and use public transport more than men, and it will be important to keep their high modal share if cities are to be able to develop sustainably.

Much can be gained by using women as a proxy for a larger community of users such as youth, children, the elderly and the disabled.

It is also clear that if women are not able to rely on public transport, walking and cycling as safe and secure modes, they have less access to education, which is key to finding job opportunities and contributing to the development of local and national GDP. Increasing the number of women in the formal economy will also help bring more families out of poverty and increase social stability. The contrary is also true – that if they are not able to access such opportunities then development will be slowed down. In addition, as women become more empowered they will shift quickly to personal forms of motorized transport if their needs are not met by public transport, and as the majority user, this would reduce the positive impact of the current investments in expanding public transport and improving cycling and walking facilities.

Integrating gender into urban transport does not require extra effort; it is just a matter of looking beyond the male perspective.

It is time to think about how to make urban transport gender responsive, sustainable and affordable, giving people real choices and real access to opportunity. The benefits will not only be the people of the city – both women and men, but the city as a whole as it becomes more competitive in the global market place and more efficient in providing services to its citizens. Increased access to transport contributes to a higher quality of life.

Transport and the way it is used is complex. It operates in a social space that is highly gendered – and today, nobody can afford not to consider this in all stages of the planning process.

8. Implementation

Developing and implementing a Gender Action Plan (GAP) is a dynamic process, which requires active support as well as resources, but it also fits with any town or city's ambition for livability and social justice.

Developing a Gender Action Plan

A GAP is an integrated planning tool to include gender equality within a project, program and policy. It is based on detailed analyses, which identify key gender inequalities and constraints that the project, program and policy should aim to improve. The period of a GAP should be a 10 year plan with annual monitoring and a review after 5 years.

Some general questions that should be addressed prior to or in the process of elaborating a GAP are:

| Roles & Responsibilities	• Who does what? • How? • When? • With whom?
Access & Control	• Who has what? • Who decides for whom? • Who benefits? • Who loses?
Context	• What are cultural and social influences? • What are economic factors? • Why is it not equal?

Figure 41: Typical questions to build a GAP. Source: Own elaboration, based on H. Allen, 2017.

Within a GAP you have to prioritize actions and schedule implementation of measures, including public awareness campaigns. It must be integrated into a Sustainable Urban Mobility Plan (SUMP). Gender Responsive Indicators play a role in establishing baselines and monitoring outputs and outcomes for all of those phases (see for example ITDP 2017). (For an example of a GAP see chapter 6)

Define Targets

- Prioritize areas and communities as well as stakeholders and provide framework for local/city/regional action.
- Set the baseline, define clear targets and include specific activities and indicators that will help to achieve them within a defined time frame and by a specific department or agency.

Review the Framework (more details see chapter 2)

- Review the institutional framework.

- Build programs that allow local action, including financial support and capacity building, and introduce gender into the city planning agenda.
- Encourage gender balance in internal departments responsible for transport. Set targets for change if needed and influence recruitment positively.
- Review legal frameworks for women's protection and to ensure that women have the legal protection against violence in public spaces and on public transport. Empower and provide training for the security forces with help lines and dedicated teams for sexual related violence and harassment.

Involve Stakeholders (more details see chapter 4)

- Establish cooperation mechanisms with relevant departments within and beyond the administrative boundaries of your administrative area or city.
- Co-create actions and plans with wide number of stakeholders. Involve local universities, gender and transport experts and women's groups in monitoring implementation and conduct third party evaluations
- Identify and involve relevant stakeholders and interested parties, by identifying influential citizens and grass roots organizations that are working on gender in your city and build a better understanding of the needs of the women in the different communities.
- Build trust.

Collect Data (more details see chapter 4)

- Use state of the art survey methods to provide accurate and more complete transport data about the different mobility patterns of men and women and their costs. Undertake surveys, time use diaries and focus groups to determine the local differences and cultural/social norms between men and women.
- Collect sex-disaggregated data and data on non-motorized transport as well as motorized modes. Women and children make a large number of walking trips and the number of trips made by walking or cycling is often underestimated in a city. Take into account the 'first and last mile'.
- Collect data on the frequency and nature of sexual harassment and conduct interviews with transport service providers/operators, department managers on their awareness of the frequency and nature of harassment, and their role in preventing or addressing it. Assess the existing complaint reporting and redress systems within public transport authorities.

- Safety audits are one way to incorporate safety and security issues into the project. This is possible in any phase from planning, to design, to implementation. Safety audits allow local people to provide accurate and useful information to planners, designers and service providers and to participate in bettering the environment through consultations.

Implementation and Monitoring (more details see chapter 5)

- Consider gender in design and operations. This also means employment of women in the field of transport.

- Monitor the implementation process annually and evaluate, review and refresh GAP. After implementing measures, monitoring with a specific gender focus is highly recommended. It helps to assess how well a project meets women´s needs, and to see which measures were successful and at which points changes are necessary for following projects.

- Re-adjust if necessary and update the plan regularly (every 4-7 years).

- Empower and provide training for transport service providers – especially conductors and drivers, department managers and station personnel.

- Empower and provide training for the security forces with help lines and dedicated teams for sexual related violence and harassment.

Mayors as key players

There are a number of stakeholders who can influence gender responsive urban transport. The National Government can define an overall strategy to involve gender in national policies and programs and e.g. make a GAP mandatory.

On city level **Mayors are key stakeholders in making transport gender responsive.** Recognizing the need to address gender issues by a mayor sends an important political message. Relevant departments within and also beyond the administrative boundaries of cities and administrative areas can take action to implement gender responsive urban transport. Including citizen, local universities, gender and transport experts and target groups in planning new transport projects and programs on community and city level helps to meet the requirements and effectiveness of the system.

Gender must be considered in all stages of the planning process: data collection, planning and design, implementation and monitoring. Key issues to be tackled are the support of women's participation in decision-making, the improvement in accessibility, safety and comfort of transport modes and the planning of transport services in response to gender needs.

What can mayors do for gender responsive transport planning?

- Consult with the heads of urban planning and mobility departments on their current approaches to including gender into planning urban mobility.

- Establish a multi-stakeholder committee under your chairmanship that steers the development of a Gender Action Plan (GAP).

- Consult with local universities, gender and transport experts and women's groups to better establish the needs of women in your city.

- Assess whether national support programs or international initiatives can support your ambitions and allocate resources to the strategic preparation and the implementation of a GAP.

- Set clear-cut responsibilities and allocate the necessary resources and mandates to your administration. Ensure that local districts and councils are able to access limited funding for grass roots actions, such as participatory workshops, safety and security audits, local public awareness campaigns.

- Implement the plan and set in place processes to monitor the implementation of the action plan so it retains its dynamic nature and people pay attention to the issue in all aspects of urban and transport planning. Evaluate outcomes of the GAP to inform the review and revision of the plan. (see for example Shah, Viswanath, Vyas, Gadepalli, 2017)

- Review the numbers of females in your transport and urban planning departments to ensure that there is also a good gender balance in the internal decision-making processes.

For more information and inspiration on how to address policymakers to promote sustainable transport see also Module 1e of this Sourcebook "Sustainable Mobility: Getting People on Board", updated 2018.

Basic checklist for implementation

In the following you can find an exemplary checklist of concrete questions that can help in the process of gender sensitive planning. It can be used no matter if gender-sensitive planning measures have already been implemented, or if the stakeholders are just starting to get familiar with the topic – those questions are helpful to get an idea of the current situation, or to evaluate current or past planning efforts with regard to gender sensitivity.

✓ Has the urban transport program or project identified male and female participants, clients and stakeholders?

✓ Has baseline data been collected and analyzed on gender relations, roles and identities within the urban environment and the use of transport?

✓ Has the urban transport program or project taken into consideration the analysis of gender relations, roles and identities and introduced a component or transport measure to address a gender issue?

✓ Has the urban transport program or project developed an indicator that measures gender specific outcomes and evaluate the effectiveness of the component or measure designed to address the above-mentioned gender issue?

✓ Has transportation planning been based on local conditions and specific and local needs of men, women, youth, elderly and the disabled?Have statistics and situations in developed countries been referenced and adapted to reflect the needs and resources in developing countries?

✓ Have jobs and social services been brought closer to men and women by developingaccessible land use patterns.

✓ Has the issue of personal mobility and access of non-drivers, of which a majority are women and the elderly, been thought through? Have policy, planning or investment practices that favor automobile travel over other modes or lead to automobile dependencybeen avoided?

✓ Have the implications of policies and projects that degrade pedestrian and cycling conditions, such as new highways that divide existing communities or eliminate walkways been considered. Have measures been implemented to control vehicle traffic volumes and speeds, particularly in urban neighborhoods?

✓ Has the participation of various stakeholders in the transportation planning and decision making been facilitated?

✓ Has comparative advantage been given to traditionally socially and transport disadvantaged by applying full-cost pricing to automobile travel, road pricing, parking pricing and fuel taxes and distance-based charges?

✓ Provide transportation consultation and information on transportation choices available.

✓ Have you looked at the supply of females into the transportation field? Has gender been integrated in engineering education and measures put in place to groom women's leadership in transport planning?

✓

SUTP – Sustainable Urban Transport Project — SUTP supports decision-makers worldwide to plan and to implement innovative and sustainable mobility solutions. SUTP offers a comprehensive knowledge platform, capacity development, hands-on advice and networking opportunities. Within the past 16 years, more than 5 000 decision-makers, planners and students have benefited from our training offers. We've produced a rich library of Sourcebook Modules, Technical Documents, Case Studies, Factsheets, Policy Briefs and Reading Lists. All documents are accessible through our webpage, along with a comprehensive photo collection and a video channel. Be invited to use and distribute them!

http://www.sutp.org
https://www.facebook.com/sustainableurbantransportproject
https://twitter.com/_SUTP

TUMI - The Transformative Urban Mobility Initiative enables leaders in developing countries and emerging economies to create sustainable urban mobility. It offers technical and financial support for innovative ideas. In TUMI the German Federal Ministry of Economic Cooperation and Development (BMZ) has brought together some of the world's leading institutions working on sustainable mobility with city networks and think tanks to implement projects on site where they are needed most. Partners include ADB, CAF, WRI, ITDP, UN-Habitat, SLoCaT, ITDP, ICLEI, GIZ, KfW and C40. A transition towards sustainable urban mobility requires a shift in policy making and investment decisions. TUMI will support projects, leadership development and career building for urban leaders, decision-makers, planners and students; ultimately connecting 1000 leaders worldwide. We believe in capacity building, mobilization of investments and supporting approaches on the ground as the most effective measures to follow the set goals and achieving a more sustainable urban future.

http://transformative-mobility.org/

GPSM – German Partnership for Sustainable Mobility — The GPSM is serving as a guide for sustainable mobility and green logistics solutions from Germany. As a platform for exchanging knowledge, expertise and experiences, GPSM supports the transformation towards sustainability in developing and emerging countries. More than 170 friends from academia, businesses, civil society and associations are participating in the network and are happy to share their knowledge.

http://www.german-sustainable-mobility.de
https://www.facebook.com/germansustainablemobility
https://twitter.com/GermanMobility

International Fuel Prices provide decision-makers with data on fuel prices on a global scale. GIZ, with its global network of projects in 135 countries, regional offices and representations in 64 developing countries, publishes a biennial study "International Fuel Prices" on the global fuel sector since 1999. On an annual basis, we are convening fuel regulators to discuss appropriate pricing and taxation schemes for fuel prices.

http://www.giz.de/fuelprices
https://energypedia.info/wiki/International_Fuel_Prices

Resources

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Further resources

- Women in Cities International focused on gender equity and participation of women in policymaking in a networking event. Various discussions were held on the problems faced by women in urban areas, especially with regard to transportation and sanitation; the importance of implementing legislation for gender equality; and the role of training and education programs for poor girls to provide them with working skills and the ability to protect themselves against abuse and violence. Delegates also highlighted the importance of political will, action plans and accountability.

- GIZ, Sustainable Transportation: A Sourcebook for Policy-Makers in Developing Countries, (www.sutp.org/), by Deutsche Gesellschaft für Internationale Zusammenarbeit (www.giz.de). Many of these documents are now available in various languages including Spanish, French, Chinese, Indonesian, Romanian, Thai and Vietnamese.

- The City Mayors Transport Section (http://www.citymayors.com/sections/transport_content.html) deals with urban transport issues in developed and developing countries and features the world's metro systems.

- Practical Action (www.practicalaction.org) formerly Intermediate Technology Development Group believes that one of the major causes of poverty is isolation and that improving the access and mobility of the isolated poor paves the way for access to markets, services and opportunities is important but that road systems do not solve the urban and rural poor transport problems.

- Access Exchange International (www.globalride-sf.org) is a non-profit organization that promotes cost-effective access to public transportation for disabled persons in developing countries.

- Karachi Urban Resource Centre (http://www.urckarachi.org) is an advocacy group of urban planning related professionals, representatives of NGOs and grass-root community organizations and teachers at professional colleges. The situational descriptions of Karachi's transport and traffic management, mass transit system are detailed.

- The Sustran Discuss List (www.geocities.com/sustrannet/) is an email discussion list devoted to people-centred, equitable and sustainable transport with a focus on developing countries.

- Global Development Research Center Sustainable Transportation (http://www.gdrc.org/uem/sustran/sustran.html) has a great entrance point for web-based material on sustainable transportation, but no gender angle.

- Institute for Transportation and Development Policy (www.itdp.org) promotes socially equitable and environmentally sustainable transportation policies and projects worldwide. The ITDP publishes a quarterly on-line newsletter, Sustainable Transport, available free at their website and was one of the first organizations to recognize gender issues in transportation (1999, available from ITDP website>publications section).

- International Forum for Rural Transport and Development (IFRTD) (www.ifrtd.org) is a global network of organizations and individuals working to improve accessibility and mobility in rural communities, functions as the webmaster/secretariat of GATNET the gender and transport network, and has published a newsletter dedicated to gender and transport in the past.

- The Journal of the Eastern Asia Society for Transportation Studies http://www.easts.info/on-line/journal_06.htm has 314 papers under various topics such as transportation survey, transportation demand analysis, urban road system, data collection, land use and spatial analysis, project evaluation to name a few.

- The Journal of World Transport Policy and Practice (http://www.ecoplan.org/wtpp/wtj_index.htm) is an independent electronic journal of transport, the environment, economics and ecology and the development of a better transport system. All articles can be downloaded for free.

- Mobility in the Developing World and Sustainable Transportation Live (www.movingtheeconomy.ca), by Moving the Economy and the Canadian International Development Agency, is a website that provides information on how developing country cities are applying sustainable transportation principles to help reduce traffic congestion, facility costs, pollution and other transport problems.

- Murdoch University Institute for Sustainability and Technology Policy (http://www.sustainability.murdoch.edu.au/) has a unique collection of papers and case studies on urban transport.

- Transport Links- Transport for Development Website (www.transport-links.org), UK Department for International Development, provides extensive information resources and links to research on developing region transportation.

- U.S. Department of Transportation Federal Highway; Administration Women's Travel issues: proceedings from the Second National Conference, October 1996 http://www.fhwa.dot.gov/ohim/womens/wtipage.htm has links to the papers not to be found elsewhere and presented at this conference.

- The Victoria Transport Policy Institute (http://www.vtpi.org/) is an independent research organization dedicated to developing innovative and practical solutions to transportation problems. A variety of recent resources are available free from the website to help improve transportation planning and policy analysis.

- World Bank, Background Resource Materials on Transport and Poverty, World Bank (www.worldbank.org/transport/pov&tra_resources.htm), updated occasionally.

- World Bank Transport and Social Responsibility thematic group (www.worldbank.org/responsibletransport) includes information on various equity issues.

- UN-Habitat, Best Practices Database in Improving the Living Environment, Women Empowerment Practices http://www.bestpractices.org/bpbriefs/women.html.

- World Bank. Cities on the Move: An Urban Transport Strategy Review, 2001. http://www.worldbank.org/transport.

- Public Transport International (UITP bi-monthly): http://www.uitp.com/publications The Mobility in Cities Database CD-ROM just published in July 2006 contains the main results of a major research project of UITP on the economics of urban mobility. A total of 120 indicators were collected in a sample of 52 cities worldwide for the year 2001 but none of the data seems to be gender disaggregated.

- UK Commission for Integrated Transport (http://www.cfit.gov.uk/factsheets/05/index.htm\ lists Barcelona, Munich, Stuttgart and Graz in Austria as benchmarking cities in terms of urban transport although the figures listed are not gender disaggregated.

- Global Transport Knowledge Partnership: http://gtkp.com/Index.aspx is an initiative to promote and disseminate sustainable transport knowledge, whilst encouraging greater participation from the developing world. The gTKP's activities are focused around 1) Transport & Health, 2) Transport & Exclusion, 3)Demand Management, 4) Employment & Income Opportunities and maintains a website on transport related knowledge relevant to developing and emerging countries

- Brazil National Association of Public Transport http://portal.antp.org.br/default.aspx.

Gender

- The Gender and Transport Resource Guide: An Introduction http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/EXTAFRREGTOPTRA/XTAFRSUBSAHTRA/0,,contentMDK:20625633~MENUPK:1532073~pagePK:64168445~piPK:64168309~theSitePK:1513930,00.html.

- GENDERSTATS: The World Bank Database of Gender Statistics http://genderstats.worldbank.org/home.asp gives basic statistics about gender by country.

- International Research and Training Institute for the Advancement of Women (INSTRAW) - Gender Mainstreaming Site http://www.un-instraw.org/en/index.php?option=content&task=category...lists.

- Col·lectiu Punt 6, a feminist planning collective based in Barcelona; on their website, they have published various resources for planning, design and and participation from a gendered, community-oriented persepective: http://www.punt6.org/.

- Women and Transport in Indian Cities: A Policy Brief https://www.itdp.org/women-and-transport-indian-cities/ Publication by ITDP and Safetipin in 2017, inclusing a variety of international Best Practice example as well as a set of indicators with benchmarks.

Road safety

- http://www.trafficcalming.org/

- http://www.ite.org/traffic/

- http://www.trafficcalming.net/

- http://www.fhwa.dot.gov/environment/tcalm/index.htm

- http://www.estrellasnegras.com/2005/index.htm

- http://www.grsproadsafety.org/

Personal security

- http://www.adopt-a-light.com/aboutus.php

- OECD International Transport Forum 2018: various articles on safe and secure transport for women: https://2018.itf-oecd.org/safe-secure-transport-women.

Safety audits

- http://ww2.unhabitat.org/programmes/safercities/tools.asp

- http://www.roadwaysafetyaudits.org/

- http://www.police.qld.gov.au/programs/crimePrevention/audit/

Abbreviations

BID	InterAmerican Development Bank
BRT	Bus Rapid Transit
CAFSU	Comité d'Action Femmes et Securité Urbaine
CEPAL/ ECLAC	UN Economic Commission for Latin America and Caribbean
CERP	Center for Economic Research in Pakistan
DUTP	the Dhaka Urban Transport Project
GAP	Gender Action Plan
GNP	gross national product
ILO	International Labor Organization
IMTs	Intermediate Means of Transport
NUA	New Urban Agenda
SDG	Sustainable Development Goals
SSA	Sub-Saharan Africa
SUMP	Sustainable Urban Mobility Plan
TfL	Transport for London
TORs	terms of reference
UNFCCC	United Nations Framework Convention on Climate Change
WSA	the Women's Safety Audit

On behalf of

Federal Ministry
for Economic Cooperation
and Development