

Gender and Sustainable Urban Mobility

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List of acronyms

CIDA	Canadian International Development Agency
DFID	UK Department for International Development
EU	European Union
GDP	gross domestic product
GIS	geographical information systems
GIZ	German Agency for International Development [new since 2011]
GTZ	German Agency for Technical Corporation
KfW	German Development Bank (<i>Kreditanstalt für Wiederaufbau</i>)
SIDA	Swedish International Development Agency
UNDP	United Nations Development Programme
UK	United Kingdom of Great Britain and Northern Ireland
US	United States of America
US\$	US dollars
USAID	US Agency for International Development

1. A Gendered Perspective on Sustainable Urban Transport

Why ‘Gender¹ and Transport’? Contrary to the situation just a couple of decades ago, there is now a well established literature on the subject, and few transport experts today would dispute the need for greater gender sensitivity in urban transport analysis, planning and practice. Patterns of access and use of transportation infrastructures and means of transport are all deeply gendered. While these patterns may vary deeply across different cities and regions, one key fact remains the same the world over: **Women’s travel patterns are different from men’s, and these differences are characterized by deep and persistent inequalities. Within any given urban setting, women have inferior access to both private and public means of transport while at the same time assuming a higher share of their household’s travel burden and making more trips associated with reproductive and caretaking responsibilities.**

Women are also more likely to be the heads of single-parent households. Put in very simple terms, women thus have a harder time getting around in cities while at the same time having to accomplish more challenging and more complex travels. Research also consistently shows that women travel shorter distances to work than men in most settings, and that gender differences in commuting increase in the suburbs compared to inner cities.² Women are generally also less likely to find employment in urban transport. It is important to be clear that it is just a matter of simple ‘gender differences’ due to women and men taking on different roles in society. This is not a case of ‘different but equal’ but a case of an unequal burden related to the persistent problem of *gender inequality* within human societies. The unequal power relationship between the sexes (i.e. ‘patriarchy’) is one of the most pervasive features of both pre-modern and modern civilizations.

This report is designed to:

- present empirical evidence of trends and conditions of gendered transport usage, differentiated by different travel modes, and of gendered employment in urban transport;
- review impacts and challenges related to these gender differences;
- review policy responses designed to address these gender inequalities and their resulting challenges; and
- provide summary findings and present lessons for policy.

Urban transport planning and policy-making all over the world remains strongly influenced by transport planning standards, procedures and methodologies which were developed in the industrialized North over the course of the 20th century and which were biased in favour of individual journey-to-work trips which were increasingly assumed to be undertaken by private motorized means of transport. Although long-assumed to be ‘gender-neutral’, evidence over the last several decades has clearly revealed the deeply gendered nature of such transport planning and policy-making. The core planning paradigm upon which these approaches was based implicitly or explicitly assumed that households typically consisted of nuclear families with traditional division of labour, i.e. households consisting of a

1. ‘Gender refers to culturally-based expectations of the roles and behaviors of males and females. The term distinguishes socially constructed roles from biologically determined aspects of being male and female. Gender roles and responsibilities transform over the life cycle and can change overall, sometimes quite quickly. Several aspects of gender roles and responsibilities undermine economic growth and reduce the well-being of men, women, and children: Gender-based division of labor; Disparities in power and control of resources; Gender biases in rights and entitlements.’ (World Bank, undated).

2. Blumen, 1994.

male ‘breadwinner’ with primary responsibility for the ‘productive’ tasks within the household, a female ‘home-maker’ with primary responsibility for the ‘reproductive’ caretaking tasks. Whereas men tended and still tend to make longer yet more direct commuting trips, women are typically responsible for getting children to and from school, and for other household and caretaking tasks such as shopping, medical visits, elder care or children’s after school activities.³ Journey-to-work trips – understood as trips by men in private motor vehicles – became the focus of transport planning in developed countries, with these methodologies then also inappropriately exported to developing countries. Today, the problematic nature of these underlying assumptions is much better understood, especially since households and household divisions of labour have dramatically changed in the last half century, both in developed and developing countries. Most importantly, women now make up an increasingly higher percentage of wage earners, both in formal and informal economic settings. This means women now have to manage even more complex travel patterns, carefully ‘chaining’ their trips from schools to places of work to shopping, health care, and recreational facilities or places of worship. Women’s mobility patterns are also more intimately bound up with their children’s mobility patterns than men’s.

3. See, for example, Cresswell and Uteng, 2008; Hanson and Pratt, 1995; Law, 1999; Levy, 1991.

2. A Gendered Perspective on Non-Motorized Transport

Non-motorized transport is not a mode of choice but of necessity for a majority of the urban poor in developing countries, simply because they cannot afford any motorized forms of transport. This chapter will provide a short yet comprehensive overview of gendered instances of non-motorized transport both in developed and developing countries, starting with the former yet emphasizing the latter. Pictures 1–8 feature some of the non-motorized transport situations in different human settlements around the world.

Pictures 1–8: 1. Woman transporting an older woman and child in a cargo bicycle in Copenhagen, Denmark. 2. Pedestrians in Tokyo, Japan. 3. Girl biking in Los Angeles, US. 4. Man transporting women in a cycle rickshaw in Bukhara, Uttar Pradesh, India. 5. Girl carrying water in East Africa. 6. Men pulling and pushing carts in Mombasa, Kenya. 7. Woman carrying fruit in Hanoi, Viet Nam. 8. Woman carrying a basket in Mexico



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2.1. Trends and conditions

Despite the existence of a growing literature on gender differences in urban travel, particularly in developed countries, specific studies on gender differences in walking and cycling patterns and preferences are still relatively scarce, so the evidence presented here is still drawing from a comparatively small pool of studies. In North America,⁴ researchers have

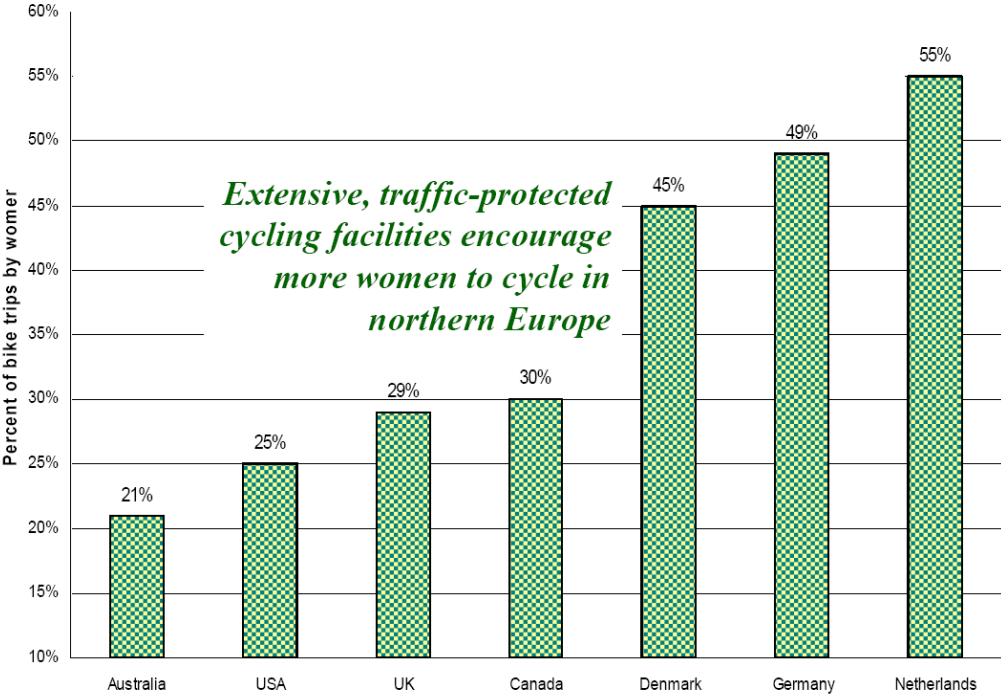
4. Land-use patterns in North America are rarely conducive to walking and cycling, and Americans are regularly using cars even for very short trips under half a mile, leading to rising levels obesity and ill health among the general population (Craig et al, 2002; Ewing et al, 2003).

now demonstrated a direct inverse relationship between obesity and rates of walking, cycling and transit use across developed countries.⁵ In general, women in the US are more likely to walk than men, but in more concentrated areas, and they are more concerned about safety and appropriate lighting.⁶ Fear of victimization and crime is clearly a deterrent to walking, especially at night, or to waiting for transit in public places.⁷ Women are also still less likely to commute by bicycle than men.⁸ They are more likely, however, to bike for shopping, errands or visits to friends, and they also place a higher value than men on safe cycling infrastructures such as clearly marked bike lanes even on lower trafficked streets or fully separated bike ways along major transitways.⁹

As Figure 1 indicates, women’s share of cycle trips varies greatly in developed countries, ranging from a low 21 per cent in Australia to a high of 55 per cent in the Netherlands. Key factors for the Netherlands’ high rates of bicycle use among women (alongside men) is the extensive availability of traffic-protected cycling infrastructures and the fact that cycling is an essential part of urban culture.¹⁰

In developing countries the situation is rather different. For the most part, non-motorized transport is not a mode of choice. The central insight from available evidence world-wide is that due to both economic and social reasons, a significantly higher share of women than men have no access to either individual or public means of transport and are hence dependent on walking. In essence, poor women are forced to walk and headload. Research in Bamako

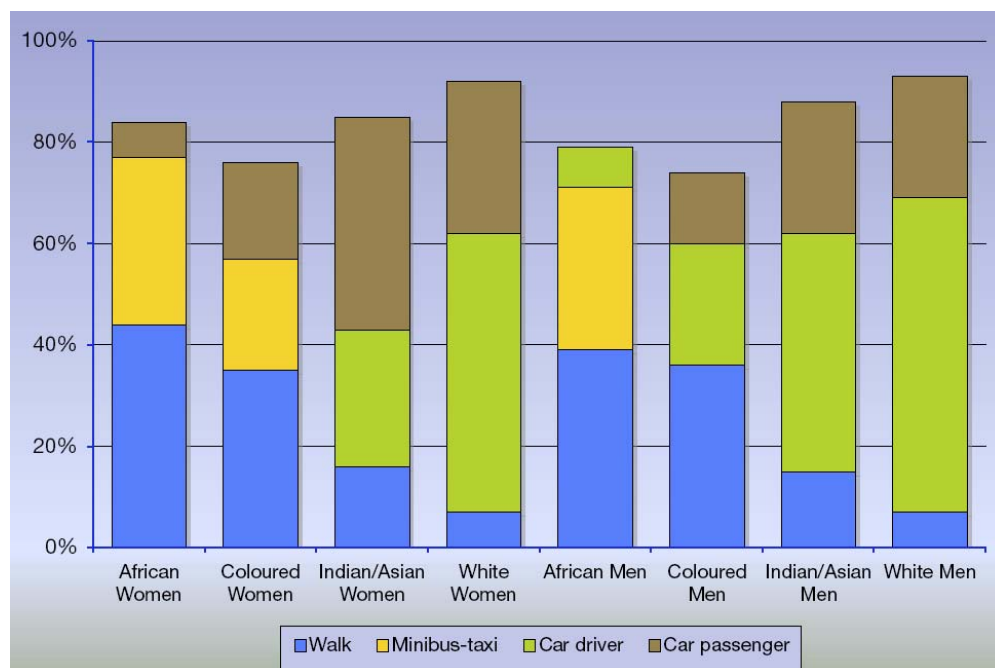
Figure 1. Women’s share of bike trips in selected developed countries



Source: Pucher, 2009, p.13.

5. Pucher, 2009, p5.
 6. Clifton and Livi, 2005.
 7. Loukaitou-Sideris, 2005.
 8. Tao, 2009.
 9. Krizek et al, 2005.
 10. Pucher, 2009, p13.

Figure 2. Mode shares by gender and ethnicity in Johannesburg, South Africa



Source: Kunieda and Gauthier, 2007.

(Mali) demonstrated that 87 per cent of all women surveyed had no access to individual means of transport, whereas only 57 per cent of men were in the same position.¹¹ Evidence from low-income populations in Chennai (India) and Chengdu (China) also revealed stark differences: as many as 83 per cent of the poor women in Chennai walked, compared to the men, of whom 63 per cent walked; in Chengdu, 59 per cent of the women surveyed walked, while only 39 per cent of the men walked. There is also a stark difference in bicycle use in the two cities, which is largely explained by the near complete lack of bicycle facilities in Chennai, resulting in male bicycle rates of 8 per cent and women rates of only 1 per cent, compared with a cycling mode share of a comparatively impressive 32 per cent for men in Chengdu, and a much lower but still solid 19 per cent for women. Once again, gender differences in cycle use within the cities are largely explained by women's higher concern for safe riding environments and their inferior access to personal means of transport.¹²

It is also important to note, however, that motorized and non-motorized mode shares are strongly influenced by both gender and ethnicity. Figure 2 presents mode shares by gender and ethnicity in Johannesburg, South Africa, showing starkly different modal use patterns both within the male and female data set depending on ethnicity (which, in the case of South Africa, is strongly correlated with income). That is: even within the very same city, white women's modal usage is much more similar to that of their white male counterparts than to African or coloured women: both male and female whites drive cars for over 50 per cent of their trips, and their walking shares are below 10 per cent. By contrast, no African or coloured woman had a car available to drive at all (although about 7 per cent of African men and over 20 per cent of coloured men did), and walking accounted for over or just under 40 per cent of African and coloured women's trips, respectively, which was in fact roughly similar to their male counterparts. This underscores the fact that gender assessments always need to be carried out in full awareness of all other social and economic factors in order to be fully effective.

11. Data in Pochet et al, 1995.

12. Srinivasa, 2008.

There is now also rich and expansive literature documenting the immense struggle women in developing countries face in delivering their produce and goods to local markets.¹³ The backs, heads, and handcarts of both rural and urban women are typically the first link of the international transport chain for many of the products which ultimately end up on the shelves of stores and supermarkets across the world.

Additionally, in developing country cities, a large share of urban goods transport occurs via non-motorized means, and this informal sector is often heavily gendered. There is still a much greater paucity of specific studies and policy interventions to fully comprehend and address this gendered transport challenge in urban settings, and much additional research is needed to tease out locally specific practices, but the main problem once again remains the same the world over: women and girls are frequently carrying large loads on their heads and backs, while men tend to have better access to transport technology, even if this just means a push cart or load-carrying bicycle. Box 1 presents the situation of female porters in Accra, Ghana.

Finally, and perhaps most importantly, high instances of maternal mortality due to pregnancy-related complications are closely linked to poor women's non-access to reliable, on-demand motorized transport.¹⁴ While instances of material mortality due to non-(motorized) access to healthcare facilities have been most dramatically demonstrated in certain African regions,¹⁵ the issue clearly has global relevance and reach (also see Box 5 in Chapter 5 below).

Box 1. Women as a means of commercial goods transport in Accra, Ghana

In Africa, a significant portion of commercial goods are transported by non-motorized means. There are, however, significant gender inequalities to observe. When men or boys transport goods, they typically do so with the aid of technology such as carts, wheel barrows or bicycles. Women and girls, however, have but their heads and backs to perform load carrying functions. This type of gender segregation in human portering has been found to be both pervasive and complete: Research among male and female porters in Accra, Ghana in the 1990s revealed no instance of women or girls using technology and an overall highly segregated market: While teams of three to six boys or men jointly rented trolleys to transport more remunerative, heavier loads of larger traders over larger distances, women or girls individually rented dead pans to carry the smaller loads of petty traders or travellers. While males were mostly long-term residents, most females, especially the young girls, were recent arrivals from rural areas. Both men and women cited 'god-given' customs, along with the lower physical strength and the dangers and difficulties of negotiating the chaotic traffic on Accra's streets as the main reasons for this gender division in the *kayayoo* [porter] community. The researchers bring the voices of the porters alive in their report:

- A 25 year old truck boy: *God wants me to push a truck and a woman to carry loads on the head.*
- A 32 year old *kayayoo*: *Men are stronger and we have babies which will be very difficult to push trucks with.*

Source: Apt et al, undated, Grieco et al, 1996, Oparei, 2003.

13. The two best starting points to key writings and materials on the subject are International Forum for Rural Transport and Development (IFRTD)'s 2002 book and pertaining website 'Balancing the load: Women, Gender and Transport' at http://www.ifrtd.org/new/proj/bal_load.php (last accessed 11 May 2011) and key sections of the World Bank's 'Gender and Transport Resource Guide' hosted by the Sub-Saharan Africa Transport Program at <http://www4.worldbank.org/afr/ssatp/Resources/HTML/Gender-RG/index.html>, last accessed 11 May 2011.

14. Turner, undated.

15. Grieco and Turner, 2005.

2.2. Impacts and challenges

A further increase in non-motorized transport trips, along with an increase in transit use and a move away from auto dependency is now the ultimate goal for sustainable transport policy in most developed country cities. Women have both become a major force as active participants in the liveable streets movement, and have been identified as an ‘indicator species’ for bike-friendly cities: cities able to attract significant numbers of new female cyclists are typically doing so by offering safe, protected bike infrastructures and services.¹⁶

In developing countries, where access to both motorized personal and public transport is less readily available, the ‘sustainability’ and desirability of relying on non-motorized transport needs to be somewhat questioned, especially in contexts where excessive walking puts a heavy physical strain and time burden on women who are already income and time poor. As demonstrated above, women’s access to basic non-motorized means of transport such as carts or load-carrying bicycles is often restricted, resulting in frequent strain injuries, neck and back pain due to excessive head loading. Access to carts and bicycles thus becomes the key challenge.

Cultural reservations are often cited as presenting a major challenge preventing women from accessing bicycles and learning how to ride, especially in Africa, but studies have demonstrated that such reservations can be highly local, varying from one (ethnic) community across town to another, and that they are actually more susceptible to change than initial verbalizations of ‘*women can’t ride*’ may indicate.¹⁷ Box 11 in Chapter 8 on policy responses shows how economic and socio-cultural constraints to women’s and girls’ cycling were successfully overcome in the Afribike project in South Africa.¹⁸

Most poor urban residents do not have access to such well-devised interventions, however. A recent study of 5000 slum residents in Nairobi, Kenya is highly representative of the situation in informal settlements all over the world:

‘[T]he majority cannot afford any of the motorized transport options in the city. They cope by limiting their travel outside their settlement and, if they do travel, by often “choosing” to walk. [T]he burden of reduced mobility is borne disproportionately by women and children. [W]omen, men, and children in this population each face distinct barriers to access. We conclude that policy aiming to improve mobility and transport access for the poor needs to grapple not only with the crucial issue of affordability but also with specific constraints faced by women and children.’¹⁹

This does not mean that poor men are not affected by the problem of excessive walking, of course. Yet given women’s inferior access to vehicles and their multiple roles and resulting time poverty, the effects are disproportionately greater on women.²⁰ Also note that women’s reliance on informal transit, discussed in more detail below, is often focused on non-motorized paratransit such as cycle rickshaws in Asia or *boda-boda* bicycles in Africa

16. See Baker, 2009. Also see, for example, Forbes, 2010, the Fall 2010 issue of Reclaim, the New York bike-ped advocacy NGO Transport Alternative at <http://www.transalt.org/newsroom/magazine/2010/Fall> or the March 2010 free webinar by the Association and Pedestrian and Bicycle Professionals in the US entitled ‘Writing Women Back into Bicycling’ which is archived at http://www.apbp.org/event/women_in_cycling, last accessed 11 May 2011.

17. Turner and Kwakye, 1996.

18. See White, 1999, pp.8–10; and Mahapa, 2003.

19. Salon and Gulyani, 2010 p. 3.

20. Spatially segregated and gendered labour markets may additionally complicate the issue however. In Nairobi, for example, industrial areas north of the centre irregularly employ a largely male workforce, so men walk for miles every day to search for work there. Poor women, by contrast, are most likely to find somewhat more regular employment as cleaning staff and household help among richer families located closer to their place of residence.

because these modes are more affordable than their motorized counterparts. As a 1998 *Habitat Debate* article pointed out:

*'For many women in developing countries, cycles or animal-drawn carriages are the most accessible and affordable modes of transport available besides walking. A 1997 World Bank study revealed that 35 per cent of female commuters [in Dhaka] relied on cycle rickshaws as their sole mode of transport, with another 6 per cent using them in combination with bus services and scooters. One fourth of all women also relied on rickshaws for accessing educational facilities. So when the Government of Bangladesh recently proposed to ban rickshaws from the streets of Dhaka, they were singling out not only the most environmentally-friendly mode available, but the one transport choice most essential and accessible to women, thereby gravely affecting their mobility.'*²¹

Bans on non-motorized paratransit thus gravely affect women's already constrained mobility. Box 2 at the end of the next chapter on public transport continues the above account of Dhaka, providing one woman's personalized account of the effects of the rickshaw ban on her daily routine. In cities where non-motorized taxi services are not readily available, women either have to walk or pay for motorized transit, provided they can access it.

21. Peters, 1998.

3. A Gendered Perspective on Public Transport

This chapter presents evidence of trends and conditions of gendered public transport systems, followed by a brief discussion of key impacts and challenges, and an illustrative case study.

3.1. Trends and conditions

Available evidence in urban contexts where households have a choice between motorized private and public means of transport typically shows a much higher dependence of women on public means of transport; a finding which is directly related to women's inferior economic position in society and within households and to the tendency of male members of households to appropriate private means of transport. Within the available spectrum of available public transit choices, the use of certain modes is often heavily divided by gender, income and race. For example, in heavily car-dependent Los Angeles, suburban commuter rail transit patrons are predominantly middle-class, white, male choice riders, while inner-city bus patronage is predominantly non-white, transit-dependent, poor and often female.²² The report 'Women in Transit' by the Women's Foundation of California found that '*low-income African American women with children take five times more trips by public transit than the general female population and six times more trips than men.*'²³ Advocating for mass transit from an urban sustainability perspective therefore always needs to be cross checked against social perspectives, including race, class and gender. Local, flexible, off peak transit operations are typically more important to women (as well as youth and elderly) than men, so the socio-economic impacts of not providing such services at adequate cost are not gender neutral.

Due to their lower economic status, women often have to use less expensive, less desirable public transit options than men. A major finding in a social assessment for an urban transport project in Ashgabat, Turkmenistan, where women had 30 per cent lower earnings than men, was that women relied more heavily on cheaper and less reliable buses and trolleys, whereas men had comparatively better access to minibuses, taxis or enterprise transport.²⁴ Contrary to the situation in developed countries, where women tend to make up the majority of transit riders, public transport in developing countries is often among the more expensive mode choices available to households. In such contexts, low-income women tend to use public transport less than men, reverting to even cheaper, yet typically less attractive intermediate or non-motorized modes.

Safety and security in public transport are crucial issues which disproportionately affect women. Women are frequently subject to unwanted sexual contact in public transit. For example, according to a survey by Tokyo Metropolitan Policy and East Japan Railway Company, two-thirds of female passengers between the ages of 20–39 said that they had been groped on trains, many of them frequently.²⁵ Trains are typically too crowded to identify the perpetrators and in 2004, Tokyo Police reported that groping on trains had increased three times over the last eight years.²⁶ One important policy response to this in many cities around the world is the introduction of special women-only services, described in more detail in Chapter 8. Note that harassment may originate both with fellow passengers and with transport operators.

22. Mann, 2001.

23. Women's Foundation of California, 2005 p. 3.

24. Kudat, 1996, p. iv.

25. See http://wapedia.mobi/en/Women-only_passenger_car, last accessed 7 December 2010.

26. Joyce, 2005.

In many cities and towns with large Muslim populations, the social institution of *pardah* (sometimes also spelled *purdah*) refers to the practice of gender-segregating access to public areas, with certain Muslim societies even more strictly stipulating against any mixing of non-relative females and males in public. This makes it extremely difficult if not impossible for women to share crowded public transport with men, resulting in additional calls for women-only train cars and/or women-only bus services in many Muslim cities.

Women's access to crowded public transport may be additionally constrained in contexts where preferential boarding practices for men results in women being left behind, as evidenced in Box 2 below. Meanwhile, problems with safety and security in public transport continue to disproportionately affect women.²⁷ The unavailability of safe transport also seriously impact girls' educational possibilities, as parents will keep them away from school if transit is unsafe.²⁸

Box 2. After the rickshaws ban, a Dhaka woman's struggle to access public transport (Bangladesh)

In Dhaka, Bangladesh, where *pardah* is key factor of public life, women heavily rely on cycle rickshaws for convenient door-to-door travel. In December 2002, as part of the World Bank-funded Dhaka Urban Transport Project, cycle rickshaws (responsible for 20 per cent of all trips) were banned from several major routes to improve conditions for motorized transit (responsible for under 10 per cent of all trips). Walking accounted for almost 60 per cent of all other trips. The personal account below, published in Dhaka's Daily Star Weekend Magazine on 6 June 2003, illustrates the strongly gendered, negative effects the rickshaw ban had on women, especially since bus drivers gave preferential service to men:

'The other day, in a desperate attempt to go to my workplace in time, I had to resort to riding the local buses. But to my astonishment, I was told off by the busboy at the gate, he shouted, "mahila seat naai" (there is no seat for women). It was in the morning, and after an hour or so desperately looking for a CNG scooter, I decided to opt for the bus. I am a makeup artist, and I need to go to different places every morning to serve my clients. But after the government enforced the regulation that put a stop to plying of rickshaws and two-stroke scooters in Mirpur road, everyday I go through an ordeal looking for transport.[...] Buses refuse to take women passengers during rush hour. I have seen our male counterparts taking up the seats reserved for women. Often when there is no shortage of male passengers then the buswalahs (bus operators) simply avoid women. Only the government can change this scenario, as they are the ones who decided to withdraw rickshaws and two stroke scooters from the road.'

Source: Zohir, 2005, pp. 17 and 25 (quote).

Bus drivers and train conductors across the world are predominantly male. This strong male bias typically extends from the operational into the managerial and executive levels at transit agencies. Detailed employment figures for 2002 from Metropolitana di Roma (Italy), the company responsible for running several of Rome's regional railway and metro lines, also provided a telling picture: of the company's 2,600 employees, only 283 were women, i.e. 11 per cent. Of these, only four women were working in maintenance and only two in engine-driving activities. Of the remaining 277, most were office workers and office/station operators, with only 20 of them working in managerial positions.²⁹ In London (UK), about 6 per cent of bus drivers are women, an increase from even much lower numbers in the past.³⁰ That targeted interventions can make a difference is evidenced by the example of London Underground, which won an Equality Award for increasing female employment in the

27. Loukaitou-Sideris et al, 2002.

28. See Fernando and Porter, 2002 (Chapter 1).

29. EMCC and EFILWC, 2007, p. 27.

30. EMCC and EFILWC, 2007, pp. 42–44; Hamilton et al, 2005.

organisation. Between 2000 and 2005, the number of female train operators in London increased from 2.6 to 6.9 per cent, female sign operators went from 4 to 7.4 per cent, women in middle management went from 17.2 to 22.6 per cent and women in senior management went from 13 to 20.1 per cent.³¹

3.2. Impacts and challenges

Researchers have consistently identified the fact that the planning, provision and operation of public transit is primarily undertaken by men as one of the main obstacles to properly gender-sensitizing transit operations.³² Transit agencies may have a general interest in providing adequate service to all customers, but unless a specific effort is constantly made to ask both men and women what they need and want and how services can be improved, sub-optimal solutions persist. Given that women, especially those who are older and low-income, make up a majority of captive transit riders, are more likely to travel off-peak and along lower capacity routes, and more often travel encumbered with children or groceries, special attention and advocacy is needed to meet their needs. Given that these challenges are not immediately present in their own daily routines, those (men) who plan and implement public transit services typically do not pay adequate attention to issues most important to women. As a result, bus shelters and train stations often lack basic safety and comfort features (lighting, benches, emergency call options) built-in barriers where barrier-free access could have easily been provided, etc. While these features in and of themselves are not gender-specific, the impact of omitting them is not gender neutral. (Male) transit planners are also often overly concerned with reducing point-to-point travel times and speed instead of focusing on the improvement of overall system integration, reducing wait times, and increasing flexibility and affordability. Women's willingness to pay for special services and their latent demand is frequently discounted or not explored.

31. All data directly cited from Kunieda and Gauthier, 2007, p.33.

32. Allen, 2002; Loukaitou-Sideris and Fink, 2008.

4. A Gendered Perspective on Informal Motorized Transport

This section presents a gendered perspective on informal motorized transport, often called paratransit.³³ Its use and availability is much more extensive in developing than in developed country contexts. In developed countries, ‘paratransit’ mainly relates to two aspects, namely employer-based services, e.g. special bus or van services organized to collect workers to drive them to a particular employment location or specialized services for senior citizens or people with disabilities who are unable to operate a vehicle on their own. Such shuttle van services and on-demand dial-a-rides are usually highly regulated and even government mandated, thus technically falling outside the scope of this chapter.³⁴ In developing country environments, by contrast, informal motorized transport is an essential yet often inferior supplement to formal transit operations. It often makes up the bulk of transport for the most disadvantaged groups. Informal motorized transport takes on vastly different forms in different cities around the world – from buses, vans and minivans to converted pick-ups, auto rickshaws or motorcycles – all with different gender dimensions. Typical problems of informal motorized transport with strong gender implications parallel those of public transport and are related to overcrowded and unsafe riding conditions, unregulated fares, harassment, and preferential boarding being given to male passengers. This chapter first discusses door-to-door services in developed countries before discussing key gender dimensions of paratransit use in developing countries.

4.1. Trends and conditions

The most comprehensive study on paratransit services in developed countries is now almost twenty years old, yet most of its key insights still apply.³⁵ It effectively shone a spotlight on small vehicle operators who serve market niches and work on irregular, on-demand schedules. While much of the urban paratransit market in developed countries is now highly regulated, most cities do also have a fringe market of informal taxi and van operations which cater to low-income residents, typically in immigrant communities where few people own their own vehicles. Box 3 presents recent insights on informal motorized transport in Baltimore.³⁶

Box 3. Baltimore’s hacks: Gendered perspectives on using informal motorized transport in the US

A recent study of informal cab operators (‘hacks’) in four low-income neighbourhoods in Baltimore, Maryland demonstrated how these informal motorized transport services are used to ‘*compensate for public system service deficiencies, spatial deficiencies or cost barriers*. Of the people surveyed, 89 per cent were African American and 67 per cent female, indicating a higher usage of women than men for these services. A high number, about 40 per cent, regularly use public transport. While respondents found that public transit was accessible and affordable, they found it lacking in efficiency, convenience and timeliness. As many as 74 per cent of respondents had used hacks before, although most of them only occasionally. Users cited affordability and flexibility as major reasons for using hacks, and as many as 40 per cent of users had never used a regular licensed cab before.

Source: Buckner, 2009

33. Cervero, 1991 and 2000; Cervero and Golub, 2008; Silcock, 1981.

34. For example, the 1990 US Americans with Disabilities Act mandates complementary paratransit service to all passengers permanently or temporarily unable to get to a point where they could access the public bus system and/or be expected to navigate it, although this federal mandate is currently unfunded.

35. Cervero, 1991.

36. Buckner, 2009.

Informal transit operators provide important, flexible yet often illicit services to poor and middle-income urban residents in settings where formal services do not exist. They are market-responsive and hence better suited to women's complex travel demands. Paratransit operation is also a gateway to employment for many low-skilled, almost exclusively male residents and/or recent arrivals. Informal motorized transport can be provided by two-, three- or four-wheeled vehicles. Since informal services are non-licensed and/or exhibit other elements of illegality, female customers have no official recourse if passenger 'skimming' privileges their male counterparts. Extreme crowding is also a problem in many situations. Pictures 9 and 10 show some typical IMT situations in Africa. Female drivers of IMTs are comparatively rare, but, as Picture 11 from Nepal shows, some examples can be found.³⁷

Motorcycles in particular have emerged as a major mode of informal 'public transit'. Motorcycle-taxis provide jobs for some tens of thousands of young men in African cities.³⁸ Box 4 describes the gendered behaviour of motorcycle passengers in four Nigerian cities.³⁹ Pictures 12 and 13 show some *okada* motorcycle taxis in action.

Pictures 9–11. 9. Informal motorized transport in Senegal; 10. Informal motorized transport in Kenya; 11. Female *tuk-tuk* driver in Kathmandu, Nepal



Picture sources and ©: ITDP, author, and Sirensongs at <http://www.flickr.com/photos/sirensongs/2296139788/>, respectively.

Pictures 12 and 13. *Okada* motorcycle taxis passenger loads, Nigeria: Six children and woman with infant



Picture sources and ©: Teseum at <http://www.flickr.com/photos/teseum/3533752721/> and Satanoid at <http://www.flickr.com/photos/satanoid/4184454857/>.

37. Also see http://thenewdawn.info/index.php?option=com_content&task=view&id=25&Itemid=37 for an (undated) account of one of the supposedly only two female tuk-tuk drivers in Mombasa, a 38-year old mother of three.

38. Godard, 2010.

39. Oyesiku and Odufuwa, 2002.

Box 4. Gender differences in using motorcycles as paratransit in Nigerian cities

Global economic recession and the implementation of structural adjustment in the early 1990s led to a further deterioration of an already crisis-prone transit situation across Nigerian cities. Buses broke down without spare parts being available, roads remained unpaved and in very poor condition, and formal services never reached the rapidly growing informal settlements at the urban fringes anyway. As a result, informal motorcycle and tricycle auto-rickshaw operations, initially perceived only as temporary gap fillers, have now firmly established themselves as the backbone of Nigeria's urban transit system. Flexible yet still too expensive for the poor, they predominantly serve the more educated, somewhat better-off residents. Of 2781 motorcycle passengers surveyed in a recent study in four intermediate-sized Nigerian cities, 53 per cent were male and 46 per cent female, and more than 90 per cent had a secondary education. The vast majority (about 85 per cent) of riders used the services four or more times a week, with slightly more women than men doing it on a daily basis. Over 95 per cent of the women stated that they adjusted their dress accordingly, compared to only 22 per cent of the men. Differences in group size were even more striking, with 83 per cent of the men being single passengers compared to only 8 per cent of the women, who frequently travelled with their infants and toddlers. Motorcycle fatalities are sharply on the rise across all cities in West Africa, exerting a grave social cost. Not surprisingly, a higher number of females than male passengers were involved in three or more accidents per year:

'The sitting position on the motorcycle that often placed the two legs of the women to the left of the motorcycle further exposes them directly in the direction of fast moving motor traffic and greater danger. Sometimes, making bends at roundabouts and junctions simply threw the female passengers off the motorcycle. ... [T]he infants are usually at the back of the women [and toddlers in between]. [O]n several occasions, mother[s] have to attend to any little discomfort arising from exposure to externalities of urban traffic. In course of doing this, they became unstable and put the life of both the toddlers ... in danger.'

Source: Oyesiku and Odufuwa, 2002, pp.13–20, quote from p.17.

4.2. Impacts and challenges

As with all other modes, there is often a strong gender division in paratransit use: men access motorized modes much more frequently than women, who often rely on cheaper yet slower non-motorized means. Recent research from Bandung (Indonesia) also revealed strong gender differences in paratransit users' willingness to continue to use the mode in the future after negative experiences, with men citing cost, practicality and accessibility as reasons to continue use, whereas women were much more concerned with safety than cost.⁴⁰

A key challenge in developed country environments is that an increasing number of elderly citizens living in car-dependent environments in developed countries are women, who become dependent on paratransit when they lose their ability to drive or walk to transit stops.⁴¹ Formally regulated services are not always able to meet this demand.

40. Tarigan et al, 2010.

41. Rosenbloom, 1989 and 2001.

5. A Gendered Perspective on Private Motorized Transport

This chapter presents a gendered perspective on private motorized transport, showing that women generally have inferior access to private motorized transport than men, and summarizing resulting impacts and challenges. Yet, as with other modes, there are often greater differences in private motorized transport usage *between women* in different countries than between women and men in any given urban setting.

5.1. Trends and conditions

Although clear initial distinctions have to be made, of course, between the situation in developed countries, where driving is the predominant mode of travel in most settings and where women drivers constitute a significant share of both car owners and drivers, and the situation in developing countries, where overall access to private means of transport is much more limited, the overall trend is the same all over the world: women have inferior access to private motorized transport than their male counterparts in the same urban or rural setting. Automobility itself is a deeply gendered affair. As the GTZ ‘Sourcebook on Gender and Urban Transport’ aptly summarized: ‘*Men are typically the first to motorize – co-opting new technologies first within the household.*’⁴² The long-standing association between masculinity and driving has often presented cultural barriers to women ‘*taking the wheel*’.⁴³ This holds true even if women have the legal right to operate a vehicle. Table 1 presents evidence from the UK’s national travel survey that is representative of many developed countries in Europe and North America. UK women in their late teens and twenties are less likely to own a license than women in their thirties and forties. After age fifty, the number of license holders goes down again. Trips by mode did not vary significantly over time, with about one third of women driving a car for one third of all their trips, compared to nearly half of all men. Women remain significantly more likely to travel as car passengers (28 per cent) than men (17 per cent), however, so while they may have access to a vehicle, women are less likely to have or exercise primary control over it.⁴⁴

Table 1. Trips by gender and mode of transport in the UK

	Per cent			
	Women		Men	
	1999-2001	2002-03	1999-2001	2002-03
Car driver	33	34	48	48
Car passenger	27	28	17	17
On foot	28	26	24	22
Bus/coach	7	8	5	5
Rail	2	1	2	2
Bicycle	1	1	2	2
Taxi/minicab	1	1	1	1
<i>All public transport</i>	10	8	8	7
<i>Total trips (miles)</i>	<i>1,008</i>	<i>1,003</i>	<i>1,031</i>	<i>994</i>

Notes: Data are from the National Travel Survey. Short walks are believed to have been under-recorded in 2002 and 2003 compared with earlier years.

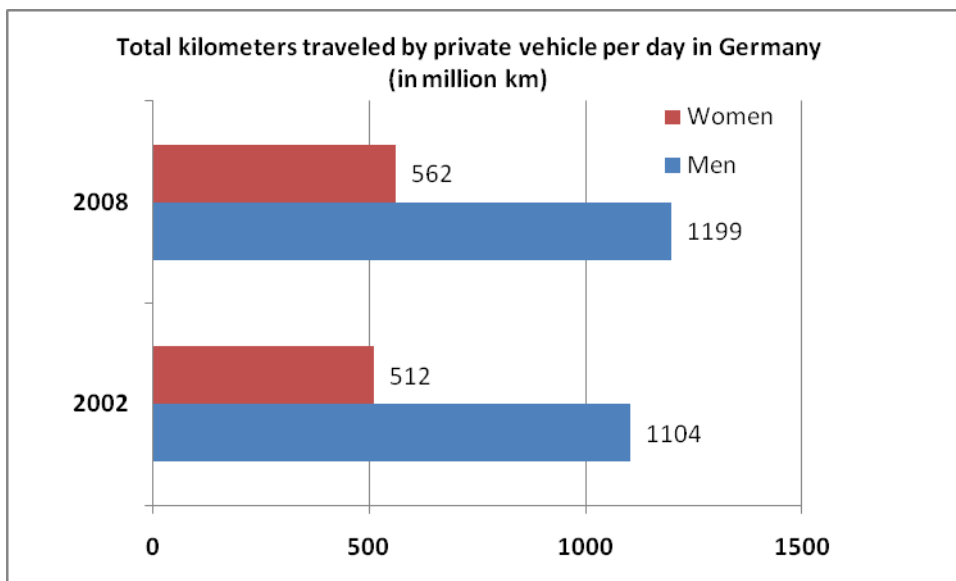
Source: Hamilton et al, 2005, p. 23.

42. Kunieda and Gauthier, 2007, p.12.

43. Scharff, 1991.

44. All data summarized from Hamilton et al (2005, pp. 19 and 23).

Figure 3. Gendered car use in Germany, 2002 – 2008



Source: By author, using national travel survey data summarized in ADAC, 2010, p. 19.

Gender differences remain even more pronounced in other highly motorized developed countries. In Germany, for example, even today, driving remains largely a male affair. As Figure 3 notes, in 2008, all German women together had an average daily automobile usage of 562 million kilometres, which was only about half of that of their male counterparts, who drove 1.2 billion kilometres. This represented an increase of 9.6 per cent for women, and an increase of 8.6 per cent for men, compared to 2002. Over the same time frame, the number of women vehicle license holders increased by 2.9 million from 26.4 to 29.2 million, while men's numbers also increased, by 2.6 million, from 29.2 to 30.8 million. As elsewhere, license ownership was most heavily concentrated in the 30–60 year age group in Germany. Somewhat surprisingly, female license ownership in the 40–49 and 50–59 age categories even slightly outnumbered males' (by 6.8 to 6.2 and 5.1 to 4.9 million, respectively), while males were in the majority in all other age categories.⁴⁵

License holding ratios are going up across the developed countries, with licenses now generally being held by even a majority of the older female population. For example, in 1997, under 40 per cent of Germans over 65 had a license but 60 per cent of those aged 60–64 did. This included 80 per cent of men and 40 per cent of women. Whenever access to a car is constrained by ownership, it is typically a women's issue. One study from Sweden found that in 1999, only half as many women between the ages of 64 and 74 had access to a car compared to their male counterparts.⁴⁶ The younger drivers get, however, the more balanced patterns of access tend to become.

Even in the US, an industrialized country where the motorization of the population seems almost complete, access to motor vehicles has always been and still is gendered, and additionally compounded by age.⁴⁷ For example, in the late 1990s, almost 92 per cent of all men, but only 67 per cent of women over 65 owned a driver's license. It is expected that by 2012 this ratio will change to comprise almost all men and about nine out of ten women in that age group in the US. Car manufacturers increasingly recognize women's needs and tastes

45. ADAC, 2010, pp.17–18.

46. Rosenbloom and Stahl, 2002, p.202.

47. Wachs, 1988; Rosenbloom, 2001.

in cars. In 2004, Swedish car maker Volvo came out with a concept car which was designed by an all-women's team but marketed to both genders. Their US expert on female consumer patterns was quoted as saying '*if you meet the expectations of women, you exceed the expectations of men.*'⁴⁸ Besides aesthetics, women are believed to look for comfort rather than horsepower. Women tend to be more risk-averse buyers and drivers of automobiles. Women also comprise an increasingly large share of buyers of (less energy efficient) sports utility vehicles (SUVs).⁴⁹ In contexts where women do constitute a substantial portion of overall vehicle operators, they have been documented to have lower accident rates, although accident rates are more closely correlated with (young) age than gender.

In less developed countries, travel by individual automobile is a mode of transport reserved for a small group of high-income earners, so its overall importance as a useful and accessible mode of transport for women in developing countries, especially those with low GDPs per capita, is comparatively minor. For example, research in Bamako (Mali) in the mid-1990s revealed that only 2 per cent of women had access to private cars, and 3 per cent to motorcycles, compared to 7 per cent and 20 per cent of men, respectively. Another survey in Ashgabat (Turkmenistan) noted that 79 per cent of car users were men.⁵⁰

In rapidly developing countries like China, India and Brazil, however, there is now a rapidly rising class of middle-class women who are becoming car owners and drivers for the first time. A recent article on women drivers in Moscow, where car ownership functions as an important status symbol, suggests that the number of female drivers in Russia increased by 50 per cent from 2000 to 2006.⁵¹ A recent study examining car purchases at four dealerships in Mumbai (India) found that with changing gender roles and female partners earning higher incomes than their partners in an increasing number of cases, traditional male-dominated gender roles in purchase decisions are in fact changing and that among younger and better educated households, the wife's influence is becoming more pronounced.⁵²

Of course, outside that privileged group of rapidly developing countries in Asia and Latin America, motorization rates for four wheeled automobiles are still overshadowed by skyrocketing growth rates for motorcycles and three wheelers. As Box 5 and Pictures 14 and 15 demonstrate, they can also play a crucial role in reducing maternal mortality rates. From a sustainability perspective, electric motorcycles are preferable to gasoline motorcycles from an emission, energy efficiency and noise perspective, so it is interesting to note that a stated preference analysis carried out in Taiwan, China, revealed women as the best target market for them.⁵³

Box 5. Motorbikes and maternal health

Motorbikes can play an especially important role in improving women's access to health care and in lowering maternal mortality rates. A recent UNICEF funded initiative donated five eRanger motorcycle ambulances to Southern Sudan. At a cost of US\$6,000 per vehicle these are vastly more affordable than car ambulances. Maternal mortality ratios in the area are as high as 2,240 deaths per 100,000 live births (compared to Great Britain's 8 per 100,000) and only 10 percent of all deliveries are assisted by skilled personnel. eRanger ambulances have also been distributed in Malawi, Kenya and South Africa. Another programme is the 'Midwives on Motorbikes' outreach programme in Timor

48. Adeline Paul, 2005.

49. Adeline Paul, 2005.

50. Pochet et al, 1995; and Kudat et al, 1996; both cited in Peters, 2001.

51. Rodgers, 2006.

52. Srivastava and Anderson, 2010.

53. Chiu and Tzeng, 1999.

Leste, funded by Mariestopes, which enables three health care professionals to travel to outlying areas and raise awareness on sexual and reproductive health issues.

Sources: <http://www.eRanger.com>, <http://www.irinnews.org>, <http://www.ifrtd.org> and http://www.mariestopes.org/News/Midwives_on_motorbikes.aspx.

Pictures 14–15. 14. Motorcycle ambulance in Southern Sudan. 15. Midwife on motorbike in Timor Leste



Sources and ©: Martell/IRIN at <http://www.irinnews.org/PhotoDetailDownload.aspx?ImageId=200903318> and MSI at http://www.mariestopes.org/News/Midwives_on_motorbikes.aspx.

Trends and conditions regarding women drivers can of course be even more strongly influenced by socio-cultural factors than by income. Saudi Arabia stands out as one country where women are prohibited from driving cars by law. This has not necessarily kept females from ‘taking the wheel’, however, as Box 6 demonstrates.

Box 6. Practical necessity trumps legal ban against women drivers in Saudi Arabia

Although there is an official ban on women driving in Saudi Arabia, many rural women have in fact operated vehicles for over thirty years because the lack of public transport facilities makes it a necessity for them to do so. As one rural woman explains:

‘My husband died 10 years ago, leaving behind to daughters. I found it very difficult to find suitable transport for them to and from school. I was not in a position to rely on foreign workers who operate private taxis. ... Then I bought a pickup and started driving. ... Later, I started to drive my truck to shops and stationary stores. Some women from the neighbourhood also began to travel with me.’

A male village resident confirms how this is not viewed as strange in these desert towns and how this is especially important in cases of medical emergencies:

‘Since my childhood I have seen women driving. They use vehicles for urgent errands. Sometimes, this has helped save family members who were suffering from serious diseases [because] women [can] take them to ... hospitals that are far away from the village.’

This presents good evidence that the Saudi Arabian ban on women driving has sociological rather than religious motivations. Rural women still encounter bureaucratic difficulties and need the assistance of their male counterparts in instances where they need to file accident reports or get the vehicle repaired, but on a day to day basis, they experience no harassment from their fellow villagers whenever they get behind the wheel. Practical necessity trumps.

Source: Arab News, 2010.

5.2. Impacts and challenges

In traditional post-war suburban settings outside of major cities in North America and Western Europe, female homemakers were often more dependent on private means of motorization than their working husbands, who often went into central business districts using mass transit. As women entered the labour force and employment opportunities got further dispersed geographically, private motorized transport became both a mode of choice and necessity for both men and women. Distances to shopping malls, schools or recreational facilities were, and still are, typically not easily accessible by walking, and women end up spending a substantial portion of their day shuttling themselves, their children and often older relatives to and from places of leisure and home.⁵⁴

What is clear, however, is that in developed and transitional country settings access to private motorized transport is often an essential prerequisite for women's economic advancement and for accessing or sustaining jobs.⁵⁵ And in cases where women are unable to access private motorized transport, the sustainability implications may be positive from an environmental perspective, but negative from a perspective of social equity, pointing to the complex relationship between sustainable mobility and gender.⁵⁶

From a public policy perspective, it is important to note that certain 'nudging' measures designed to discourage car usage seems to have disproportionately negative effects on women, whose complex trip-chaining patterns make it more difficult for them to switch from individual motorized modes to public transit. Parents' complicated schedules simply do not easily allow for added wait times and unpredictable delays at transit stops, standing encumbered by children and grocery supplies, or being hard-pressed to arrive at their children's day-care facility in time after a long work day. Challenges are particularly acute for single salaried mothers.⁵⁷ Nor could most other mothers easily switch to alternative, more sustainable individual motorized modes of travel like electric scooters or bicycles, for that matter.⁵⁸ Consequently they are also less likely to engage in sustainable mobility practices such as car pooling due to their trip chaining needs.⁵⁹ Even in dual income earner households, where fathers do their share of child drop-off and pick-up, research shows that arrangements are still informed by traditional gender norms.⁶⁰ Some researchers thus provocatively conclude that the currently preferred set of 'sustainable mobility' policy proposals including measures like higher parking fees, congestion pricing, tolls, carbon and gas taxes, all of which are designed to raise the cost and thusly ration and reduce car usage in favour of more sustainable modes such as transit, biking and walking, in fact amount to '*taking a woman's money or her time.*'⁶¹

54. How much of this non-work-related 'soccer mom'-type suburban sports utility vehicles (SUV) driving is by choice and how much by necessity is subject to debate (Handy et al, 2003).

55. Dobbs, 2005.

56. See Hanson (2010) for a detailed and profound debate of this complex issue. Also see Chapter 9 for additional discussion of policy implications.

57. Rosenbloom, 1988.

58. Unless a dense, mixed-use urban environment allows for conducting all their daily business within close range, that is. Berlin, Germany is one example of a high-income country where half of all households live without a car.

59. Rosenbloom et al, 1993.

60. Schwanen, 2007.

61. Schweitzer and Giuliano, 2009.

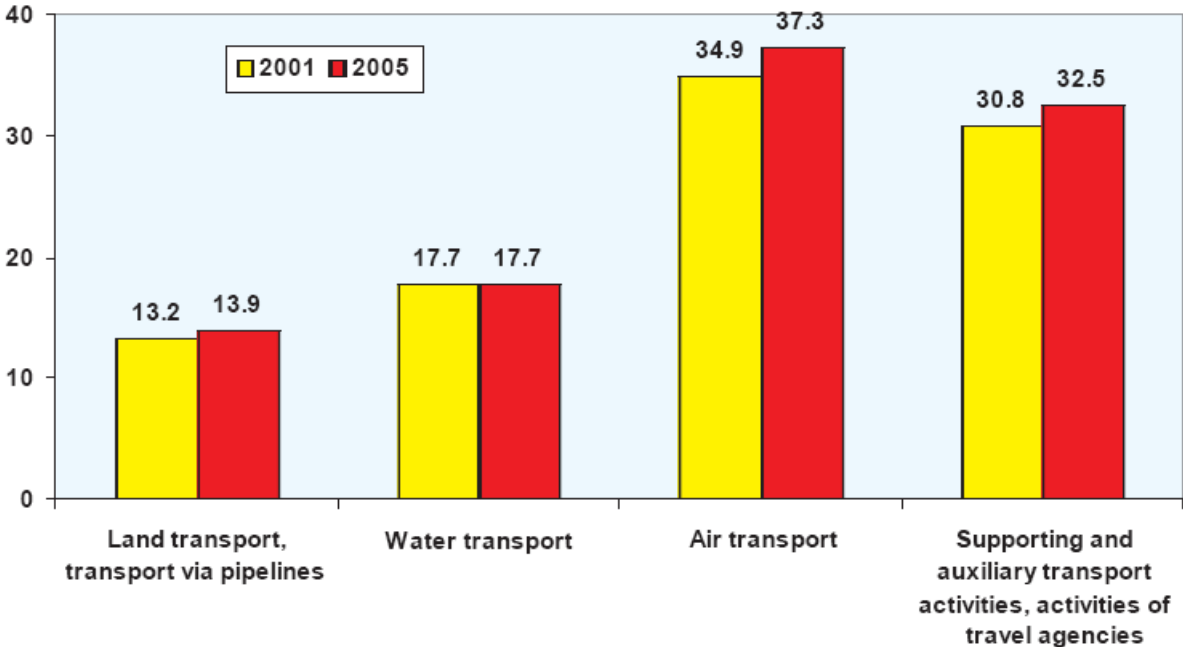
6. A Gendered Perspective on Commercial Goods Transport

The key aim of this chapter is to provide a gendered perspective on commercial goods transport. Discussions are focused on presenting commercial freight delivery and distribution as a generally male-dominated sector. Note that the difficulty of gendered access to markets for individual producers and sellers was already discussed in the chapter on non-motorized transport.

6.1. Trends and conditions

Commercial goods transport is generally a sector which predominantly employs men and in which men occupy almost all important decision-making positions. This means, among other things, that motorized vehicle operators in the area of commercial goods transport are almost exclusively male, so the business of commercial goods transport is a highly gender imbalanced work environment. When women do manage to get employment in the trucking sector, however, they take great pride in their work and consider it well paid, a recent survey by the American Trucking and the Truckload Carriers Associations shows.⁶² There are other strategic opportunities for upping female employment in the commercial goods sector and the transport sector more generally, highlighted in Chapter 8. Research from as long as 30 years ago already showed that although US women driving big tractor trailer rigs faced some of the typical problems women encounter in ‘non-traditional’ occupations yet the researchers’ open-ended questionnaire revealed ‘*that the extent of these tensions [was] less than expected, due largely to the influence of male support, sponsorship, and protection.*’⁶³

Figure 4. Female employment by transport sub-sector, EU27, 2001 and 2005 (per cent)



Source: Eurostat, European Labour Force Survey, elaborated by Ikei, in: Corral and Isusi 2007, p.6.

62. David, 2002.

63. Lembright and Reimer, 1982.

In general, sex-disaggregated data for employment in (motorized) commercial goods transport is often hard to come by, and often not available at all in developing countries. Whenever data is available, the numbers are extremely striking, however. In the EU, women made up 20.5 per cent of the transport sector workforce in 2005, while women made up 43.5 per cent of all people employed in all sectors. This was only a slight increase from 2001, when women made up 19.8 per cent of the transport workforce.⁶⁴ Data for individual countries varies from a high of 28.2 per cent and 27.1 per cent of female transport workers in Cyprus and Estonia to a low of 17 per cent in Poland.⁶⁵ As Figure 4 demonstrates, data varies even more by sub-sector, ranging from 13 per cent female employment in land transport to over 30 per cent for supporting activities such as those of travel agencies.⁶⁶ Table 2 gives more disaggregated employment data for all transport occupations in Great Britain in 2003, showing that women make up less than 1 per cent of heavy goods and vehicle drivers, bus and coach drivers, and all mobile machine drivers and operatives, and only 4–5 per cent of all van, taxi drivers and chauffeurs. They also only make up only 11 per cent of transport and distribution managers.

Table 2. Employment in transport occupations in Great Britain (2003)

	Thousands:		Female % of employment:
	Women	Men	
Transport and distribution managers	12	91	11
Transport associate professionals	*	55	*
Transport and distribution clerks	19	46	30
Vehicle trades	*	273	*
- motor mechanics, auto engineers	*	206	*
Leisure and travel service occupations	98	77	56
- travel agents	37	15	71
- air travel assistants	21	13	62
- rail travel assistants	*	17	*
Transport drivers and operatives	40	884	4
- heavy goods vehicle drivers	*	315	*
- van drivers	10	196	5
- bus and coach drivers	*	119	*
- taxi, cab drivers and chauffeurs	14	175	8
Mobile machine drivers and operatives	*	169	*
All transport occupations	154	1,566	9

Notes: * Less than 10,000.

Source: Hamilton et al, 2005, p. 52

Another trend with regard to commercial transport which has a strong gender dimension is the spread of HIV/AIDS alongside major trucking routes, especially across the African continent, with clear repercussions for urban centres. It is truck drivers' sexual activity in the cities, towns, villages and truck stops along their routes who transmit the virus and other sexually transmitted diseases to their various sexual partners and who then bring infections home to their spouses as well. Truck drivers' are forced to lead a highly mobile life style which keeps them away from their families for weeks and months at a time, and a majority take advantage of the services offered by female sex workers, who are a common feature along truck stops the world over, and/or strike up casual sexual relationships with girls and women in locations along the routes they pass. Knowledge about practices helping to prevent

64. Corral and Isusi, 2007, p.4

65. Corral and Isusi, 2007.

66. Corral and Isusi, 2007, p. 6.

the transmitting of HIV or other sexually transmitted diseases is generally very low, and only a small minority of drivers regularly uses condoms. Infections rates are staggering. A recent study by the USAID funded Synergy Project cites research which documents that 19 per cent of drivers in their multi-country study tested HIV positive (compared to 3 per cent of the comparable general population). In Uganda, the rate was 36 per cent to 15 per cent and in Rwanda, the rate was a staggering 56 per cent of drivers compared to 21 per cent of the general group.⁶⁷

6.2. Impacts and challenges

Many jobs in commercial goods transport, especially those connected to long-distance shipping and urban-based door-to-door delivery, require extended and unpredictable working hours at best and long absences from home at worst, making employment in these sectors especially difficult for women with family and caretaking responsibilities. And when women do find employment in the commercial transport industry, they have to adjust to *'a male-centred organization of work, workplace culture and working conditions.'*⁶⁸

Although men may make up the vast majority of truck drivers, their wives and families are of course also negatively affected by the unsafe and un-secure working conditions these men experience. The situation is especially dramatic in developing countries. Box 7 highlights recent experiences in Rwanda, where drivers' wives have organized to fight for better rights recognition of their husbands' profession.

Box 7. Truck and taxi drivers' wives' advocacy for their husbands' rights, Rwanda

The wives of truck and commuter taxi drivers in Rwanda have formed a 'drivers' wives association' (*Association des Epouses des Chauffeurs – AEC-Duhuguare*) in order to appeal to government institutions and other stakeholders to provide better protection and insurance to their husbands. *'Businessmen give value to their merchandise, but it looks like our husbands are not valued for their jobs'* spokesperson Mariam Murorunkwere explains. The Minister of Gender Dr. Jeanne d'Arc Mujawamariya supports the women and has noted that *'when [the drivers] are not covered for their job, this affects the whole family and so becomes a handicap to their development.'* Transport investor Trygoal Sabbas, meanwhile, blames the lack of coordination in the sector. He laments that there are *'no constant salaries, no mission fees, no fixed prices, [and] everything is being done through an informal arrangement between the driver and the boss.'* In his view, *'the move by the women's association was a good step to help them standardize the industry.'*

Source: The New Times, Africa News Service, 2009.

As for addressing the challenge of preventing the spread of HIV/AIDS among truckers and their sexual partners, prevention programmes face complex challenges. Stigmatizing male drivers for being transmitters of a frightful disease triggers backlash, and simplistic promotions of condom use disregard the cultural and personal circumstances of the women offering sex to truck drivers in exchange for money or goods. Women who demand that condoms be used earn less and report being beaten by their boyfriends or customers.⁶⁹ A recent initiative in Kenya brought the issue 'home' to the urban realm by working with urban commuter taxi (*matatu*) owners and operators to paint the vehicles with educative HIV/AIDS materials and slogans 'promoting morality'.⁷⁰

67. The Synergy Project and University of Washington (not dated), online at http://pdf.usaid.gov/pdf_docs/PNACW331.pdf, last accessed 6 January 2011.

68. Corral and Isusi, 2007, p.9.

69. Asthana, 1996.

70. IFRTD, 2004.

7. A Gendered Perspective on Land-Use and Transport Planning

In its most basic form, integrated land-use and transportation planning simply means ensuring households' improved access to jobs and basic services, ideally making them safely and quickly accessible by walking or other non-motorized means or public transit, thereby reducing dependence on private motorized means of travel and enabling individuals to travel shorter distances and make fewer long-distance trips. Given women's inferior access to faster, motorized modes and the often severe economic and time constraints women face in the accomplishment of their daily tasks, integrated land-use and transportation planning naturally holds particular significance for women, especially when they also belong to additionally disadvantaged groups like children, the elderly and/or the poor.

This chapter can only provide a glimpse of the most pertinent issues. The key, of course, is to once again understand transport as a derived demand, and subsequently understand all movement – and to a large extent modal choice as well – as inextricably linked to the distribution and physical layout of all land uses, be they of a residential, commercial, industrial, educational, socio-cultural or recreational nature. The chapter provides some gendered perspectives on spatial mismatch and the 'mixed-use' city and identifies suburbia as the quintessential urban spatial form reinforcing and persistently cementing unequal gender relations and travel patterns, especially among higher and middle-income households in developed, but increasingly in developing countries as well. It also emphasizes shelter-transport-livelihood link as it relates to the situation of poor women in developing countries.

7.1. Trends and conditions

In developed country settings such as North America and Europe, there is now a sizeable literature documenting and explaining gender differences in travel patterns, and especially in commuting patterns, i.e. journey to work trips.⁷¹ This is part of an even larger literature calling for more gender-aware urban planning.⁷² In both developing and developed countries, the root cause and key explanation for the gendered nature of mobility patterns and land use is of course the gendered, unequal division of household labour, combined with the ongoing geographic dispersal of human settlements. A recent household time survey in the Netherlands found that *'egalitarian role expectations and higher female work status lead to a more balanced allocation of work and household tasks between spouses [while] more traditional role views and increased time pressure lead to more specialization and inequality between the sexes.'*⁷³ While such 'egalitarian role expectations' – that is, household arrangements where men and women aim to equitably share housework, other reproductive tasks and child rearing responsibilities – may be comparatively common in developed country settings, they are still largely non-existent in most developing countries. This then leaves women with the triple burden of caring for their household's productive, reproductive and consumptive needs. At the most extreme end of the scale are women and girls in Sub-Saharan Africa, who have been shown to be responsible for 90–100 per cent of their households' water and fuel collection, well over 50 per cent of the food production and marketing, a significant share of a variety of other productive tasks as well as 100 per cent of the food processing, cooking, cleaning, washing, and child rearing and caring.⁷⁴

Given women's higher domestic and caretaking responsibilities, they tend to seek employment opportunities closer to home with more flexible hours than their male

71. Blumen, 1994; Hanson and Johnston, 1985.

72. Fainstein and Servon, 2005; Frank, 2003; Hayden, 2002; Rakodi, 1991; also see literature cited above.

73. Ettema and van der Lippe, 2009.

74. Riverson and Carapetis, 1991, p. 11.

counterparts. This translates into a higher sensitivity to distance, and research confirms that in the event of household relocation, women tend to change their jobs more often than men. However, it has also been documented that in cases where women remained working in the same job, many had even longer commuting distances than their male counterparts.⁷⁵ In the US, poor women in particular continue to encounter a ‘spatial mismatch’ between the location of their place of residence, located in less desirable low-income areas near the centre, and possible places of employment, i.e. low-skilled service sector jobs in suburban areas with poor transit access.⁷⁶

This points to the strong gender dimension of the ‘shelter-transport-livelihood link’, namely the close relationships which exist between women’s place of residence, their ability to access places of employment, education or basic services and their ability to improve their livelihoods. The core problem is that places of employment for low-income people are often located far away from their place of residence.⁷⁷ Over the last few decades, the profound gender dimensions of functionally segregated land uses, and in particular the location of low-density suburban residences in relation to commercial, employment, civic centres and cultural institutions have been amply documented in a rich body of literature, primarily focused on North America and Europe.⁷⁸ Box 8 presents a case study from Sofia (Bulgaria), highlighting the gendered consequences of rapid suburbanization in a post-socialist setting.

Box 8. Gendered perspectives on life and travel in post-socialist suburban Sofia, Bulgaria

One of the most pervasive and dramatic changes of life in post-socialist cities is that of rapid suburbanization. Depending on people’s age, sex, social and educational status and income, households’ move to the suburbs has had very different impacts on their lives, but life adjustments have arguably been more problematic for women than for men. One important factor to consider is that in communist Eastern Europe, full employment for women was common, and in Bulgaria, nine out of ten working age women were employed. Yet although they enjoyed social benefits such as paid maternity leave they were still left with the full double burden of paid work and unpaid household labor which men rarely shared. Capitalism did not change this, but it did transform the economic opportunities and threats households encountered. A key issue is that most families who move to the suburbs still only own one car, which is typically used by husbands to go to work, leaving women at the mercy of infrequent and often inconvenient public transit or of the kindness of car-owning relatives or friends who live nearby. Young mothers feel particularly dependent and ‘stuck,’ and many women feel curtailed in their ability to maintain friendships and social contacts. While some women actively embrace their first opportunity to become full time homemakers, others see it as a newly necessary ‘*means for compensating for state failure to guarantee high-quality education and safety for children.*’ or one woman, the challenge of commuting to her urban jobs inspired her to set up a home-based business in her large home instead. Unfortunately, as is often the case, the gender impacts of suburbanization are not taken into account in official planning policy. As Bulgarian urban planning expert Sonia Hirt concludes: ‘*In fact, suburbanization is welcomed as a ‘natural’, ‘gender-neutral’ spatial expression of free market forces that are, ostensibly, equally gender neutral. I argue that gender must become an explicit variable in planning Sofia. Whereas popular wisdom holds that lack of public investment in mass transit and other public amenities has been hard on ‘everybody’, the evidence suggests that it may have been harder on women.*’

Source: Hirt, 2008.

75. Camstra, 1996.

76. Blumenberg, 2004.

77. Wilson, 1987.

78. For a concise overview, see Frank, 2008. Also see Fishman, 1987; Hanson and Pratt, 1995; Hayden, 2002; Marsh, 1980; Seagert, 1980.

The crucial question in all settings is how accessible places of employment are for both men and women. For poor women who are dependent on employment opportunities within walking distance, a central location in the city centre is crucial for maintaining their livelihood. This is why forced resettlement of poor households from inner-city slum areas to outlying areas can be so devastating for families. As one study on poor women in Delhi's slums (India) aptly summarizes:

*'Within the constraints of their limited mobility and household responsibilities, women find ways of accessing work near their homes. ... An example of this is a domestic worker [in a Delhi slum]. She walks to work in a nearby affluent colony, washing and cleaning in the morning. She returns home in the afternoon, takes care of the children and other household chores, and returns to work in the evening to wash the after-lunch utensils and organize the dried clothes. Again, she reaches home well in time to prepare the evening meal for her family. All this she can manage without spending anything on her personal transportation. If this slum cluster is relocated to the city outskirts, either this woman will not be able to work because of the exorbitant costs of transportation and the family will suffer due to the loss of additional income, or alternatively she will go to work but her family will suffer because of her absence at home. Therefore, access to work plays a large role in determining a woman's ability to balance her productive and reproductive roles in the household.'*⁷⁹

Such problems would be minimized in more polycentric cities where multiple sub-centres offer both a wide range of housing and employment opportunities linked by affordable transit.

7.2. Impacts and challenges

Research shows that 'gender gaps' in travel and transport patterns persists even in the most developed, most egalitarian societies. For example, a recent study in Sweden showed that the presence of young children reduced the travel activity of women, but there was no such effect on men.⁸⁰ A comprehensive survey examining commuting trends for the entire US from 1985 to 2005 concluded that '*sex continues to play an important role in explaining travel, housing and labour market dynamics, with major implications for planning practice*' and that commuting times are still only slowly converging by gender and race.⁸¹ In short: women still exhibit a greater likelihood to trip chain, work closer to home or stay home altogether.⁸²

As a corollary and counterpart to recent policy recommendations for a re-mixing and re-integration of land uses, researchers in North America and Europe have long identified functionally segregated suburban environments as a main culprit for the persistent gender imbalances in travel patterns, and for gendered household divisions of labour more generally. Many suburban middle-class women (are circumstantially forced to) chose lives as traditional home-makers and 'soccer moms' while those women who are actively seeking employment often become entrapped in lower-rank service jobs in suburban '*pink collar ghettos*'.⁸³

In developed country contexts, gender equity considerations can also be at odds with new mainstream 'green' transport policies which actively seek to restrict car use even though

79. Anand and Tiwari, 2006, p.64.

80. Gustafson, 2006.

81. Crane, 2007.

82. One must be wary of over-simplistic analyses however, as the most recent detailed analyses in the US now show both a narrowing and widening of travel differences by gender. See Crane and Takahashi, 2009.

83. England, 1993.

existing environmental, social and land-use conditions make it disproportionately harder for women to forgo the use of automobiles, given that they are still mainly the ones 'stuck' with the more complex, multi-stop journeys across town. Also, as one British researcher recently noted:

'Women generally earn less than men, so restrictive parking policies and high parking fees adversely affect women who are least able to pay, whereas drivers with company cars (80% male) pass the cost on to their employers. Whilst ... 80 per cent of all workers in central areas are female ... little would one realize this from dominant images of the 'journey to work' by the male 'commuter'.⁸⁴

In the end, this leaves policy makers and planning with two core challenges:

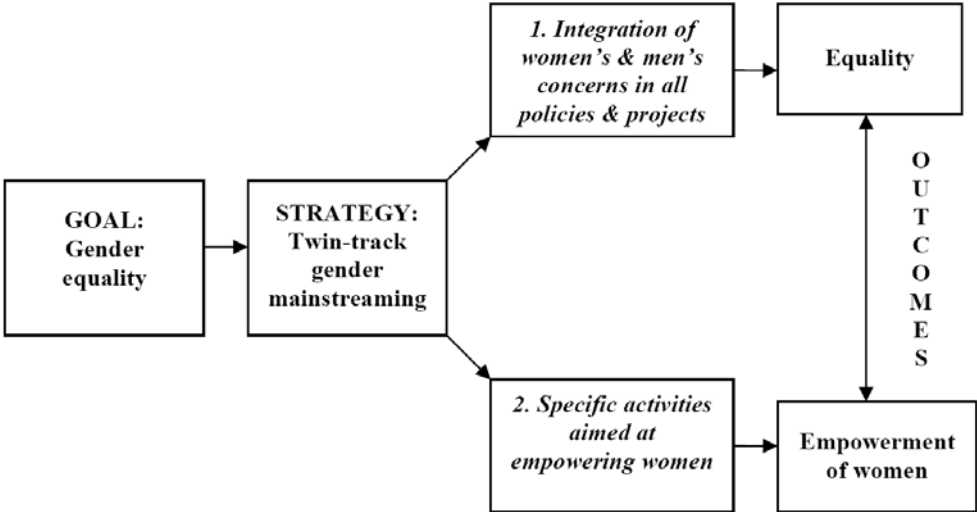
- the need for a more equitable re-balancing of household divisions of labour, and
- the need to develop transport and land-use policies that are more cognizant of the shelter-transport-livelihood link and the dire consequences of spatial mismatch, especially for low-income women.

84. Greed, 2008, p.247.

8. Policy Responses in Urban Transport

Previous chapters presented extensive evidence of gendered use of urban transport services and infrastructures, with women typically having inferior access to both. The following sections will review actual policy responses designed to address these persistent gender inequalities. When considering such policy responses, it is useful to analytically distinguish between general ‘mainstreaming’ measures which are aimed at eliminating unequal patterns of access to transport means, services and destinations on one hand, and policy measures which explicitly recognize women-specific needs on the other hand. Whereas the core perspective in the former cases is ‘equality’, the core perspective in the latter cases is ‘[women’s] empowerment’. Together, these two perspectives form the ‘twin tracks’ of gender mainstreaming (see Figure 5).

Figure 5. ‘Twin-track’ gender mainstreaming



Source: Moser, 2004.

In developed country settings, *integrative* mainstreaming approaches are generally more common, whereas interventions and policies in developing countries still mostly focus on an empowerment perspective identifying *specific* activities aimed at women. On a theoretical level, previous ‘women in development’ (WID) perspectives prominent in developing countries in the past have now been amalgamated into the more encompassing ‘gender and development’ (GAD) approach, although theoretical debates over ‘correct’ labels and approaches persist.⁸⁵

8.1. Gender mainstreaming at the international and national levels

Ever since the 1990s, there has been a burgeoning, rapidly expanding policy literature on the subject of gender mainstreaming in transport. In particular, major international and national development institutions such as the World Bank, UNDP, UN-Habitat, SIDA, CIDA, DFID, GTZ and KfW have produced an increasing stream of research briefs, manuals, toolkits and

85. See, for example, Momsen (2010, pp. 12–14) and Peet and Hartwick (2009, Chapter 7), or, for a concrete reference in a World Bank gender and transport policy document, Maramba and Bamberger (2001, Chapter 1).

other written materials all aimed at improving women's access and mobility in a variety of development contexts, generally focusing on the situation of women in less developed countries. At the same time, many individual countries have launched their own gender in transport mainstreaming programmes.

8.1.1. The World Bank's Gender and Transport Resource Guide website

Much of the material accumulated through the efforts of the above listed international organizations is available for download on the World Bank's sprawling Gender and Transport Resource Guide website.⁸⁶ Transport planners and decision-makers *anywhere* in the world should routinely download and integrate the gender-sensitive strategies and training materials available on this site. It provides a wealth of material documenting both the Bank's own and other institutions' efforts to better integrate gender into transport programmes, projects and operations. Contents range from academic studies and research notes⁸⁷ to general gender mainstreaming manuals and checklists⁸⁸ to detailed step-by-step 'how to' manuals and toolkits such as 'good practice notes' on participatory mapping exercises and sample terms of references for designing gender-sensitive informal motorized transport and non-motorized transport components for transport projects.⁸⁹

International financial institutions have important leverage over urban transport sector interventions in developing countries, as many states are dependent on external funding for infrastructure investment. In addition to lending operations, substantial resources are allocated to analytic and advisory services such as data collection, research or the development of new methodologies for social assessment. Taken together the body of work assembled on the site provides an excellent basis for appropriately mainstreaming gender into urban transport. Some key studies insights are summarized below. A detailed overview of the full contents of this useful online guide is provided in Annex A to this report.

8.1.2. EU recommendations on gender mainstreaming in transport

There is now also an increasing amount of gender mainstreaming material available in developed country settings which specifically address issues of transport, access and mobility. The EU has been actively promoting research and policy responses related to the subject of gender, transport and mobility, producing several exemplary policy reports over the last few years which take up the subject matter from a comprehensive, supra-national perspective. The official policy recommendations made by a high-level EU expert group on gender and transport in 2006 are listed in Annex C of this report.

8.2. From sex-disaggregated data sets to gender-sensitive stakeholder consultations

The most obvious solution to better accounting for women's and men's gender specific transport demands and needs is to first record, then analyze and then respond to them. Improved and fully sex-disaggregated data collection is a necessary first step towards carrying out full gender analyses. Traditional data on traffic flows and passenger volumes needs to be meaningfully complemented by household surveys, time use diaries, on transit user surveys

86. <http://www4.worldbank.org/afr/ssatp/Resources/HTML/Gender-RG/index.html>, last accessed 11 May 2011.

87. The World Bank's own rationale for gender intervention in transport was summarized in Bamberger and Lebo, 1999.

88. This also includes direct links to valuable related materials such as Kunieda and Gauthier (2007) as well as Asian Development Bank (2003 and 2005), which makes direct reference to urban transport issues such as women-only transit services.

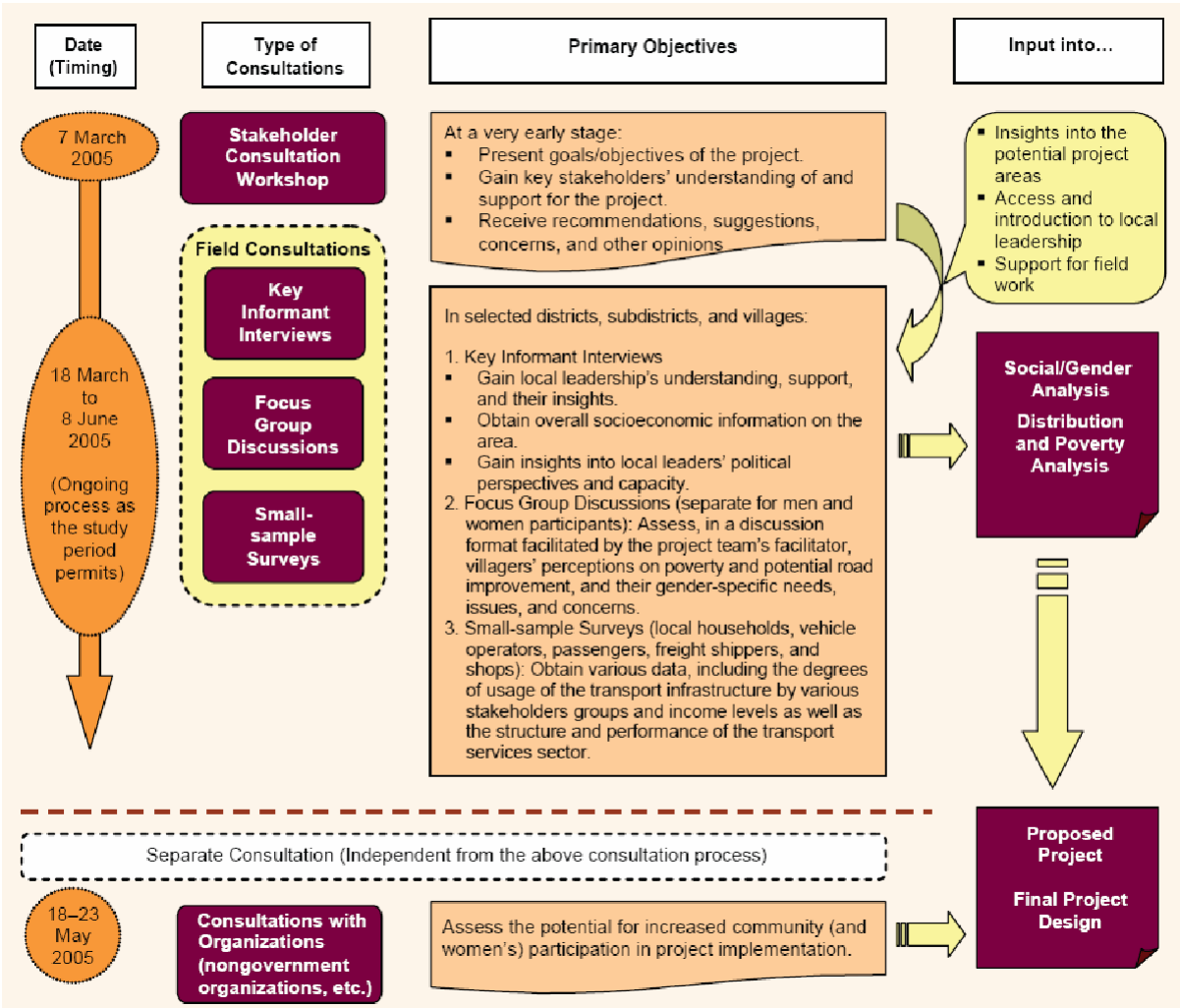
89. See, for example, Rankin, 2000; and Peters, 2000.

and other socio-economic surveys, and well as interviews, focus group discussions and other participatory workshops. Researchers need to be gender sensitized and carefully plan their information gathering strategies in order to reach out to both men and women. Besides a consistent sex-disaggregation of all data, good, gender-aware practice includes arrangements to:

- record responses from all members of the family, not just (male) heads of households;
- record latent demand (i.e. trips *not* taken due to unavailability of transport);
- arrange for interview/focus group/workshop times/days when women can also be present; and
- arrange for both gender-segregated and mixed focus group settings.

Figure 6 presents an overview of the stakeholder consultation process employed in a World Bank-financed road sector improvement programme in Timor Leste. It is an example of a best practice stakeholder consultation which held separate focus groups for both men and women and directly aimed at increasing women’s participation in project implementation.

Figure 6. Toward socially inclusive and gender-responsive transport planning: Stakeholder consultation for the Timor-Leste Road Sector Improvement Project



Source: Gajewski et al, 2007, p. 14.

In addition, modern technology, especially if used in combination with established participatory planning methods, has great potential to further enhance gender aware transport planning. In particular, cognitive mapping exercises can now be used in combination with GIS to help design more locally appropriate and gender-aware infrastructures. Box 9 presents a recent pilot study from a World Bank transport project in Lesotho. In principle, these techniques can be employed in a wide variety of both urban and non-urban settings. The pilot study authors summarize how gender was effectively integrated into transport planning with the help of these methods:

*'To date, most local-level transport sector studies of mobility and access have been based on data from individual time and/or activity diaries or household survey questionnaires covering cost, distance, time, and mode. Although these methodologies are useful, they are time consuming to implement and often costly. In addition, they reveal little about local perceptions regarding barriers to mobility and access (physical, financial, or social) or about how decisions regarding mobility are made for different members within a household. Failure to disaggregate data can mask gender and other relevant social dimensions that subsequently lead to the design of inadequate transport infrastructure and limited services for vulnerable groups within a population. Recent advances in GIS technology have allowed for more extensive data analysis on mobility and access, but the relevant methodologies have not made extensive inroads into how transport ministries operate or make decisions.'*⁹⁰

Box 9. Using cognitive mapping and geographic information systems (GIS) for gender-sensitive transport prioritization: Results from a pilot study in Southern Lesotho

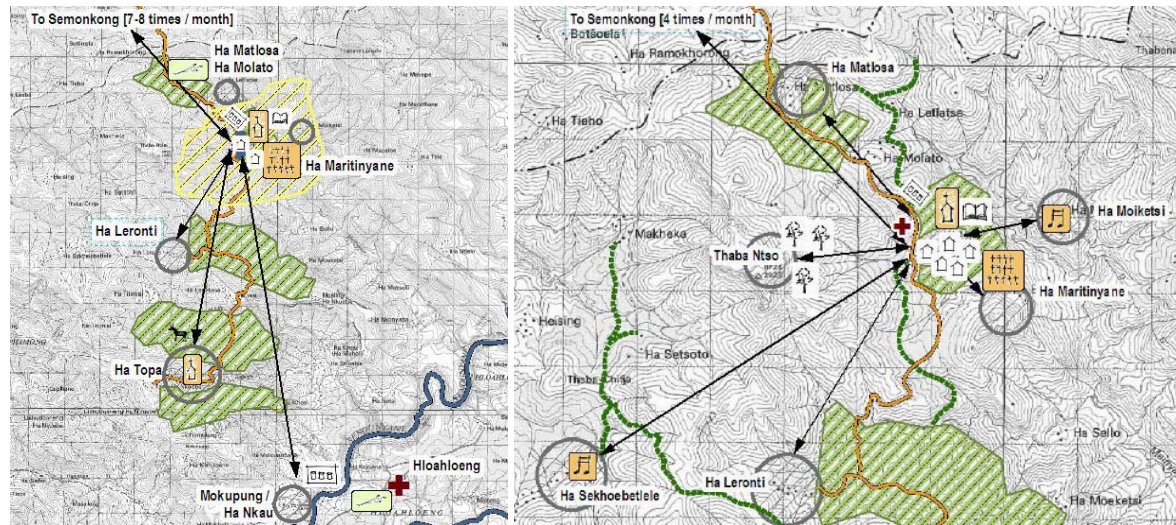
All-male and all-female focus groups typically come up with very different sets of transport priorities. Using cognitive mapping exercises in combination with GIS is an excellent and comparatively cost-effective way to further enhance transport planners' ability to tease out such differences and subsequently integrate gender-specific needs into local transport plans. The examples below, taken from an innovative World Bank-supported pilot study for the Lesotho Integrated Transport Programme, the stark differences in the way male and female villagers mapped their surroundings. Researchers found women's sketch maps to be 'less dense with fewer paths and destinations but longer travel times.' Men's focus group maps 'centred on the main road and track, showing mobility and access patterns dominated by horse travel to neighbouring fields, villages, and services' whereas women's focus group maps 'centred on footpaths, showing mobility and access patterns largely perpendicular to those shown in the men's maps.'

Participatory sketch maps from men's and women's focus groups in Ha Lepekola village:



90. Vajjhala and Walker, 2009 p.2.

Men's and women's focus group maps of Ha Tumo village:



Source: Vajjhala and Walker, 2009, pp.14–17.

8.3. Gender auditing for urban transport

Gender auditing has been identified by many experts as an essential tool for assessing how well public and private organizations meet gender mainstreaming goals, and the concept has been extended to include transport organizations, particularly transport ministries and transit providers.⁹¹ Auditing transport policies, plans or projects for gender-sensitivity is typically done via the development of specific checklists. The best example of a gender audit initiative with high-levels of government support is in the UK. The UK Department of Transport's updated exemplary gender audit checklist for public transport is reprinted in Annex D to this report. A 2007 study on 'women in transit' summarized the aims and effects of the initiative as follows:

*'The United Kingdom Department of Transport put research to use by creating a 'public transport gender audit checklist' to assist in determining how well a transit provider or authority meets women's transportation needs. Prepared by the Department of Transport Studies at the University of East London, the gender audit was primarily designed as a management tool to help organizations assess unmet needs, but it was also used for community groups to measure progress and for lobbying purposes. Researchers conducted a broad scan of transportation literature and held focus groups with low-income women around the country "to identify and explore the factors which affect women's experience and enjoyment (or not) of public transport." Using this data, researchers created the checklist to help others assess the degree to which transportation effectively serves women. The mere creation of this audit for the use of government transportation agencies, service providers and community groups demonstrates the government's commitment to making gender a part of transportation planning.'*⁹²

91. Hamilton and Jenkins, 2000; Moser, 2004; Turner and Spitzner, 2007.

92. Women's Foundation of California, 2005, p. 27.

8.4. Local policy responses: 'Women-only' vs. gender-sensitive solutions

As demonstrated in chapters 2–7, sexual harassment, groping, theft or simply the unpleasant and often culturally inappropriate experience of being herded into crowded trains or buses makes the use of public transport infrastructures difficult for women around the world. Many scholars and activists have pointed out that the influx of women into the workplace is challenging the traditional separation between public spaces and previously male-dominated workplace and private spaces and especially the still female-dominated private sphere. Ensuring women’s safety and comfort by segregating them from men is one possible policy response for transit agencies and government authorities charged with public safety, especially in instances where behaviour had gotten particularly aggressive and at times even violent. Likewise, women-only taxi-services and parking spaces have been introduced to enhance higher-income women’s safety and comfort. Pictures 16 to 21 present images from some of the women-only services described below. Sex-segregated policy solutions are

Pictures 16–21. 16. Women-only train Tokyo, Japan (Keio Line). 17. Women-only train Tokyo, Japan (JR Line). 18. Women-only train, Taipei main station, China. 19. Women-only train in Kuala Lumpur, Malaysia. 20 and 21. ATENA Programme for women-only buses in Mexico



Source: www.rtp.gob.mx/atenea.html.

controversial, however, and there are many other ways in which local governments and transport providers can enhance both women's and men's safety, security and comfort in urban transport and provide more appropriately gender-sensitized infrastructures and services. The following sections provide an overview of related policy responses in cities around the world. Overall, it seems that policy makers have a fine line to walk: while insinuations that women somehow need specially tailored parking places due to their inferior mastery of vehicles (as evidenced in the case of Heibei, China, below) is no doubt insulting and off-putting to many, other rationales for considering special parking areas for women are more real and less offensive: women are more likely than men to travel 'encumbered' due to pregnancy or being accompanied by small children, and they are also be more likely to be victims of crime in public spaces.

8.4.1. Women-only transit services and parking infrastructures

8.4.1.1. Women-only rail services

So-called 'ladies' rail coaches now exist in a fair number of cities and seem slated for expansion around the world. The first 'ladies special' train was introduced on the Mumbai Suburban Railway as early as 1992. With the rapid entry of women into the urban workforce, problems of taunting and harassment in public spaces, euphemistically called 'eve teasing' in India, have been on the rise. In India, the number of working women has doubled in the last 15 years, and reports of violence and abuse against women have been on the increase. The Mumbai programme of operating two women-only trains was never expanded and there were reports of men breaking into the cars and claiming seats. Then, in 2009, the new female minister of railways Mamata Banerjee expanded the programme to include eight new commuter trains in India, now including New Delhi, Chennai and Calcutta in addition to Mumbai. Women found the new cars are crowded and come equipped with padded benches and electric fans, something which naturally caused envy and resentment from male commuters.⁹³

Tokyo (Japan) has boasted women-only commuter cars since 2001. Mexico City and Rio de Janeiro (Brazil) also have rush hour metro women-only cars, and as of mid-2010 Jakarta does as well.⁹⁴ Other examples of women-only rail services include two special trains on the long-distance railway line from Minsk (Belarus) to Moscow (Russia), instituted in 2005,⁹⁵ and the specially designated cars on Cairo's metro (Egypt) which have been operating for a few years now.⁹⁶ Another recently instituted service includes the Sentul-Port Klang and the Rawang Seremban commuter railway routes in Kuala Lumpur (Malaysia).⁹⁷ The cars are usually clearly marked in pink with large signs. The phenomenon is not really a new one in Japan, however, as special trains for schoolgirls called *hana-densha* (花電車, lit. 'flower train') had been in operation in Japan early in the 19th century already to keep the girls from having their '*beautiful figures looked at and enjoyed*' by men. Such trains also existed in Osaka until the 1950s but were discontinued in the early 1970s.⁹⁸ Pictures 16 to 19 show women-only train services in Japan; Taiwan, China; and Malaysia.

93. Yardley, 2009.

94. Vaswani, 2010.

95. Nechapayka, 2005.

96. Al Sherbini, 2010.

97. David, 2010; Nor Shahid Mohd, 2010.

98. BBC News, 2000.

8.4.1.2. Women-only bus services

Women only bus services have also been introduced in a number of cities in the developing countries, sometimes as a follow-up to train-only services but sometimes independently. Probably the best known recently introduced service runs in crowded Mexico City, where the so called ATENEA programme features special buses on several main routes running all day from 6am to 9pm, so unlike the subway programme, which is only available during rush hours, this service is also available for off-peak, non-commuting trips. ATENEA's buses, too, are labelled with large pink 'women-only' signs, and men who stumble onto them have been known to have been removed by force by the driver.⁹⁹

8.4.1.3. Women-only taxi services

Another recent phenomenon is the appearance of taxis services especially targeted at and operated by women. There is thus also a private sector corollary to public transit companies' increasing trend towards women-only services. A somewhat ill-fated example of such a 'pink ladies' car service made local headlines in Warrington outside of Manchester (UK), where the two women running the respective private enterprise were confronted with several legal challenges related to obtaining a taxi license which would allow them to refuse to take men as passengers, as this would be considered unlawful sex discrimination against men. They tried operating the service as a 'members club', lost the respective court case in 2009 but by then had found another non-local governmental authority able to provide a different type of license.

In developing countries women-only cab services cropped up in a large number of cities, especially in cities with predominantly Muslim populations such as Cairo (Egypt), Damascus (Syria), Beirut (Lebanon), Dubai (United Arab Emirates) but also including places like Puebla in Mexico.¹⁰⁰ Most also use the signature pink colour and all of them feature women-drivers, which has naturally caused irritation among some men, especially the male cab drivers who are unhappy about the new competition. As one anonymous driver put it in a related newspaper article: *'I don't think this is a job that's appropriate for a lady ... [W]e don't need to share this profession with women.'*¹⁰¹ Many of the 'pink cab' operations started as recently as 2009 or 2010 and received wide-ranging attention both the in the regional but also international press.

8.4.1.4. Women-only and family parking spaces

Although the above listed examples primarily focused on transit services in non-Western environment, special transport services and designs for women have constituted important policy responses in all kinds of cultural environments, including Europe and North America. Long before internet bloggers wrote heated comments in response to the creation of a new women-only shopping mall car park in China's Heibei province featuring extra-wide, pink and light purple spaces in Heibei province to appeal to *'women's strong sense of colour and different sense of distance'*,¹⁰² US shopping malls had experimented with placing women-only parking spaces near store entrances.

In Germany, placing well-lit 'women's parking sections' near stairs and elevators has long been a commonplace strategy to prevent opportunities for rape and assault and improve

99. Llana, 2008.

100. Vo, 2009.

101. Kliger, 2010.

102. BBC News, 2009.

women's safety and security in multi-story parking structures. Previous 'women-only' spaces near store entrances, however, have in many instances been replaced with gender neutral 'family parking' spaces, although these signs are still visually biased towards traditional family models (see Pictures 22–24).

Pictures 22–24. 22. 'Women-only' parking in Germany. 23. Parking for 'expectant mothers'. 24. 'Family-friendly' parking in the US



Sources and ©: Jens Schott Knudsen, <http://blog.pamhule.com> (taken in Flensburg, Germany), UNECE website, http://www.unece.org/trans/theme_gender.html, Sarah Coggins, <http://www.mominchapelhill.blogspot.com>, respectively.

8.4.2. Designing gender-sensitive transit and transport infrastructures

Whereas 'women-only' solutions may be appropriate in some contexts, they remain problematic in that they perpetuate divisions and differences between the sexes rather than comprehensively addressing the deep rooted gender biases inherent in current transport planning and policy-making. Designing gender-sensitive transit and transport infrastructures essentially means changing policy makers and planners mindset so that they think about sustainable urban transport as a comprehensive challenge involving *all* aspects of the urban mobility experience, placing greater emphasis on non-work related travel issues related to household and care work. In practice, this results in local transport design solutions such as the following:

- barrier-free, protected sidewalks wide enough to accommodate parents travelling with children;
- barrier-free, safe and well-lit public transport stations, stops and vehicles;
- locating public toilets (with baby changing stations accessible to all sexes) near transit;
- conveniently locating shopping and day-care facilities near housing and transit;
- developing locally appropriate, safe and affordable cycles and carrying devices designed for carrying children and/or market goods;
- providing safe and secure parking facilities for such intermediate means of transport; and
- rethinking transit fare structures to minimize cost for multi-stop journeys;

Actively engaging users into the planning and design process will yield many additional examples of locally appropriate operational and design solutions.

8.4.3. Gender-balanced public signage: re-gendered traffic signs and signals

Men's and women's urban mobility experiences are also influenced by the way transport infrastructures and services 'speak' to them. An interesting counter-initiative against typical gender stereotypes in transport services is the gender mainstreaming initiative *Wien sieht anders* ('Vienna sees differently') in the Austrian capital, which included a campaign to re-gender-balance public signage. As a result, women were depicted alongside men as active participants in urban transport environments. Key examples include female pictograms on pedestrian crossing signals and on road worker signs (Pictures 25 and 26).

Pictures 25 and 26. Gendered traffic sign and signal in Vienna, Austria



Source and ©: www.wieninternational.at

8.5. Increasing female employment in transport

As evidenced by data presented in the preceding chapters, women all over the world only make up a small percentage of those employed in key transport occupations. Commercial and transit vehicle operators, mechanics, engineers, transport professionals as well as distribution

Table 3. Policy initiatives aimed at female employment in transport

Country	Name of the Policy Initiative	Sector involved
Croatia	Ergonomic Association of Croatian Railways (HŽ) (<i>Ergonomska udruga hrvatskih željeznica</i>)	Railway transport
France	Agreement on professional equality between men and women 2006–2009, Air France (<i>Protocole d'accord sur l'égalité professionnelle entre les femmes et les hommes 2006–2009</i>)	Air transport
Hungary	Equal opportunity plan (EOP) of Hungarian State Railways Ltd (<i>MÁV Rt. Esélyegyenloségi terv</i>)	Railway transport
Italy	Project of positive action for the safety of female workers in the sector of the Met.Ro. SpA Group (<i>Progetto di azione positiva per la sicurezza delle lavoratrici nei settori dell'esercizio di Met.Ro. s.p.a.</i>)	Local underground transport in Rome
Netherlands	Collective labour agreements in public transport (<i>Collectieve arbeidsovereenkomsten openbaar vervoer</i>)	Railway transport of passengers and freight/air transport of passengers and freight
Spain	Mixed Commission for equal opportunities in the public railways company RENFE (<i>Comisión mixta para la igualdad de oportunidades en RENFE</i>)	Railway transport
UK	London Buses Initiative – action plan to increase the number of women in the bus industry	Road passenger public transport (bus drivers)
	Promoting equality and dignity at work – Stansted Airport	Air transport (ground staff)

Source: EMCC and EFILWC, 2007, p.11.

managers are all predominantly male. The goal of increasing and improving working conditions for transportation companies' female workforce has been the subject of several recent policy initiatives in EU countries, eight of which are highlighted in the 2007 report 'Innovative gender equality measures in the transport industry' led by the European Monitoring Centre on Change.¹⁰³ Table 3 provides an overview of the initiatives. Hiring female bus operators was also a key component of the TransJakarta Bus Rapid Transit initiative, which provided Indonesian women with a first opportunity at formal, regularized employment in the sector.¹⁰⁴ Increasing female employment in transport has been recognized as a key component for mainstreaming gender into the sector.

Box 10 presents another interesting, unusual policy response from Lima (Peru) where the government decided to combat corruption in the male police force by hiring female officers.

Box 10. The feminization of Peruvian traffic police: Ending corruption by hiring female officers

In the late 1990s Peru started to replace the traditionally all male traffic police officers on the streets of Lima with female officers. This was mainly intended as a solution to rampant, omnipresent corruption within the force at the entire national level, as women had shown to be less susceptible to bribes and corruption. So the main objective was to regain credibility and a more positive image with the public. By 2000, 1500 sub-official females had entered service to control traffic in the streets. Accompanying internal changes within the department included both physical arrangements such as adding additional bathrooms for women in station houses, and other measures such as organizing childcare within the institution, allowing nursing mothers to arrive an hour later for their shift, and even extending family planning and counselling services. While corruption could indeed be curbed significantly by this measure, the female officers nevertheless immediately faced a number of obstacles on the job, facing often strongly violent reactions from motorists on Lima's streets. Taxi and bus drivers in Lima typically have little training, rushing into the business Peru lowered import tariffs on used vehicles, quickly causing the capital to jam up with aging, unsafe and often unlicensed cabs, vans, and minibuses called 'killer combis'. Incidents of road rage are common, pedestrians are run over on a daily basis, and the Latino machismo culture adds further momentum to a situation where

'Eighty percent of the 405 incidents of citizen assault on police reported [from 2004 to 2006] have involved the capital's female officers. Of the 1,031 women, roughly one third have been cursed, shoved, punched, dragged, run over or taken hostage by angry men. Cabbies and bus drivers are the worst offenders'.

According to a study done at the National University of San Marcos, *'more than 40% of [the 491] public transit drivers interviewed displayed antisocial, even psychopathic tendencies'*. Lima recently renewed its commitment to using female officers to combat corruption on the force, proposing to eliminate all male officers by 2009, but it seems that women are paying a high price. Mexico tried a similar programme in the 1990s and reportedly gave it up because of similar instances of violence against the female officers.

Sources: Salazar, 2006 (including both quotes); Gutierrez, 2003, pp.17–19.

8.6. Impacts of policy responses

The mere existence of gender mainstreaming materials and official international or national policy documents alone does not mean gender is successfully integrated in the transport sector. Various reports sponsored by the EU and by organization in individual EU countries all show that there are still considerable obstacles to be overcome at a variety of levels, even in advanced developed country settings where significant advances in gender equality have

103. EMCC and EFILWC, 2007.

104. Kunieda and Gauthier, 2007, p.33.

been made.¹⁰⁵ Even in Sweden, where gender equity has been pursued as a high-level political goal since the 1990s, research revealed that the practical advances in mainstreaming gender into transport have been disappointing: transport decision-makers are still predominantly male, *'gender equity is not perceived as a relevant goal ... there is a lack of basic knowledge and expertise ... no systematic strategy [, and] ... a lack of temporal and financial resources needed to deal with the goal.'*¹⁰⁶

It also seems that the World Bank's manifold studies and initiatives aimed at better mainstreaming gender into transport have not made a noticeable difference in the bank's own lending practices and typical project outcomes yet. The findings of an externally commissioned study synthesizing ten also specially commissioned World Bank gender and transport case studies were disheartening: they *'depict efforts to integrate gender into transport policies, programmes and projects as full of gaps, inconsistencies and mismatches'* and concluded that *'a gender enabling environment found in many of the case study countries is consistently not translated into practice across the transport sector.'* The report recommended gender auditing to ensure the integration of gender at the meso level and to avoid the disappearance of gender during implementation. The report also recommended a 'retrofit' capability for projects and the allocation of resources to undertake measures such as auditing, as well as longer term efforts to *'change institutional processes'* and *'clearer links between initial projects plans and actual approved projects ... together with the creation of a gender-aware monitoring and evaluation culture that allows initiatives to learn.'*¹⁰⁷

This demonstrates that even a wealth of sex-disaggregated data and high-quality gender-sensitive stakeholder consultations do not produce impactful results unless there is a firm commitment to upholding the results of such consultations at the implementation level. Monitoring and evaluation via gender audits and checklists is crucial to ensure follow through.

As for the specific impacts of the various local-level policy responses highlighted above, some summary observations can be offered. First of all, it is clear that women-only public transport services have spurred very mixed reactions. The women who use these services like them, indeed feeling more secure and more relaxed in these special services, which are typically also cleaner and less crowded. But it is crucial to conduct reliable surveys asking women their opinions before considering implementation. A survey in Dhaka (Bangladesh) revealed that about half of all women called for special, women-only bus services, whereas in another survey conducted at around the same time in Pune (India), only 2 per cent of women thought women-only buses to be a viable option – despite the popularity of women-only train carriages in India. Women in Pune simply wanted to see more buses operating and overcrowding reduced.¹⁰⁸

Many transport experts feel that sex-segregated services are a reactive solution at best, and a failure to deal with a pervasive problem at worst, and most gender equity advocates are in fact outspoken critics of the 'pink' solution, fearing it is a step back rather than forward. For example, on the occasion of the introduction of pink taxis in Egypt, Nehad Abul Komsan, Chairwoman of the Egyptian Center for Women's Rights commented:

105. Greed, 2005; Hamilton et al, 2005; Polk, 2008.

106. Polk, 2008, p.232.

107. Turner, 2003.

108. Astrop, 1996.

*'It means isolation for women. It's very risky for our society. If it's an excuse to solve problems like sexual harassment or other types of violence, it's a very naïve solution for a very complicated problem. We need to [have] proper transport or more security in the street, not isolate women in taxis.'*¹⁰⁹

Regardless of whether 'pink' transit services will expand or contract in cities around the world the future, it is clear that this can be but a partial solution, and a range of additional policy measures are needed to enhance women's safety, security and comfort in transport environments. Women-only services only account for a very small fraction of all transit services, and most are only operational during rush hours and on the most crowded lines, so they present an exceptional solution not available in most urban settings in the world.

One area where the impacts of policy interventions directly aimed at women have been very clearly demonstrated is in programmes which have helped women access intermediate means of transport such as bicycles and other load-carrying devices. Box 11 presents the exemplary case of the AfriBike pilot project which provided low-income women with bicycles. Increasing women's safe and affordable access to intermediate transport technology and eliminating excessive walking and head loading is still one of the most impactful gender-specific transport interventions available.¹¹⁰ Pictures 27 through 29 show how African women and girls learned how to ride bicycles under the Afribike program

Box 11. The tangible impacts of teaching women how to ride: ITDP's AfriBike pilot project

In the late 1990s, the Institute for Transportation and Development Policy (ITDP) started the AfriBike project which brought used bicycles from the US to South Africa made the refurbished bikes available to women who finished 7-day training course in which they not only learned how to ride but also got to keep the bicycle after completing the course (which charged an enrolment fee for 50 per cent). One of the women, a recycled stationary maker, cut her daily commute from 90 to 30 minutes, another her one way commute from 75 to 30 min. Afribike became its own non-governmental organization and has since inspired other initiatives outside the country as well as the Shova Kalula (Ride Easy) National Bicycle Programme which has sought to bring access to low cost bikes to rural and peri-urban areas of South Africa. Unfortunately, this National Department of Transportation programme has failed to mainstream gender or focus on women in particular.

Sources: White, 1999; Mahapa, 2003.

Pictures 27–29. African women and girls learning to ride bicycles under the Afribike programme



Source and ©: ITDP (Aimee Gauthier).

109. Cited in Kliger, 2010.

110. Forbes, 2010; Howe and Dennis, 1993; Overton, 1996; Peters, 2000; Philpott, 1994.

Last but not least, the impacts of increasing female employment in transport have also been wholeheartedly positive, both in terms of advancing gender equality in society in general and in terms of increasing women users level of comfort and security in negotiating transport situations.

8.7. Challenges for future policy development

Urbanization and economic globalization have profound impacts on overall dynamics of accessibility and mobility and transport planning and geography need to better account for increasingly complex settings.¹¹¹ Gender-sensitive transport planning can be viewed as one crucial element in the strive to update 20th century methodologies and theories. For much of the 20th century, transport planning methodologies and policies focused predominantly on the travel needs of one particular group of individuals, namely the typically male breadwinner on his journey to and from work. This inappropriately undervalued all off peak, non-commuter travel and did not account for the fact that especially women typically linked multiple destinations. There are other important structural changes necessitating adapted methodologies and practices: a majority of the world's population now lives in urbanized areas, and few city-regions today exhibit the simplistic core-periphery land-use model of the early industrial age in which workers would commute to central business districts in the morning and back home to the suburbs in the evening. Individuals move about urban areas in complex ways, with women now accounting for an increasing share of wage-earners worldwide, with educational facilities for their children not always within easy reach of their homes, and with non-work related travel often accounting for a majority of daily trips. Both at the international and at the national levels, the need to pay greater attention to intra-household interactions and group decision-making in forecasting and planning for transport is therefore now increasingly recognized.¹¹²

In the last half century, gender equity has made great strides in all developed and transitional countries, with men taking over a much higher percentage of household-related and child-rearing responsibilities than ever before. As evidence from preceding chapters has shown, 'egalitarian role expectations', i.e. household arrangements where men and women aim to equitably share housework, other reproductive tasks and child rearing responsibilities, are common in many developed yet still largely non-existent in most developing country settings. The existence of more egalitarian role expectations within households is also not a guarantee against gender-biased outcomes, however. Even in higher-income capitalist economies, it is becoming increasingly impossible to sustain families on one single income alone, and in order to do so, spouses need to make new trade-offs which in turn affect men's and women's travel patterns. And as elaborated in Chapter 7, gender roles are in fact reverting back to more traditional divisions of labour in post-socialist cities like Sofia (Bulgaria) because new capitalist suburban settings make it more difficult for women to balance commutes, paid work and household responsibilities than before.¹¹³ Cities around the world are thus not necessarily moving in a uniform direction.

111. David, 2009.

112. Chandra and Ram, 2005.

113. Hirt, 2008.

9. Future Policy Directions: Towards Gender-Sensitive Urban Transport Policies, Plans and Projects

This chapter summarizes key insights from previous chapters and highlights future policy directions with regard to gender dimensions in sustainable urban transport and mobility.

9.1. Gender and sustainable urban transport and mobility: Evidence and responses

This background report has presented a thematic study of gender and sustainable urban transport, focusing on conditions in different human settlements around the world. Following the introduction in Chapter 1, chapters 2–7 presented comprehensive empirical evidence and trends documenting the gendered use of different transport modes and the continued prevalence of highly gendered trip patterns both in developed and developing countries. The available evidence clearly established that urban transport and land-use systems all over the world consistently under-value and under-provide services and resources designed to meet the complex travel needs of multi-tasking individuals who are managing households, working in and engaging with their local communities, taking care of children and other relatives while often working one or more wage-earning jobs at the same time. The vast majority of these individuals are female, of course, and most of them are further disadvantaged in the accomplishment of their complex tasks by patriarchal household and social structures in which men typically first appropriate the fastest and most expensive available transport technologies for themselves. The need for specific policy responses and interventions targeted at women thus stems from fundamental gender inequities related to men's and women's (as well as boys' and girls') different roles in society. In many developing country contexts, female's complex duties include the very time-consuming and physically straining collection of water, firewood and other fuel. *Time poverty* thus emerges as a fundamental problem constraining women's and girls' movements (as well as their educational prospects) and hence needs to be addressed as a root cause for unequal mobility patterns.¹¹⁴ In addition, social and cultural practices and fear of sexual harassment or violence often constrain females' mobility and their independent use of public and intermediate means of transport.

Chapter 8 provided a comprehensive review of actual policy responses across the globe, showing that while great strides have been made in developing gender-appropriate transport policies, programmes, plans, and local design solutions, consistent implementation of the respective solutions is still widely lacking. Moving towards greater equity in urban transport is an essential prerequisite for achieving full sustainability in the sector. This concluding chapter re-emphasizes and highlights key issues for future policy directions and points to key resources available.

9.2. Revisiting the transport and gender dimensions of the Millennium Development Goals

Gender differences in mobility patterns are decidedly more pronounced – and subsequently more problematic and more consequential – for women and girls in less developed countries. As Chapter 2 highlighted, in many instances, poor women and girls become 'beasts of burden' with no or very limited access to any means of transport, carrying heavy loads, fuel,

114. Blackden and Wodon, 2006 ; Turner and Grieco, 2000.

firewood or water to the point of causing physical exhaustion and permanent strain injuries.¹¹⁵ As emphasized in Table 4, the reduction of maternal mortality rates, one of the key Millennium Development Goals, continues to be seriously hampered by poor women's inability to quickly and safely access medical facilities at the time of delivery. This calls for immediate policy intervention on a number of fronts. Gender equity is an essential dimension of sustainable transport.

Table 4. The transport and gender dimensions of the Millennium Development Goals (MDG)

MDG	Transport and gender dimension
<p>MDG 2 Universal Primary Education. Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.</p>	<p>Girl's lack of time for school and studying as they must help their mothers transport water, fuel and food. This leads to loss of opportunity or motivation to study. Girls face more gender related problems such as abduction and rape on their way to school. Lack of transport means for teachers and education officials affects both genders, through teacher absenteeism, lack of education quality support and monitoring.</p>
<p>MDG 3 Gender Equality. Eliminate gender disparity in primary and secondary education, preferably by 2005, and to all levels of education no later than 2015.</p>	<p>Girl's lack of time for school and studying as they must help their mothers transport water, fuel and food. This leads to loss of opportunity or motivation to study. The lack of public transport inhibits opportunity for both boys and girls to go to secondary school.</p>
<p>MDG 4 Child Health. Reduce by two thirds, between 1990 and 2015, the under-five mortality rate.</p>	<p>Preference for boy infant over girl infant because of parental discrimination and neglect. For example, girls may not receive adequate nutrition or be taken to the clinic as frequently as their boy siblings. Girl infants are trained to help mothers from very early age. Lack of emergency transport for children's health emergencies. Lack of transport for health equipment and medicines at the health post leading to poor quality of health service. Constraints on access of health post users due to distance, cost, difficulty of travel due to terrain and weather, path conditions.</p>
<p>MDG 5 Maternal Mortality. Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio.</p>	<p>High death rate for mothers and preventable injuries partially due to delay of decision to transport and lack of transport in cases of emergency especially at childbirth.</p>
<p>MDG 6 HIV/AIDS, malaria and other diseases. To halt and begin to reverse the spread of HIV/AIDS, Malaria and other major diseases</p>	<p>Transport sector workers such as long-distance drivers (mostly men), seafarers are seen to spread HIV/AIDS along road corridors and ports. Female sex workers, roadside community women with little control over reproductive health are most affected, not only by the virus but also through the extra burden of care for HIV/AIDS patients and orphans.</p>

Source: Riverson et al, 2006, p. 12.

115. Peters, 1998.

9.3. The '9 Ps' of gender-sensitive urban transport planning and additional resources

As noted previously, the most comprehensive one-stop resource on gender mainstreaming in transport is the World Bank's 'Gender and Transport Resource Guide' hosted by the Bank's Sub-Saharan Africa Transport Policy Programme.¹¹⁶ Originally mainly aimed at addressing rural African women's access and mobility issues, the site has since grown much beyond this aim and has wide applicability for both rural and urban settings all over the world. Box 12 presents a key bibliography of the most important of the now numerous and readily downloadable gender mainstreaming reports, manuals, toolkits with direct relevance to urban transport. Much of what is elaborated in these documents can be boiled to a handful of key recommendations, however. Box 13 therefore presents the '9 Ps of gender-sensitive urban transport planning,' a useful 'mini-toolkit' which transport decision makers should repeatedly consult before, during and after project planning and implementation.¹¹⁷ Moreover, Annexes A-D in this report provide additional resources for successful gender mainstreaming in transport, including key policy recommendations from several international high-level conferences and workshops and the exemplary gender audit checklist recently prepared for the UK Department of Transport.

Box 12. Key resources for mainstreaming gender into urban transport on the web

- 'The World Bank Gender and Transport Resource Guide', <http://www4.worldbank.org/afr/ssatp/Resources/HTML/Gender-RG/index.html> [Contains hundreds of pages of material, tool kits, case studies, reports and other many resources].
- Riverson, J., M. Kunieda P. Roberts, N. Lewi and W. Walker (2006) *The Challenges in Addressing Gender Dimensions of Transport in Developing Countries: Lessons from World Bank Projects*; Paper presented at the Transportation Research Board Annual Meeting, Washington, DC, <http://siteresources.worldbank.org/INTTTSR/Resources/462613-1152683444211/06-0592.pdf>.
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116. See <http://www4.worldbank.org/afr/ssatp/Resources/HTML/Gender-RG/index.html>, last accessed 11 May 2011.

117. The headings for this mini toolkit were taken from Greed (2008), for the long version see Reeves (2003).

Box 13. The '9 Ps' of gender-sensitive urban transport planning and policy making

Preliminaries: What supportive initiatives, resources and possibilities exist already?

Specifics: Review pre-existing international and national gender mainstreaming policies and/or any additional locally specific mandates. Reach out to national or local advocacy organizations which can support gender-integration into the process.

Planners: Who is doing the planning? Who are perceived to be the planned?

Specifics: Make sure the planning team has female decision-makers on staff. Integrate a Gender Impact Assessment into early stages of the process. Make sure planners pay attention to the complex constraints that women's (or men's) multiple roles as wage earners, caretakers and community workers place on their trip-making behaviour. Do not over-emphasize the needs of (male) commuters who are making simple journeys to and from work.

Populations: How are statistics gathered and who do they include?

Specifics: Make sure pedestrians are included as a key transport user category in all statistics. Make sure all data is collected in a gender/sex-disaggregated manner. Ensure that complex trip-chains are properly reflected in the statistics. Employ participatory methods, gender-sensitive surveys and focus groups in the manner specified below.

Priorities: What are the values, priorities and objectives of the plan?

Specifics: Again, make sure all non-motorized movement is included and recognized in the plan. Make sure gender-disaggregated data is not only collected but also properly analyzed and integrated into the plan-making process. Focus on access, not mobility. Consider household travel patterns as intra-linked. Make sure transport and land-use patterns are understood as intimately linked. Pay greater attention to non-commute trips and complex trip chaining patterns required to navigate between places of residence, work, education, social services and leisure.

Participation: Who is consulted and who is involved in participation?

Specifics: For household surveys, make sure interviews do not simply consult male heads of households but include all household members. Come to the home when women are likely to be present. Factor in cultural or religious factors, e.g. by sending female interviewers in contexts where contact with male strangers is not tolerated inside or outside a home. Complement surveys with gender-sensitive and gender-focused stakeholder consultations. Document results in a gender-disaggregated manner. Find ways to document latent, unmet travel demand among sedentary household members.

Piloting: How is the policy evaluated? Are discussion groups used? How are they selected?

Specifics: Make sure women and men with diverse age, socio-economic, ethnic backgrounds are selected to comment on the programme/policy. Document results in a disaggregated manner. Reach out widely into community.

Programme: How is the policy or the project implemented, monitored and managed?

Specifics: Ensure that implementing individuals are sensitive to gender issues. Allocate budget resources to monitoring and evaluation. Allocate budget resources to Gender Audits.

Performance: Who benefits? Who loses out? What side effects are there?

Specifics: Ensure that concerns from Gender Impacts Assessments are being continually addressed. Focus on system flexibility, affordability, comfort rather than a simplistic preoccupation with single-journey time savings. Trace who bears the burden of increased costs or time costs. Consider the gendered effects of service cuts (especially for off-peak travel in outlying areas).

Proofing: Is gender incorporated into each policy? Does it make sense?

Specifics: Develop programme or project specific benchmarks. Re-evaluate gender-specific assessments and performance expectations over the life course of the project.

Source: Greed (2008, pp.250–251), after Reeves and Greed (2003), added examples are author's own.

9.4. Concluding remarks

By successfully addressing the gender and transport challenge, all individuals within a given household will benefit, and human settlements will move towards more equitable, efficient and more sustainable transport and land-use settings overall. The theoretical tools to achieve gender equity in transport are now within easy reach of any committed decision-maker, but the practical, cultural and institutional hurdles to implementation have frequently proved to be frustrating to many who have attempted to bring greater gender-awareness into transport politicians', planners' and engineers' established practices and ways of thinking. Moreover, other individual characteristics such as ethnicity and income are powerful additional determinants of transport use.¹¹⁸ A great deal of political will is still needed to overcome institutional challenges, really 'give women voice' in urban transport and to bring full gender equity into transport systems.

118. Kunieda and Gauthier, 2007, p.7.

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Annex A. Overview of the World Bank Gender and Transport Resource Guide

(<http://www4.worldbank.org/afr/ssatp/Resources/HTML/Gender-RG/>)

Module 1: Why gender and transport?

Provides the rationale for addressing gender issues in rural and urban transport policies, programs and projects.

- Photos and bullet points make the case based on time use analysis, case studies, and multi-sectoral synergies.
- Demonstrates interface between gender, transport and poverty, HIV/AIDS, maternal mortality, and access to education.
- Shows how gender-integrated transport programs can contribute to achieving the Millennium Development Goals.
- PowerPoint version is available in Module 6 for use in gender and transport workshops, briefings, conferences or gender sensitization sessions.
- Links to brief source documents that provide more details on these issues.

Module 2: Challenges for mainstreaming gender in transport

Highlights key gender-related constraints in travel and transport that need to be addressed in transport policies, strategies, programs and projects.

- Notes misperceptions about gender and transport.
- Examines women and girls' time poverty worldwide.
- Looks at key constraints on women and girls' travel, access to transport and employment in transport.
- Considers the social and economic costs of limited access for women and girls.
- Notes transport issues of the youth and the elderly.
- Highlights gender-related issues for resettlement.
- Links to in-depth source documents for more information.
- A PowerPoint version of this module is available (in Module 6) for use in workshops, briefings and conferences.

Module 3: Promising approaches for mainstreaming gender in transport

Presents effective, field-tested project, program and policy interventions.

- Illustrative examples of mainstreaming gender in projects drawn from World Bank, IFRTD, CIDA, DFID and other programs.
- Gender informed transport planning.
- Gender-responsive informal motorized transports and other means of saving labour.
- Women's employment in road works.
- Mobilization and advocacy.

- Engendering organizational structures.
- Mainstreaming gender in transport policy.
- Multi-sectoral approaches.
- Empowerment through information communication technology (ICT).
- A PowerPoint version of this module is available (in Module 6) for use in workshops, briefings and conferences.

Module 4: The Gender and Rural Transport Initiative (GRTI)

- Describes the evolution of GRTI in the context of the Sub-Saharan Africa Transport Policy Program.
- Presents the objectives of GRTI.
- Summarizes the approaches of GRTI.
- Highlights key components of GRTI.
- Highlights key points of reports on 16 country activities.
- Features promising practices and key findings in reports.
- Summarizes recommendations for next steps needed.
- Can be adapted and used as material for slide presentations in workshops, briefings and conferences.
- Provides further links.

Module 5: Tools for mainstreaming gender in transport

Offers a variety of ‘how to’ guidelines and tools for mainstreaming gender in transport policies, strategies and projects.

- Provides guidelines and checklists for key entry points for mainstreaming gender in transport.
- Describes the evolution of GRTI in the context of the Sub-Saharan Africa Transport Policy Program.
 - Policy level entry points (macro and sectoral).
 - Project level entry points.
- Tips on effective techniques and approaches for integrating gender in transport:
 - Training/capacity building.
 - Participatory approaches.
 - Communication strategies.
 - Advocacy and mobilization.
- Links to documents such as tools and handbooks that provide more detailed instruction on how to mainstream gender in different aspects of transport and in the interface of transport with poverty reduction, HIV/AIDS prevention, and lowering maternal mortality rates.

Module 6: Resources for mainstreaming gender in transport

Module 6 provides hyper-links to a wide range of materials organized by type, each of which is divided into sub-topics. Documents and other materials include:

- **Web sites and discussion groups:** addressing gender and transport issues.
- **Issues and strategy papers:** brief documents providing rationale for addressing various topics in gender and transport, and strategies to do so.
- **Case studies:** country-specific detailed analyses of gender and transport access and interventions.
- **Toolkits and guides:** documents that provide step-by-step, 'how-to' guidelines, checklists and other practical resources.
- **Training materials:** for gender and transport, mainstreaming gender.
- **Sample Terms of Reference:** social analysis, informal motorized transport project design, impact monitoring.
- **Technical reports:** In-depth analysis of gender and transport related topics.
- **Donor strategies:** Examples and approaches by donors.
- **Reference lists:** bibliographies, literature review.
- **Conference proceedings:** addressing gender and transport issues.
- **PowerPoint presentations:** on gender and transport, transport and HIV/AIDS, transport and maternal health, and monitoring and evaluation.

Annex B. Transport Policy Recommendations From the International Preparatory Conference ‘Gender Perspectives for Earth Summit 2002’ in Berlin

1. Environment and sustainability issues as well as gender perspectives need to be fully integrated into all transport related policy-making in all departments at all levels on a regular and proactive basis.
2. The definition and understanding of mobility need to be revised aiming to reflect women’s lives and responsibilities – i.e. diverse patterns of a multitude of tasks and related trips such as transporting loads for sale; accompanying children and elderly, etc. – and enable authorities to design appropriate transport systems.
3. In general, measures are necessary which reduce transport burdens and transport expenditures of women and men while creating equitable access and ensuring women’s increased opportunities and participation.
4. All transport system development must be informed by the lived experience of women; governments should integrate experts on gender-sensitive transport system planning and decision-making in their planning structures.
5. Gender Impact Assessments (GIAs) should be integrated into Environmental Impact Assessments (EIAs) which would contribute to creating sustainability impact assessments. sustainability audits should include gender audits addressing the androcentric perspectives reflected in current policies (prioritizing men’s lives and needs) and caring economy audits.
6. Gender budget analyses are an important tool of engendering macroeconomic analysis; they should be conducted to provide information about how much women- and men-power, institutional and financial resources, and research funding goes into furthering women’s vs. men’s interests regarding transport.
7. Investigate changes in transport infrastructure for all countries with a gender perspective.
8. Governments should introduce participatory, inclusive transport planning methodologies in order to be able to incorporate the social/gender divide of transport and travel needs.
9. Governments should commit to guarantee sustainable, gender-sensitive transport systems. If privatisation is an option, governments have to define appropriate conditions.
10. Governments, donor agencies and International Financial Institutions (Global Environment Facility (GEF), World Bank, United Nations Development Programme (UNDP)) should support: (i) research on women’s strategies to cope with transport needs, incl. e-commerce/virtual shopping; community taxis; etc. (ii) infra-structure for non-motorised transport and pedestrians; (iii) initiatives providing more bicycles for women, especially in developing countries; (iv) sustainable, local, small-scale transport development.
11. Governments and relevant agencies should conduct improved transport surveys, including gender relevant research and gender sensitive methodologies, including gender sensitive interviewing; analysing daily realities of female transport users, women’s latent demands and their willingness to pay for better transport; documenting transport sharing models at local levels; gender sensitive stakeholder consultation.

12. Governments, relevant agencies and research institutions should provide statistics on gender differentiated mobility, including data differentiated by length of trip rather than number of trips; by reasons to travel (men have more choice than women); car drivers vs. passengers; accounting for journeys on foot which are women's; accounting for typical times of travel (rush hours, i.e. men's travel, vs. non-rush hours, i.e. school run); providing figures on health issues, e.g. transport poverty (being marooned in rural areas links with increased use of anti-depressants).
13. Governments and donor agencies should support networks addressing working on gender and sustainable to develop concrete strategies towards integrating sustainable, gender-equitable development into transport systems development, particularly as part of the preparations for the Summit in 2002.

Source: BMU and Böll, 2001, pp.20–21.

Annex C. Gender Mainstreaming in Transport: EU Policy Recommendations

The following recommendations are taken verbatim from the executive summary of the EU TRANSGEN project which was a result of a Special Support Action financially supported by the European research program FP6. The recommendations are representative of other high level policy reports on the subject, demonstrating a high level of consensus on the issue not just within the EU but world-wide.

- ‘Gender mainstreaming transport concerns how overall priorities in transport are made. High-level strategic policy-making should include and address the issue of gender equality and sustainability simultaneously and assess how they influence each other.
- Explicit gender equality policies in the transport sector need to be developed at national and EU level. Both in terms of *women’s representation* and in terms of *gender dimensions* in the transport sector. ‘Adding’ women is necessary, but not sufficient.
- Mainstreaming gender equality into transport policy should consider how transportation affects women and men. Accordingly, future transport policy should emphasise accessibility as well as mobility.
- Traffic planners and policy-makers need to take into account gender from a user perspective and to integrate women’s values, needs and interests in transport policy as well as incorporate the voices of women users in planning.
- Mainstreaming gender equality into the transport sector should focus on the political and organisational elements in public and private transportation structures. Equal representation in decision-making at all levels needs to be ensured.
- Gender mainstreaming the transport sector includes the creation of inclusive work environments to support the employment of more women in the sector. There is an urgent need for organisations to raise awareness of gender stereotypes in the organisation.
- There is a need for more data and analysis concerning the gendering of the transport sector at a structural level. Both in terms of basic knowledge drawing gendered representation and employment, but also about gendered organisational processes and cultures and the ways in which the sector continues to be male-dominated. If the transport sector is to be competitive in a context of scarce labour power, this is urgent.
- In order to develop and implement gender mainstreaming in the transport sector, the knowledge base needs to be extended and improved substantially. New research programmes focusing on transport in broader frameworks of rights and duties, of values and cultures, of structures and identities as well as the production of new technologies and their implementation need to be launched.
- In order to bridge the gap between science, policy-making and implementation, there is a need for the launching a European Union-based platform of gender, technology, transport and sustainability. The aims of the platform are to:
 - Create synergy between already existing, but separate fields of science, policymaking and innovation.
 - Initiate gender mainstreaming of strategic and political initiatives: the EU/FP 7 research programmes in particular.
 - Boost new knowledge-based technologies and innovations.’

Source: TRANSGEN (2007) ‘Gender Mainstreaming European Transport Research and Policies, Building the Knowledge Base and Mapping Good Practices, The Coordination for Gender Studies,’ University of Copenhagen, pp. 13–14.

Annex D. Sample ‘Women and Public Transport’ Gender Audit Checklist

<http://www.dft.gov.uk/pgr/inclusion/women/public-transport-and-women/checklist.pdf>

The checklist items reprinted below were developed by the UK Department of Transport as part of their efforts to promote gender equality. They were excerpted from a longer 20-page Gender Audit Guideline document aimed at managers at public transport agencies, downloadable at the above link. While several of the items on the list may have limited applicability for transit operators in developing country contexts, the checklist, along the pertaining document, nevertheless provides a useful starting point for any transport agency ready to develop their own customized Gender Audit.

	Checklist I: Organization policies and procedures	Yes/ No	N/A
1	Gender equality <i>within the organization</i> is one of its stated objectives, with a policy, targets and measures		
2	The organization has committed itself in writing to gender auditing its transport services		
3	The organization has committed itself in writing to gender auditing its policies and practices		
4	The gender auditing policy has clear goals, measures and targets, and progress is monitored regularly by senior management		
5	Everyone in the organization is made aware of the commitment to gender auditing and who is responsible for implementing it		
6	The organization’s budget includes provision to finance the gender auditing process and programme		
7	Within the organization, women and men are represented on key committees or groups where strategic decisions are taken		
8	The organization ensures that everyone who speaks on its behalf is fully informed about its gender auditing programme		
	Checklist II: Employment policies and procedures	Yes/ No	N/A
9	Procedures exist to protect employees against sexual discrimination and harassment		
10	Recruitment criteria for staff at all levels include appropriate evidence of awareness of gender issues, both within an organization and in relation to passengers		
11	The organization actively promotes the recruitment of women, including those from black and minority ethnic communities where appropriate, to ensure the composition of the workforce reflects the community it serves		
12	The organization monitors the gender profile of all levels within its staffing structure and actively promotes equal representation of women and men at all levels		
13	Flexible hours of working and part-time working are in place to assist those with child care or other career responsibilities		

1 4	The organization has policies and procedures in place to protect lone working staff, and these take into account the specific needs and concerns expressed by female and male employees		
	Staff training		
1 5	Staff involved in the design and development of facilities or services are trained to make them aware of women's and men's travel needs and concerns		
1 6	All front line staff are trained to make them aware of women's and men's travel needs and concerns		
1 7	Bus-drivers are trained and skilled in driving in a manner designed not to alarm, inconvenience or endanger passengers		
	Checklist III: Research, consultation and planning	Yes/ No	N/A
18	The organization collects statistics which are gender-disaggregated and (where possible) further disaggregated by income, household size, age, ethnicity, car-ownership and use, journey-purpose		
19	Passenger perception/customer satisfaction survey findings are gender disaggregated		
20	The organization's research monitors changes in women's and men's transport needs and experiences		
21	The organization consults with women and men about the design of new stops, stations or terminals, and vehicles, and about the development of new transport services		
22	Consultative meetings are arranged at times which are convenient for both women and men to attend, and crèche facilities are made freely available		
23	The organization's approaches to its customers and community take account of different levels of literacy and of fluency in English		
24	The organization analyses customer complaints and comments by gender		
25	The organization analyses the comments and complaints it receives so that it can identify and respond to system-wide problems		
26	Passengers who complain are made aware of appeal procedures: e.g. Passenger Focus, the Bus Appeal Body and London Travel Watch		
27	The organization works closely with land-use planners to ensure that public transport provided meets the needs of women and men who live and work in the area		
28	The organization works closely with the local authority and other transport providers in the area to provide passengers with the seamless journey: e.g. providing through-ticketing, good connections, integrated infrastructures		
29	At least one person has in her/his job-description the task of identifying barriers to using public transport that are gender specific		
30	The organization is actively involved in developing safer routes to school		

	Checklist IV: Customer services	Yes/ No	N/A
31	Vehicles have ample luggage space, suitable for shopping and for buggies, and easy to lift bags in and out of		
32	Information is easily available about on-board provision for shopping, luggage, buggies and bicycles		
33	Signage on vehicles is clear about the carriage/storage of shopping, luggage, buggies and bicycles		
34	There are seats designated and clearly signed for the elderly, disabled, people with children or pregnant women		
35	Wheelchair accessible toilets have nappy changing facilities to allow parents/carers to take children of either sex to the toilet or change a nappy		
36	Where there are catering facilities with tables and seats, baby seats are available		
	Checklist V: Personal security	Yes/ No	N/A
37	The organization has a personal security policy, covering passengers and staff, which addresses fears & perceptions as well as reported crime rates		
38	Personal security is the responsibility of a senior member of the management team		
39	Decisions on the location and frequency of bus stops are informed by consultations with users and potential users and typographical data to maximise accessibility of bus services		
40	Passenger concerns are considered when making decisions about the location and timing for the deployment of front line staff (other than drivers)		
41	The organization regularly conducts after-dark safety audits of its infrastructure, vehicles and routes		
42	The organization (if rail) has a programme of work to get its stations accredited by the Secure Stations Scheme		
43	Front line staff have the means to call for assistance in the event of violence, threats or suspicious circumstances		
44	The organization has a policy and regime for the rapid removal of graffiti		
45	Vehicles are checked regularly to clear litter and carry out emergency cleaning		
46	Waiting areas at all stations are checked regularly to deter misuse and check for litter and damage		
47	Toilets at all stations are checked and cleaned frequently to deter misuse and maintain cleanliness		
48	Waiting areas and toilets on all stations are locked off when the station is unstaffed		
49	Where there are subways at stations they are well-lit and have mirrors at blind corners to extend sight lines		
50	Unstaffed stations or remote areas of large stations have accessible, clearly-		

	signed help points or other emergency communications facilities for passengers		
51	Any public address systems are in full working order, and are regularly used by trained staff to inform passengers about services		
52	Information about delays and cancellations is given as soon as possible and includes, wherever possible, suggestions of alternative routes or services		
53	On staffed stations and terminals, processes are in place so that staff are aware of delays and changes to the timetable, and are readily available to the public to explain what is happening and to help them to make alternative arrangements		
54	The organization works with other agencies (e.g. local authorities, town centre management, police, Crime and Disorder Reduction Partnerships, women's groups) to improve the safety and security of pedestrian routes to the stations or stops		
55	Where there are safe and accessible pedestrian routes from the station/terminal these are clearly signposted from the station		
56	Taxi ranks at stations are well lit and so is the access to them from the station		
57	The organization is involved in a programme to work towards Safer Parking Scheme status for all its car parks		
58	Up to date and accurate timetables are widely published along the route		
59	New timetables are available sufficiently in advance to enable passengers to plan their journey		
60	Leaflets and web-based information is published giving details of access at all stations/terminals along the route, including where car parks, taxi ranks and bus stops are in relation to exits		
61	Information on routes, timetables and fares is widely available, including in shopping centres, hospitals, clinics, post offices, libraries and the premises of major employers		
62	Information on routes is easily available at bus stops, stations and terminals		
63	There is a local map and directional signs at all stations and terminals and at major bus stops showing neighbouring stops, stations and taxi ranks, as well as identifying major landmarks in the locality		
64	The organization has guidelines to prevent sexist or violent advertisements from appearing on its infrastructure or vehicles		