

# TRANSPORT PAPERS

TP-28  
MARCH 2010



## Mainstreaming Gender in Road Transport: Operational Guidance for World Bank Staff



TRANSPORT  
SECTOR  
BOARD



# MAINSTREAMING GENDER IN ROAD TRANSPORT: OPERATIONAL GUIDANCE FOR WORLD BANK STAFF

---



THE WORLD BANK  
WASHINGTON, D.C.

© 2010 The International Bank for Reconstruction and Development / The World Bank  
1818 H Street NW  
Washington, DC 20433  
Telephone 202-473-1000  
Internet: [www.worldbank.org](http://www.worldbank.org)

This volume is a product of the staff of The World Bank. The findings, interpretations, and conclusions expressed in this volume do not necessarily reflect the views of the Executive Directors of The World Bank or the governments they represent.

The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

#### **Rights and Permissions**

The material in this publication is copyrighted. Copying and/or transmitting portions or all of this work without permission may be a violation of applicable law. The International Bank for Reconstruction and Development / The World Bank encourages dissemination of its work and will normally grant permission to reproduce portions of the work promptly.

For permission to photocopy or reprint any part of this work, please send a request with complete information to the Copyright Clearance Center Inc., 222 Rosewood Drive, Danvers, MA 01923, USA; telephone: 978-750-8400; fax: 978-750-4470; Internet: [www.copyright.com](http://www.copyright.com). All other queries on rights and licenses, including subsidiary rights, should be addressed to the Office of the Publisher, The World Bank, 1818 H Street NW, Washington, DC 20433, USA; fax: 202-522-2422; e-mail: [pubrights@worldbank.org](mailto:pubrights@worldbank.org).

To order additional copies of this publication, please send an e-mail to the Transport Help Desk [transport@worldbank.org](mailto:transport@worldbank.org)

Transport publications are available on-line at <http://www.worldbank.org/transport/>

## ***TABLE OF CONTENTS***

ACKNOWLEDGMENTS .....	5
ABSTRACT.....	7
EXECUTIVE SUMMARY .....	9
1. THE IMPORTANCE OF GENDER MAINSTREAMING FOR TRANSPORT OPERATIONS .....	13
2. GENDER TRIP PATTERNS AND MOBILITY CONSTRAINTS.....	15
4. GENDER POLICY CONSIDERATION.....	19
5. URBAN TRANSPORT PROJECT COMPONENTS.....	27
6. INTERURBAN, CORRIDOR AND TERMINAL PROJECT COMPONENTS .....	31
7. RURAL TRANSPORT PROJECT COMPONENTS .....	33
ANNEX: PROJECT INDICATORS .....	37
REFERENCES .....	41



## **ACKNOWLEDGMENTS**

The paper *Mainstreaming Gender in Road Transport: Operational Guidance for World Bank Staff* was produced as part of the work of the Transport for Social Responsibility Thematic Group, which seeks to strengthen the understanding of and promote guidance on social and environmental issues in the transport sector.

The report was managed and written by Julie Babinard, Environment and Social Development Specialist in the Transport Anchor Unit (ETWTR). John Hine, Senior Rural Transport Specialist (ETWTR), Simon Ellis, Senior Transport Specialist (EASTE), and Satoshi Ishihara, Social Development Specialist (ECSSD) provided valuable comments as peer reviewers. The report also benefited from comments and inputs from Luz Caballero (Consultant, Gender) and Mari Clarke (Consultant, Gender). Anna Piasecka provided invaluable assistance with the production of the paper.

The paper was funded in part with financial support from the Gender Action Plan (GAP) Trust Fund for “Dissemination of Transport and Gender Good Practices.” The GAP seeks to advance women’s economic empowerment in the World Bank Group’s client countries in order to promote growth and accelerate the implementation of the Millennium Development Goal 3 (MDG3 – Promoting gender equality and women’s empowerment).





## ***ABSTRACT***

The paper aims to provide guidance for both transport and gender specialists on how to mainstream gender-related considerations into road transport projects to improve development effectiveness, sustainability and to reduce gender inequality. The paper draws attention to the most basic ways in which gender affects and is affected by transport policies and projects and provides practical approaches to address gender-related problems in road transport projects. Women and men have different travel and transport needs due to their different social and economic roles and activities. Women also face different constraints than men in accessing, using and paying for transport services. Transport can play a significant role in ameliorating or exacerbating the life conditions of women, particularly when poor and living in developing countries, depending on the extent to which gender differences are taken into account. The paper provides examples of entry points for mainstreaming gender into various road project contexts in urban, peri-urban and rural areas, highlighting documented good practices in this area. The paper identifies opportunities where women can play a role in the planning and implementation of road transport operations, particularly through participatory approaches and labor-based road construction. Included is an innovative table that presents examples of data and indicators to be collected for creating a baseline and for measuring results at the project level.



## **EXECUTIVE SUMMARY**

**The importance of gender mainstreaming for transport operations.** The consideration of gender in the transport sector is essential to ensure that transport is equitable, affordable and that it provides access to resources and opportunities required for development. Gender aspects must be considered when designing and planning for transport infrastructure and services because gender-based inequalities will slow economic growth and poverty reduction advances of developing countries. A few outstanding transport projects have fully mainstreamed gender and social inclusion and increased women's economic and social empowerment. Efforts have been made in particular in the road sub-sector to address gender concerns within small-scale and stand-alone projects. Nonetheless, the systematic inclusion of gender concerns at the policy and project levels has not yet been achieved as many transport projects still ignore gender and other social dimensions. Successful mainstreaming of gender in transport will require the removal of institutional and physical barriers and the enhancement of incentives to increase the accessibility of women to all transport opportunities.

**Gender trip patterns and mobility constraints.** Traditional transport planning models have not considered women's specific travel patterns. However, there is evidence that women and men have different trip patterns and mobility constraints, resulting in gender differences in mode of transport used as well as travel patterns in relation to trip purpose, frequency and distance of travel. These differences stem from differences in the social and economic roles of men and women, with their respective household and caretaking responsibilities. Social factors such as status, residential location and type of livelihood also play a role.

For women, transport provides access to various resources and opportunities, such as employment, childcare, education, health and political processes. Whether in urban, peri-urban or rural areas, women tend to make more complex and more trips than men. However, walking remains the predominant mode of travel for many women in developing countries as other transport modes are often not available because they are too expensive or located too inconveniently and far away. Cultural acceptance, personal safety and the avoidance of harassment are also major concerns for women in relation to accessing and using transport.

**Gender policy considerations.** A number of policy dimensions related to gender needs to be taken into account in preparing and appraising transport projects.

*National Gender Framework for transport planning.* Many countries have developed gender equality policies and some have prepared gender action plans. In general, commitment to mainstream gender at the national level is not sufficient to guarantee that gender issues will be addressed in transport policies and projects. Gender awareness needs to be increased at all levels of government to ensure that national gender policy is incorporated in transport policies and planning. A multi-sectoral framework for addressing gender can be very

effective and should be encouraged. Capacity building, provided with technical support from multidisciplinary teams including gender experts who are knowledgeable about the transport sector, is often required because transport and other line ministries are generally weak or lacking capacity to address gender and other social factors affecting projects.

*Assessing gender transport needs.* Historically, traditional transport planning models have not considered gender differences in travel activity patterns, particularly differences in relation to trip purpose, frequency and distance of travel, mode of transportation used, mobility constraints to access other sector services such as health, and complexity of trip making. The different roles of women and men need to be understood and recognized in order to adequately plan and design the spatial and temporal characteristics of the transport modes that both women and men depend on for their travel to undertake economic, domestic and social activities. Project experience has shown that including women in stakeholder consultations for the planning of transport systems often provides practical insights that can improve transport access and safety for other vulnerable users such as children, the elderly and the disabled.

Data on user needs and access constraints should be gender-disaggregated and collected through routine transport project monitoring and evaluation processes. Where data on routine measures are not gender disaggregated or not available, capacity building might be necessary. Recommended data for establishing a baseline and evaluation data should reflect both men and women travel constraints and needs; include data on changes in travel and opportunities created as a result of a project; data on the numbers of women involved in the project; and other data on consultation processes (a table on indicative project indicators is included in Annex 1).

*Understanding local practices.* The social and cultural context of gender differences affecting and affected by transport, such as time spent on social, economic and household-related tasks needs to be analyzed at both the household and the community level. Without such knowledge, transport interventions meant to alleviate some of women's transport burdens can actually increase the transport burden of women.

*Leveraging the positive and mitigating the negative impacts of transport projects on women.* In addition to improving the mobility and access of women and men to essential services and economic opportunities, transport projects can also have negative impacts on the well-being of women as well as men. As much as possible, positive impacts through increased employment and economic opportunities for women as well as men should be encouraged. Negative impacts on women and girls such as inequitable resettlement compensation for lost livelihoods, potential increase in human trafficking and the transmission of HIV should be mitigated.

**Urban transport projects.** In urban areas, transport systems often tend to target radial commuter corridors going straight to city centers; this tends to benefit peak-hour male commuter trip patterns and the needs of car and motorcycle users while failing to address woman's travel needs and patterns. The various investment components of World Bank urban projects provide several starting points from which gender issues can be addressed, in particular through the promotion of inclusive transport modes with the improvement of the status of pedestrians, bikers and public transport passengers. For women, this also means reducing long periods of time waiting for transport, the improvement of adequate facilities, and addressing overcrowding and the lack of safety.

*Pedestrian environment and intermediate modes of transport (IMTs).* Building exclusive sidewalks as components of road and public transport improvement projects responds to

women's as well as men's traveling needs by increasing pedestrian accessibility and safety. Likewise, the provision of IMTs can offer low-cost solutions for short distances, particularly in congested urban areas, and can often accommodate the transportation of small loads, which urban women often have to carry.

*Public transport fleet and facilities.* Urban projects need to ensure that off-peak hour and multi-chain trips are possible for women. Times and frequency of operation of buses and taxis should be reviewed and affordable service options during off-peak hours should be explored. Targeted local responses that provide non-commuter or decentralized services to help women access specific destinations such as markets, educational and employment facilities, administration offices and services should be supported. Also, careful consideration should be placed on fare structures and service quality in order to best address women's needs and constraints.

Women's concerns about personal security risks at transportation facilities, such as parking lots, buses and bus stops which can also affect the way women decide to travel should be considered when designing public transport fleet and facilities. Design improvements should also be added to meet women's specific mobility needs, including lower height of entry steps into public buses or subway cars as well as the installation of handrails or ramps.

**Interurban, corridor and terminal project components.** In developing countries, peripheral low-income areas tend to be poorly linked to the main transport routes and places of employment. Both men and women living in these areas tend to have fewer transport choices to get to work opportunities in the urban center areas. For women, limited network coverage and poor maintenance may result in long walks to access the main arterial roads, including trunk line and feeder buses. Buses parked on the streets and at poorly planned terminals can also impede efficient transfer at terminal facilities. The lack of safe, clean, rest facilities and bathrooms at the roadside and in terminals can make commuting even worse.

*Transit systems and terminal development.* Specific project components in physical infrastructure in inter-urban and corridor road networks that are likely to benefit the poor and women in particular include the improvement and rehabilitation of access routes to terminals, focusing on accessibility by pedestrians and bicycles as well as improving the quality of facilities and include for example separate, well-lighted bathrooms for women.

*Road improvements.* Projects should also avoid the relocation of roadside economic activities and should consider the economic opportunities that are both lost and created through road improvement activities. Women who are the users of the impacted roads should be consulted so that solutions can be found to help alleviate economic losses. Finally, measures to reduce the risk of increased HIV/AIDs and human trafficking can also be very important in the context of these projects.

**Rural transport project components.** Conventional rural transport planning has tended to focus on road networks and long-distance transport of produce; this has led to the neglect of transport solutions for many rural women who lack access to motorized transport, tend to travel on feeder roads and tracks on foot or who use intermediate means of transport such as donkey carts and bicycles. Improvements to the road network can improve contacts between rural villages and nearby communities as well as the delivery of inputs and consumption goods and the possibilities of selling produce to traders or bringing produce to makers. For women, road improvement, particularly the repair of potholes and the installation of traffic lights, are also beneficial if they translate into greater and safer access to goods and services. There should also be a clear focus on footpaths, footbridges

and track improvements as women greatly rely on them for their transport needs, especially when walking and relying on NMTs.

*Conventional motorized services.* For women, the timings and frequency of formal transport services in rural areas have a significant impact on the costs and utilization of services. Women can also wait for hours or days for services in remote areas or have to walk to get to the nearest junction. Times of operation of buses and taxis should be revised to accommodate the transport needs and schedules of rural women as well as men.

Financial solutions such as credit schemes can provide some relief to women's affordability issues in rural areas. It is also important to improve the reliability and efficiency of rural transport services to make them more cost-effective for the whole community. Improving the reliability and quality of services through careful examination of the local constraints and opportunities with the participation of local women and men should be envisaged.

*Intermediate Means of Transport (IMTs).* Rural IMTs often fail to accommodate a rural woman's multitasking role and her need to carry an assortment of tools, raw materials and other goods while transporting her child. Men can also control the purchase and use of IMTs in the household, limiting women's access. IMTs also cost money to run and parts tend to break while tire need repair and replacing. As a result, women find it much more difficult to get a profitable paying return in using IMTs. Successful programs that have introduced IMTs to benefit women have relied on a range of IMTs, along with road and path improvements to enhance their usability. However, bicycles can only be introduced in areas where they are considered acceptable for women to ride, taking into account local cultural norms and traditions.

## **1. THE IMPORTANCE OF GENDER MAINSTREAMING FOR TRANSPORT OPERATIONS**

**The provision of equitable, affordable, clean and safe transport is critical for accessing resources and opportunities required for development.** Transportation opens up earning opportunities, facilitates access to health care and education as well as to other services and infrastructure necessary for improving the welfare of individuals and households in developing countries. Yet, in many countries, poor road conditions, too few vehicles and high transportation costs continue to pose major barriers to development, which are further aggravated by distance and long waiting periods to access transportation. Lack of adequate transport often constitutes a considerable challenge for men and women in developing countries.

**Women have more limited access to available means of transport.** Studies have shown that men and women have different travel and transport needs and face different constraints in terms of access to transport. Women tend to have access to fewer transport choices, thereby limiting the number and purposes of trips they make. In particular, women tend to have lesser access to private motorized modes of transport. Studies have shown that in households where there is a private car, men usually get priority for its use (Hanson and Hanson 1980; Anand and Tiwari 2006). Walking remains the predominant mode of travel for many women in developing countries as other transport modes are often not available because they are too expensive or located too inconveniently and far away.

**Women bear a disproportionate share of the transport burden to fulfill their economic, social, and domestic roles.** Whereas men tend to travel to reach their formal paid employment in locations away from home, women's travel patterns vary according to the many activities they perform, including work in the formal or informal sector, childcare, school drop-off, visits to health facilities, shopping etc. Whether in urban or rural areas, women tend to make more complex and more trips than men. Cultural acceptance, personal safety and the avoidance of harassment are also major concerns for women in relation to accessing and using transport. Women who have difficulty in accessing transportation often travel longer or use more inconvenient and physically exhausting modes of transport, thereby spending more time traveling and resulting in women having a greater transport burden than men (Fernando and Porter 2002; Venter, Vokolva, and Michalek 2007).

**Gender-based inequalities in transport will slow economic growth and poverty reduction advances.** Not addressing men and women travel differences can have a negative impact on the economic and social development of economies. Heavy demands on women's time restrict their ability to increase productivity and incomes, keeping them isolated and perpetuating a cycle of poverty. As a result, constraints on the mobility patterns of women not only affect their household but also the development and productivity of economies as a whole. Gender travel differences to consider in particular are in relation to trip purpose, frequency and distance of travel, mode of transport used, mobility constraints to access other sector services such as health, and complexity of trip making.

**Significant investments in gender mainstreaming and other social dimensions in transport operations have been made over the past decade.** A few outstanding transport projects have fully mainstreamed gender and social inclusion and increased women's economic and social empowerment (Tanzaran 2003; Kalula 2003). Efforts have been made in particular in the road sub-sector to address gender concerns within small-scale and stand-alone projects. There have also been a number of innovative approaches to mainstream gender in specific aspects of the project cycle such as consultation during appraisal and training for women as road maintenance contractors. Nonetheless, the systematic inclusion of gender concerns at the policy and project levels has not yet been achieved as many transport projects still ignore gender and other social dimensions. Successful mainstreaming of gender in transport will require the removal of institutional and physical barriers and the enhancement of incentives to increase the accessibility of women to all transport opportunities.

**More is needed to fulfill the gender mainstreaming mandate.** 'Gender mainstreaming' was defined by the United Nations Economic and Social Council in 1997 as 'a strategy for making women's as well as men's concerns and experiences an integral dimension of [...] the policies and programs in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated' (UN ECOSOC 1997). Within the Bank, the 2001 gender mainstreaming strategy calls for selective and strategic integration of gender issues into the Bank's country diagnostic work, lending operations, and technical assistance. Building on the strategy, the World Bank adopted the Gender Action Plan (GAP) in 2007 to integrate gender equality considerations into the Bank's country assistance and supports activities to integrate gender into operations across regions, particularly in the non-social sectors such as infrastructure and the private sector.

**Gender mainstreaming in the transport sector means identifying and addressing gaps in gender equality that will impact sector policies as well as the design, planning, and provision of its infrastructure and services.** Paying greater attention to the needs of all transport users differentiated by gender also means that interventions should be targeted not just to improve the physical infrastructure but also to improve the means of transport, including the non-motorized transport modes as well as the quality of services. To do this, the travel behaviors of both women and men in terms of frequency of trips, travel time and mode choice must be examined to ensure that both men and women can equally afford and safely access and use transport.

It is hoped that this guidance paper will serve as a tool for both transport and social development TTLs working on transport projects, in the road sub-sector in particular. The paper aims to identify entry points in which gender affects and is affected by transport with the overarching goal of mainstreaming gender-related considerations into road transport projects in order to improve development effectiveness, sustainability and to reduce gender inequality.



## **2. GENDER TRIP PATTERNS AND MOBILITY CONSTRAINTS**

Historically, transport planning models have not considered women's specific travel patterns, particularly differences in relation to trip purposes, frequency and distance of travel, mode of transportation used, mobility constraints to access other services such as health.

Studies to determine whether men and women have similar travel patterns have been done for the majority in the advanced economies of developed countries. Research in the United States, Sweden, Germany and other developed countries over the past two decades has shown that transport is part of a larger structure of activities and that there are significant differences in the travel patterns of men and women, particularly among those married with children (Giuliano 1992; Nobis and Lenz 2004; Rosenbloom 2004). These studies have also revealed that women tend to make more trips than men; they make shorter commute trips and more nonwork trips and are more likely to trip chain one the way to and from work (Sarmiento 1980).

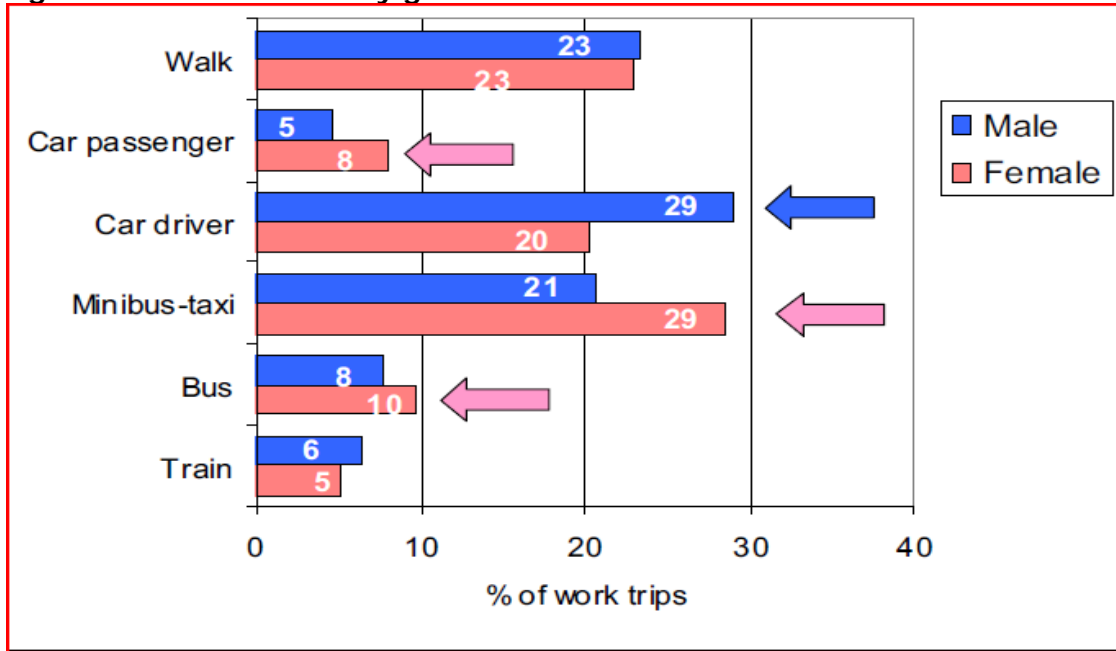
In developing countries, evidence has been more sporadic, originating from country-specific household surveys as well as travel user and patterns surveys (Aligula 2004; South Africa 2003).

South Africa's first national household travel survey, based on a representative sample that covered approximately 50 000 household with interviews held with 45 000 households, illustrates some of the gender travel differences and provides strategic insight into the gender travel patterns and transport problems of the people of South Africa. The survey identified specific reasons why females did not travel such as the lack of need to travel (74%) and family responsibility (10%); with fewer women (73%) than men (80%) travelling on survey day. About 42% of males over 15 had worked outside the home in the 7 days prior to the survey compared with only 28% of women. Men were found to dominate the use of cars and women as a result were more likely to be car passengers and bus and taxi users (Figure 1).

Notwithstanding, evidence for developing countries seems to confirm what has been found in studies done in developed countries while presenting similar gender differences: women's travel patterns typically derive from the multiple tasks they must handle for their household and their communities (Hanson and Hanson 1980; Rosenbloom 2004). Also, women's travel patterns tend to vary according to where they live, whether in urban, peri-urban, or rural areas (Box 1).

Women have to fulfill their roles as workers; they must take care of children and handle household responsibilities and are often responsible for maintaining community and social networks (Moser 1993). Finally, transportation costs can make transportation and public transport in particular fairly prohibitive, with women spending a higher share of their income on average than men (Babinard and Scott 2009). As a result, men appear to spend more to get to work while women tend to stay closer to home beyond a fixed transport cost threshold (Srinivasan 2002).

**Figure 1: Mode to work by gender in South Africa**



Source: South Africa, 2003.

**Box 1. Women travel patterns and mobility constraints in developing countries**

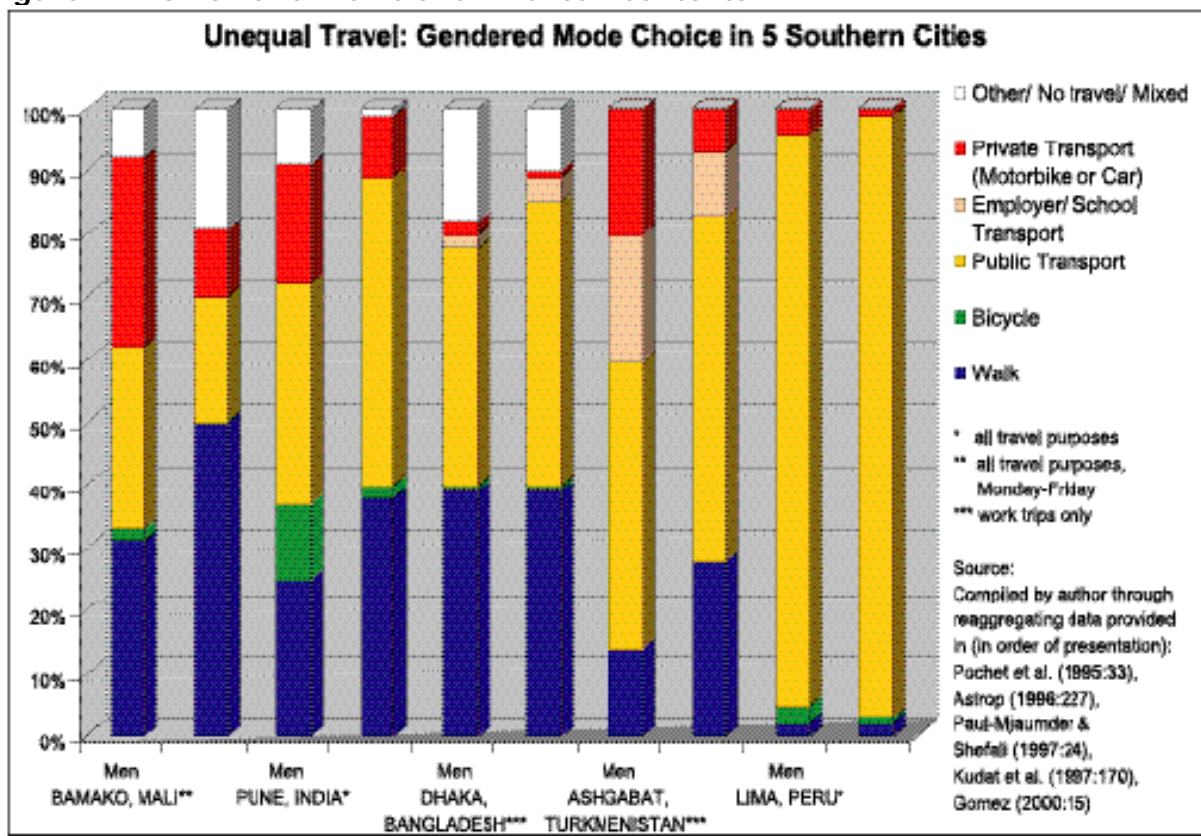
Urban	Peri-urban	Rural
<ul style="list-style-type: none"> <li>• Women more likely to walk</li> <li>• Diverse destinations and modal splits</li> <li>• Greater reliance on public transport</li> </ul>	<ul style="list-style-type: none"> <li>• Few transport options</li> <li>• Higher transport costs and waits</li> <li>• Number of trips and distance travelled linked to transport accessibility</li> </ul>	<ul style="list-style-type: none"> <li>• Travel by foot/headloading</li> <li>• Cycles and animal-drawn carriages and unaffordable modes of transport</li> <li>• Infrequent and unreliable public transport</li> <li>• Lack of accessible roads and poor pathway conditions</li> <li>• Access to IMTs (carts, bicycles, animals) can be limited</li> </ul>

Personal safety, Harassment;  
Comfort; Cultural constraints  
and norms

**Urban areas.** Women in urban areas tend to have diverse travel destinations, ranging to various degrees from travelling to earn an income to accessing social services and paying visits to their relatives. Women stop more for running household errands than do men, on both inward and outward commutes and irrespective of the number of persons in a household or its structure (Root et al. 2000; Schintler 2001). Women's job locations tend to be scattered more widely than men as they are more frequently engaged in non-permanent positions that include domestic and maidservant services, trading or selling services, working in factories, and as assistants in health facilities and in offices (Fernando and Porter, 2002; Peters 2001). To minimize travel time and balance the overlapping schedules of work and household responsibilities, women also seek to minimize their travel time and to choose work opportunities at shorter distances from home (Anand and Tiwari 2006).

The majority of urban women have limited access to private motorized means of transport and tend to be highly dependent on either walking or on public means of transport, either motorized (buses, metros etc.) or non-motorized modes (rickshaw taxis in Asia and boda boda bicycles in Uganda) (Figure 2). Often however, these modes are not available to women because they are either expensive or located too inconveniently or far away (Peters, 2001).

**Figure 2: Women and men travel in urban contexts**



Source: Peters 2001.

**Peri-urban areas.** Peripheral low income areas tend to be poorly linked to main transport routes and places of employment. Transport services are often provided at high costs, with limited service in off-peak routes and through multiple stops, adding to longer travel times and waits. As a result, both men and women living in peri-urban areas tend to have fewer

transport choices to get to work opportunities in the urban center areas. Women in locations with better accessibility are more likely to make more trips and travel farther for work trips (Srinivasan 202).

**Rural areas.** The mobility patterns of women in rural areas also relate to domestic, economic and social tasks. Women's domestic travel include water, firewood and food processing needs such as going to grinding mills (Malmberg-Calvo 1994). In particular, women tend to spend more time than men in firewood collecting tasks (Hettige 2006). Women also travel for economic reasons related to their informal, non-farm and/or agricultural employment, going to the markets for crop marketing or to the fields for crop harvest. However because women tend to have fewer work opportunities and transportation choices to get to their work opportunities, they will tend to find work close to home; men will spend more on average to get to work (Srinivasan 2002).

Women in rural areas often do not have access to private motorized forms of transport such as cars, with men using this mode as much as three times more than women on average (Venter et al. 2007). The most predominant mode of travel for women in rural areas remains walking and head loading, with less mobility overall for female-headed households (Fernando and Porter, 2002; Srinivasan 2002; Venter et al. 2006). Rural women in Africa can transport at least three times more ton-kilometers per year than men (Barwell 1996).

In terms of trip purposes, women tend to travel to access services at education and health facilities, visit relatives and go to church and shopping. Women are more likely than men to travel for health and education purposes and to conduct shopping activities (Srinivasan 2002; Hettige 2006).

The literature shows that, particularly in rural areas, considerable time is spent by women and their families waiting for transportation and traveling to a health facility. In addition, poor roads, too few vehicles and high transportation costs are major causes of delay in deciding to seek and reach emergency obstetric and postnatal care. However, limited evidence, often restricted to a group of villages or a district, makes overall comparisons between interventions and across the various levels of referral difficult (Babinard and Roberts 2006).

## 4. GENDER POLICY CONSIDERATION

A number of policy dimensions related to gender need to be taken into account when preparing and appraising transport projects.

**National gender policy framework for transport planning.** Many countries have developed gender equality policies and some have prepared gender action plans. Some countries have also enacted gender-sensitive constitutional provisions and have promoted the establishment of gender focal points in line ministries (IC Net 2004). The tasks of focal points can include proposing appropriate gender mechanisms within their institutions and providing support for taking gender into account in all respects of planning and programming. Countries that have integrated measures in national transport policies to reduce gender inequality and improve the socio-economic and political status of women have often included women and other vulnerable groups as part of the government task forces to oversee gender and transport policy coordination and by having sizeable representation of these groups on village, ward and district committees and road boards.

➤ *Raising awareness and building capacity for gender mainstreaming.* In general, commitment to mainstream gender at the national level is not sufficient to guarantee that gender issues will be addressed in transport policies and projects. Gender awareness needs to be increased at all levels of government to ensure that national gender policy is incorporated in transport policies and planning. An awareness campaign on gender mainstreaming in transport for transport and gender/social staff and officials can also be a first step in bringing attention to gender considerations and the mobility constraints of women as well as the risks and costs of ignoring these issues and the value added in addressing them. A multi-sectoral framework for addressing gender can be very effective and should be encouraged and provided with technical support from multidisciplinary teams including gender experts who are knowledgeable about the transport sector. Capacity building is often required because transport and other line ministries are generally weak or lacking capacity to address gender and other social factors affecting projects.

### **Box.2: Gender capacity building and institutional mainstreaming in the road transport sector**

Gender awareness is critical to implement transport projects with due consideration to gender equality mainstreaming. An integrated approach is needed between transport departments, various government tiers and implementing units to strengthen the institutional dimensions. The adoption of a clear gender policy, operational guidelines and a gender management plan also contribute to help deliver gender equality results by setting realistic targets that link project components with objectives and through the establishment of monitoring systems to assess and monitor gender data. A good practice example of legal and policy provisions and a supportive institutional structure at national and district level for mainstreaming gender equality is Uganda, where road sector programs and projects have continuously addressed gender mainstreaming (DANIDA 2006). A gender management plan was developed to mainstream gender in the Ministry

of Transport, focusing on stakeholder's capacity, the development of a communications strategy and a monitoring system. Data and information collected are used in implementation of policy, guidelines formulation. Funding has also been made available for awareness raising, capacity building and establishing gender sensitive procedures.

At the project level, a good practice example of gender capacity building is Peru's Second Rural Roads project, where Provias Descentralizado—the implementing agency of the project—adopted an active role in developing an inclusive demand-driven transport planning model based on participatory project design and implementation. The agency trained its staff on gender awareness and appointed regional gender focal points to help track gender-related indicators. Training and education around gender mainstreaming also contributed towards increasing women's participation in roadworks and related projects. Gender quotas in rural roads committees, procurement processes and the road maintenance system based on community-base micro-enterprises also significantly benefited the implementation and monitoring aspects of the project.

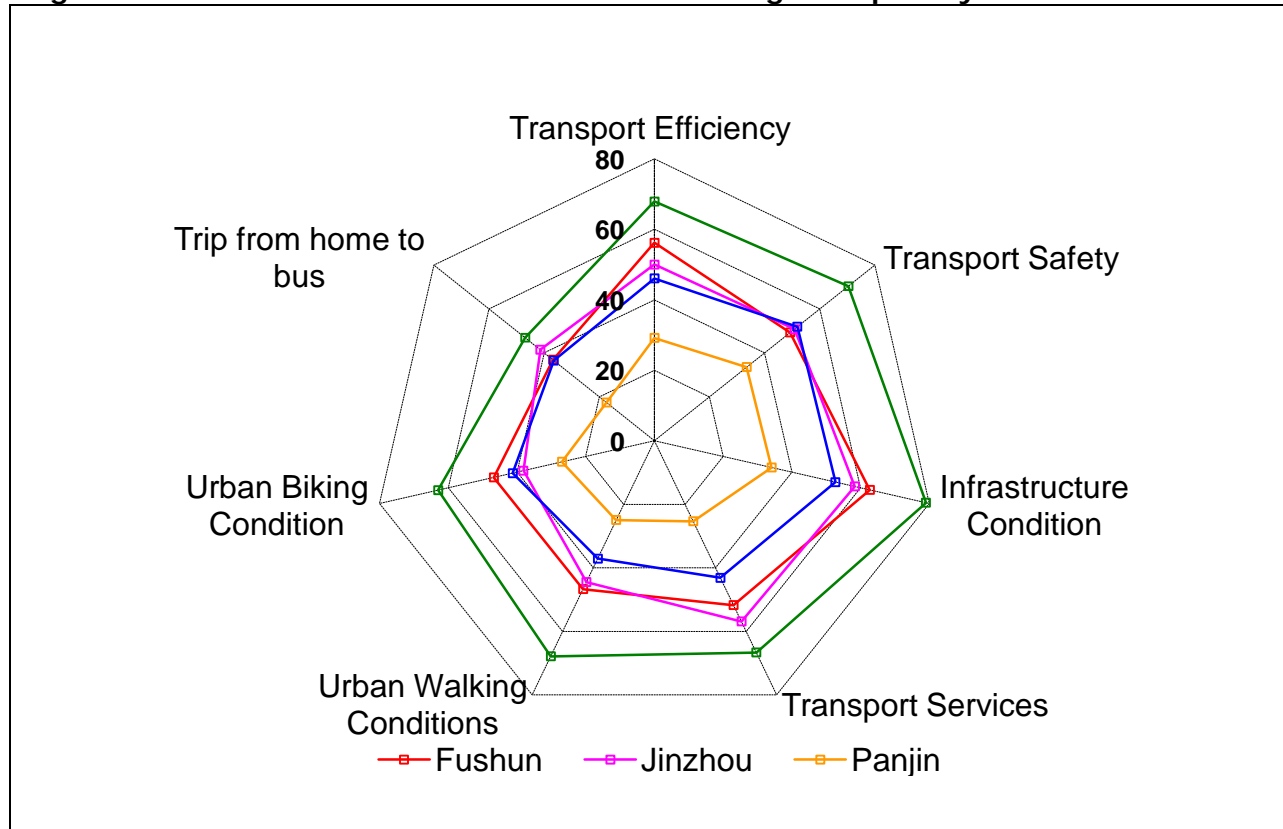
**Assessing gender transport needs.** Historically, traditional transport planning models have not considered gender differences in travel activity patterns, particularly differences in relation to trip purpose, frequency and distance of travel, mode of transportation used, mobility constraints to access other sector services such as health, and complexity of trip making. In urban areas, transport systems tend to target radial commuter corridors going straight to city centers that benefit peak-hour male commuter trip patterns and the needs of car and motorcycle users, but do not address woman's needs or travel patterns. Conventional rural transport planning has focused on road networks and long-distance transport of produce; this has often led to the neglect of transport solutions for many rural women who lack access to motorized transport and travel on feeder roads and tracks on foot or use intermediate means of transport such as donkey carts and bicycles. Rural road investments do not guarantee that transport services will be provided to meet the needs of local women, particularly in areas with low population density.

➤ *Analyze gender differences in transport needs and access.* The different roles of women and men need to be understood and recognized in order to adequately plan and design the spatial and temporal characteristics of the transport modes that both women and men depend on for their travel to undertake economic, domestic and social activities. Project experience has shown that including women in stakeholder consultations for the planning of transport systems often provides practical insights that can improve transport access and safety for other vulnerable users such as children, the elderly and the disabled. The majority of the constraints and unmet needs that women face are not typically captured in standardized surveys in which male heads of households generally provide the answers. It is important to conduct more open-ended focus individual or group interviews for women. Data on user needs and access constraints should be gender-disaggregated and collected through routine transport project monitoring and evaluation processes. Where data on routine measures are not gender disaggregated or not available, capacity building might be necessary. Recommended data for establishing a baseline and for monitoring results should reflect both men and women travel constraints and needs; include changes in travel and opportunities created as a result of a project; data on the numbers of women involved in the project; and other data on consultation processes such as participation in planning, mobilization, sensitization and site meetings; attendance at training and capacity development activities; equal opportunities provided at any labor-based roadworks; and facilities provided at work sites (See list of recommended indicators for gender mainstreaming at the project level in ANNEX).

➤ *Include women in participatory consultations.* Participatory approaches that include both women and men can be used to prioritize and select roads to be rehabilitated and to organize the road work. Village or district assemblies, stakeholder interviews as well as focus group discussions can be scheduled and advertised to ensure that women have the opportunity to participate in the process. Figure 1 illustrates some of the concerns raised by women during an urban project in the Liaoning Province of China (Box 2 and Figure 1). During participatory planning consultations, it is important to ensure that women and men understand the importance of women's participation and contributions. Local women and men need to be involved at the initial planning stages of a project so that they feel that their input is meaningful and that there is adequate consideration of their needs and priorities in the project design. In many societies, traditions restrict women from sharing their views in public meetings. Women's open and active participation may require the separation of men and women during the meetings, the ability for women to bring their not yet school-aged children and facilitation of the women's discussion by women.

**Box. 2: Using public participatory methods to improve an urban transport project in China**

The Liaoning urban transport project in China relied on participatory methods in three key phases of the project cycle: at the project design and feasibility stage to identify the major transportation concerns of the public; at the project appraisal phase to get public reaction to the way that their concerns were incorporated into the project design. In the implementation stage, the project was designed to involve the public in project monitoring and evaluation and to assess public satisfaction with the project. The participation recruitment plan focused on mode-driven groups (walkers, bus users, bus drivers, three-wheeled vehicle drivers) and vulnerability-driven groups of transport users (the poor disabled, migrants and seniors) and separated the consultations with men and women in these groups to enhance female involvement. Focus group discussions and interviews revealed that most men and women walk, use bicycles or public transport and do not own motorized vehicles. The discussions also showed that most men and women use transport for their livelihoods, not for social visits, entertainment, going to school, or to health centers/hospitals. Key transport issues for local people were poor secondary road pavement and drainage, poor sidewalk and road facilities, lack of separation between the motor vehicle and non-motorized vehicle users of the road, and the lack of street lighting and signage. Women were even more dissatisfied with the transportation system than men – particularly safety and security issues –poor lighting, long waits for buses due to infrequent services, lack of pedestrian walkways and crossings. The needs expressed by local people, particularly the voices of women, changed the initial project design towards improvement of secondary roads, traffic management, sidewalks and crossings, public transport services and street lights.

**Figure 1. Female dissatisfaction level with existing transport system**

Source: Chen and Mehndiratta 2006.

**Understanding local practices.** Experience from both urban and rural projects has shown the importance of understanding local social rules and cultural practices and beliefs that shape the gendered ways in which households and communities function. This is essential for adequately identifying transport needs and sustainable solutions. Without such knowledge, transport interventions meant to alleviate some of women's transport burdens can actually increase the transport burden of women. The social and cultural context of gender differences affecting and affected by transport, such as time spent on social, economic and household-related tasks, needs to be analyzed at both the household and the community level.

➤ *At the household level:* A key factor in determining success of transport interventions rests on understanding how control of resources within a household can affect the selection and use of transport modes. Given the traditionally limited role of women in decision-making processes at the household level in many developing countries, their needs and constraints are often not reflected in policy-making processes which are important for selecting appropriate transport interventions. For example, studies have shown that in households where there is a private car, men usually get priority for its use. Likewise, the benefits for women associated with the introduction of IMTs can be influenced by whether or not those forms of transport are considered appropriate for women by the head of the household who has control over its access.

➤ *At the community/society level:* Cultural practices and prevailing norms can also strongly influence the decision to use transport. Social restrictions can prevent women



from using public transport with men. In some societies, it can be that men board buses first and that women who follow cannot get on. Women's clothing and carrying children can also make it more difficult for them to board public transport. It has been reported that in predominantly Muslim cities such as Dhaka, it can also be socially difficult for women to share crowded buses with men riders because of the religious dogma of the purdah or social seclusion of women (Peters 2001). In Afghanistan, transport is not deemed suitable if a woman has to sit or stand in close proximity to a man that is not a family member (Rural Access 2010). In extreme cases, cultural beliefs can prevent women from using non-motorized transport modes such as bicycles as these can be considered as inappropriate and unwomanly.

**Box. 3: Overcoming cultural norms to unleash mobility and economic opportunities**

Cultural norms and values that prevent women from using roads or that restrict women from traveling long distances or from using public transport, riding bicycles, or obtaining instruction licenses for vehicles are gender-based barriers to mobility that are difficult to overcome. The Asian Development Bank third rural infrastructure development project in Bangladesh is a good example of how improvements in rural infrastructure can also address women's needs and improve their participation in economic activities. The project involves the improvement of the infrastructure in small towns and rural areas, encompassing feeder roads, bridges and culverts along rural roads, flash-flood refuges, markets and *ghats* (boat landing facilities) in economic centers. In particular, the project aimed to transcend sociocultural barriers that limit economic and social participation of women through the provision of simple infrastructure (bathroom facilities, lower steps in public transport vehicles or separate market stalls) in order to increase women's visibility and inclusion in economic activities and transport such as buses, markets or local government buildings. These modifications to existing infrastructure allowed balancing women's need for privacy with their need for social inclusion. In particular, the project supported the allocation of at least 15 percent of the markets' section to the construction of women's corners to promote the businesses of women traders. This component was design to help women gain opportunities to sell products at the market where social norms usually make it difficult for them to set up stalls next to male shopkeepers or because they are at risk of harassment. The specific location of the women's corners in each market was decided by the women themselves in consultation with the project authorities.

*Source: Thomas, Lateef and Sultana 2005.*

**Leveraging the positive and mitigating the negative impacts of transport projects on women.** Transport projects can improve the mobility and access of women and men to essential services and economic opportunities. However, transport projects can also have negative impacts on the well-being of women as well as men. As much as possible, positive impacts through increased employment and economic opportunities for women as well as men should be encouraged. Negative impacts on women and girls such as inequitable resettlement compensation for lost livelihoods, potential increase in human trafficking and the transmission of HIV should be mitigated. It is also important to recognize that access to emergency and routine medical care to reduce infant and maternal mortality is very heavily dependent on transport—both infrastructure and services.

➔ *Employment opportunities.* There are several ways to improve gender equity in the planning, construction, and maintenance of infrastructure projects, including the promotion of labor-based construction methods that target employment and training of local women as well as men. Increasingly, the participation of women in road work is

being accepted in a sector where roadworks have often been seen as a male domain. Examples of physical work that women in labor-based construction projects undertake vary considerably, ranging from excavating to level, ditching, spreading and transporting of stones and gravel to routine maintenance of roads and structures including earthen embankments and trees. To facilitate participation of women in road works contract clauses can be included setting targets for local women and men workers, as has been done in Rural Roads Projects in Mozambique, Peru, Bangladesh and other countries. It is also important to monitor contractor performance in employing the targeted numbers of local women and men. ILO standards recommend a target of 30 percent female labor in roadworks. Good experience has been reported with including specific gender equality conditions in tender specifications and contracts of international and local consultants and contractors of major road projects (DANIDA 2006)

➤ *Economic opportunities.* The benefits of improved access to transport infrastructure and services are manifold of women. Improved transport access to markets and other economic facilities can mean increased economic opportunities. There can be transport-related businesses opportunities created in the context of projects, either through the provision of new employment opportunities or through the removal of bottlenecks, such as high transportation costs or lack of credit mechanisms, which may limit business activities or micro enterprise development by women. Examples of good practice in the context of transport projects have included providing women with access to financing to pursue transport-related businesses such as farm-related transport activities; liberalizing the provision of transport services to improve service quality and frequency that will lower transport costs to women micro-entrepreneurs and the opening of new female businesses alongside improved road networks.

➤ *Human trafficking.* The expansion of human trafficking of young girls and women is the result of a number of factors including demand for cheap labor; weak legal and policy frameworks; poverty and lack of economic options; poor access to services; low levels of education; and social exclusion. Trafficking of girls and women can also increase with the opening of transport corridors and especially near major highways and cross-border corridors. The risk is greatest where women have low social status, and poverty is widespread and there is a lack of awareness of the risks of trafficking. To address trafficking issues in transport projects in areas considered at risk, trafficking risk assessments need to be part of social assessments. These assessments support to guide the design of effective awareness campaigns using appropriate media and messages and should target communities at risk and also border control officials and transport and other related government agencies. Coordination with other ministries and agencies engaged in anti-trafficking initiatives is important to ensure that their activities reach the transport corridor. Project components can also be incorporated to help increase income opportunities for the groups at risk of trafficking through employment opportunities for local transport services, by initiating enterprises, working on roadside erosion prevention, or other transport-related activities (Tanaka 2008).

➤ *Vulnerability to HIV transmission.* The opening of previously remote or isolated region can increase the spread of HIV/AIDS. Transport workers have been identified as a vulnerable group susceptible of engaging in risky behavior with commercial sex workers that can lead to HIV transmission. Truck drivers for example can engage in unsafe sex practices with sex workers in transit stations while waiting for documentation processing to cross country borders. Also, women can get infected by their husbands who may work as truckers or workers in the construction industry. Women who live close to transport hubs, truck stands and road corridors are also likely to be at higher risk of HIV infection because they can expect to be financially compensated for engaging in unsafe sex.

Counseling and treatment services offered to transport workers can benefit sex workers and other female sex partners of transport workers through HIV awareness and education campaigns supplemented with condom distribution. The transport sector has been part of the multi-sector AIDS effort since the early 1990s and has been proactively mainstreaming an HIV response by assisting client governments to design and implement sector-level interventions; there are provisions for HIV/AIDS mitigation in the standard bidding documents of works in excess of US\$10 million (World Bank 2009).

➤ *Displacement and Resettlement.* Construction of roads, bridges and other infrastructure often requires displacement and resettlement and loss of livelihoods for people living and working near the construction areas. Women are among the vulnerable groups that are often the most negatively affected by loss of land and access to resources and also likely not to be compensated for their loss. Payment of resettlement compensation to those with legal title can be gender biased because land and houses are usually registered under the name of the man of the household. It is important to determine eligibility for compensation based on lost assets and livelihoods for women as well as men. Participatory resettlement processes provide a means to give a voice to poor women who are usually excluded. In many instances some of the displaced population lacks legal property rights over the land they occupy such as squatters and street traders, many of whom are women (Gajewski, Ihara and Tornieri 2007; Brown 2006). Project teams should make sure that women have their names on any new land certificates, that they benefit from livelihood restoration programs and that they are consulted in the initial planning phase. As much as possible, women should serve as community mobilizers during the resettlement process and during the execution of resettlement programs. Planning for occupational and livelihood options for women is also crucial.



## **5. URBAN TRANSPORT PROJECT COMPONENTS**

The various investment components of World Bank urban projects provide several starting points from which gender issues can be addressed. These issues coincide with the dominant strategic approach of the Bank to focus on poverty alleviation through the promotion of inclusive transport modes with the improvement of the status of pedestrians, bikers and public transport passengers. For women, this also means reducing long periods of time waiting for transport, the improvement of adequate facilities, and addressing overcrowding and the lack of safety.

**Pedestrian environment.** Except in specific urban contexts with large supply of reliable and affordable public transportation, for most poor people, particularly women, walking is the main mode of transport. Often, rising rates of crime and the lack of safe and easily accessible pedestrian environments combined with the tasks related to women's travel journeys (which range from carrying children to household goods) can lessen or limit the attractiveness of walking.

➤ *Ensure safe accessibility.* Building exclusive sidewalks as components of road and public transport improvement projects responds to women's as well as men's traveling needs by increasing pedestrian accessibility and safety. It is important to incorporate design features focusing on safe pedestrian design (pedestrian safety islands or refuges, bike parking facilities, speed bumps, traffic lights etc.). Urban projects that reduce the pedestrian environment by cutting on sidewalk width to upgrade urban roads through a widening of lanes should be avoided or measures to restore an accessible safe pedestrian environment should be envisaged. New and rehabilitated footpaths should be envisaged to separate vehicles and people as well as the inclusion of pedestrian signals and footbridge connections wherever necessary.

**Intermediate Modes of Transport (IMTs).** Intermediate means of transport such as rickshaws, bicycles, mopeds and motorcycles can provide women with more flexible routes, schedules and lower fares. IMTs can offer low-cost solutions for short distances, particularly in congested urban areas, and can often accommodate the transportation of small loads, which urban women often have to carry. Motorized two wheeled transport are more affordable than cars and provide flexibility and convenience to their users in crowded traffic conditions. Two wheelers also tend to be more acceptable to women living in urban areas than bicycles as they can be considered a symbol of financial success while compensating for the lack of adequate public transport options. In many urban areas of Asia, bicycles continue to be the predominant mode of transport in many communities, with women using bicycles at fairly equal level as men.

➤ *Provide design and safety measures for IMTs.* IMT programmes (public, private or NGO) should aim to address gender mainstreaming in IMT adoption, making access to IMTs as 'gender neutral' as possible. The market for IMTs has typically been dominated by sales to men, limiting market development of IMTs with design features more suitable for women. In addition, project components that focus on accessibility for pedestrians often focus on non-motorized mobility through bicycles—can also benefit women and their

use of IMTs—and can include the construction of bicycle paths or exclusive lanes. The increasing use of motorcycles can make both women and men more susceptible to traffic accidents, which can include their children as passengers. The better provision of local transport services and traffic safety improvements through proper transport safety planning are likewise important; in particular the physical separation between motorized and non-motorized road users as well as proper pedestrian crossing and traffic signage. Traffic calming measures (speed bumps, traffic lights and signs), public traffic safety education and requirements for safety equipment such as helmets should be adopted.

**Public transport fleet and facilities.** There is evidence that proximity to urban centers and a high density of transport in urban areas does not automatically translate into better transport accessibility and mobility for poor people, particularly women (Fernando and Porter, 2002; Gomez, 2000). While some urban women travel to work during peak hours on main routes, many urban women’s dispersed travel destinations are poorly connected by public transport services and their travel times are often when public transport services are infrequent. Women’s travel off the main routes tends to make transport services more expensive to provide and hence more highly priced or poorly supplied.

➤ *Provide adequate service routes and schedules.* One of the key documented differences between men and women in terms of their travel patterns in urban areas is that women tend to make more frequent and shorter trips during off-peak hours while men tend to travel to go to work during peak hours. Journeys to work tend to account for a higher proportion of men’s journeys while women tend to make multiple journey trips or trip-chains in order to take care of household tasks and reach social and health services. In urban areas, it can be the case that shopping trips and trips to services can be shorter than journeys to the place of work. Urban projects need to ensure that off-peak hour and multi-chain trips are possible for women. Times and frequency of operation of buses and taxis should be reviewed and affordable service options during off-peak hours should be explored. Providing non-commuter or decentralized services can also help alleviate many women’s access and mobility problems. Targeted local responses to help women access specific destinations such as markets, educational, employment facilities, administration offices and services should be supported.

➤ *Set affordable fares.* Transport costs can represent a significant share of a household income. When the household is poor, the share of income spent on transportation can represent an even heavier burden on the household budget. It is often the case that women tend to be concentrated on the lower end of the transportation expense curve. In urban areas, surveys have shown that family members who spend the most on transportation are those who work outside the home, followed by those who study, irrespective of gender. Also, the multiple stops that women tend to make to attend to their various responsibilities is often creating a greater cost burden as they may have to pay numerous single fare tickets to undertake their chain trips. With privatization or concession of public bus services, service on less lucrative transport routes are often reduced or fares increased, disproportionately affecting women who make more transfers and stops than men. Designing options to improve the affordability of public transport by women could include the use or increase in subsidies in order to reduce fares or increase services and the provision of integrated fare. The right combination of fares and service quality should be selected in order to best address women’s needs and constraints.

➤ *Address personal safety concerns.* As women and men have different transport needs, men and women have also different priorities for seeking or not seeking certain modes of transport. A key factor that determines women’s travel patterns and use of public spaces is personal safety, especially after dark. Studies have shown that women who have the

resources to do so will often drive or take a taxi rather than walk or use public transit because of fear of physical or verbal harassment or attack.. This caution is even greater when women have to carry packages and children.. Women's concerns about the personal security risks at transportation facilities, such as parking lots, buses and bus stops can also affect the way women decide to travel. Women may avoid using certain bus or railway stops or confine their use of public transport to certain times of the day or use public transport only if accompanied by someone. Private car is often perceived as the safest means of transportation by women but having to park in desolate areas or structures may generate considerable stress and fear and result in women avoiding travel with this mode.

Safety design measures that can respond to women's safety concerns include good lighting and landscaping at transit stops and along roadways to replace dark empty spaces with active spaces with shops and public presence; women- only services or women-only cars on commuter trains or subways, greater security personnel presence, and employment of female conductors and drivers on mass transit. Some innovative programs also include request-stops, allowing women to disembark from the bus at locations closer to their final destinations during late evening hours, and public awareness education campaigns on safety to educate both users and drivers about respecting women. There are also security technologies such as surveillance cameras, emergency phones, panic/alarm buttons and uniformed and non-uniformed officers to patrol public buses and stops. Evidence from developed countries shows that on average women prefer human rather than technological security measures (Loukaitou-Sideris 2005).

**Box. 4: Women-only transport initiatives as an option to safe public transit**

Women-only subway, buses and train cars have been introduced to combat taunting, sexual aggression and harassment in a number of countries, including Japan, Brazil, Egypt, Mexico, India, Belarus and the Philippines. There have also been women-only taxis in the UK, Mexico, Russia, India, Dubai and Iran. Women-only policies and infrastructure options vary from country to country, from policies implemented only during rush hour to women-only cars in rapid service trains. For example, in Manila's light rail system, the front two rail cars are reserved exclusively for women and children while in Mexico City, recent female-only buses along busy routes have been added to the ladies' only cars during rush hour in its subway, with policy segregating men and women on the platforms.

Women's only public transport options can be a step toward making public transport safe but gender separation cannot be considered a panacea for mainstreaming gender in public transport because separate access to transport typically imply greater costs and may not be applicable to the full continuum of transport services. Separation of men and women in public transport can also be seen as a throwback in the fight for women's equal access to public transportation. There can also be increased risk for women who ride in mixed cars or an increased perception of risk for a woman traveling alone in women-only cars.

➤ *Improve vehicle and facility design.* Travel conditions on public transport are often not suited to meet the needs of women. Instead, they can complicate the mobility of women, presenting actual physical obstacles. In subway or metro systems, escalators and turnstiles can make it impossible to navigate with a baby stroller or toddler in tow. Special attention should be given to providing services that accommodate women's specific transport needs through improvements of the vehicle and infrastructure design. Women who are often carrying produce bags or goods cannot board already crowded buses or are forced to wait for less crowded buses. Design improvements to meet

women's needs could include considering the height of entry steps into public buses or subway cars as well as the installation of handrails or ramps.



## **6. INTERURBAN, CORRIDOR AND TERMINAL PROJECT COMPONENTS**

In developing countries, peripheral low-income areas tend to be poorly linked to the main transport routes and places of employment. Roads that connect cities and urban areas may be poorly developed and maintained compared to routes located in city centers, with poor stops and terminal facilities to let passengers rest and transfer during their commute. Measures to reduce the risk of increased HIV/AIDs and human trafficking can also be very important in the context of these projects.

**Transit systems and terminal development.** For women, limited network coverage and poor road maintenance may result in long walks to access the main arterial roads, including trunk line and feeder buses. Buses parked on the streets and at poorly planned terminals can also impede efficient transfer at terminal facilities. The lack of safe, clean, rest facilities and bathrooms at the roadside and in terminals can make commuting even worse.

➔ *Seek mobility and facility improvements.* Projects that build transfer stations or terminals can provide access to feeder roads and transport services like buses serving low-income growth areas. They can also serve as opportunities to improve and rehabilitate accessibility features. Specific project components that are likely to benefit women, include the improvement and rehabilitation of access routes to terminals, focusing on accessibility by pedestrians and bicycles. Street paving can be rehabilitated. Dedicated bikeways can be built to connect poor outlying neighborhoods to the main busway terminals and include bike parking. Separate, well-lighted bathrooms for men and women are needed in terminals and at the roadside stops every 50 to 80km. as the lack of safe public toilets or significant distances between them can be disincentive to women to travel.

**Road improvements.** The location of public transport routes can significantly impact women's and men's economic opportunities. Women as well as men engage in formal or informal commerce along road corridors. Road and corridor improvements can lead to the relocation of roadside economic activities that people rely on for their livelihoods. This is especially true in areas of low population densities or in peri-urban areas, where the markets tend to play important social and economic functions (Porter 2003). As a result, market loss can have negative costs for entire communities and particularly for women living in nearby off-road settlements (Porter 2003).

➔ *Assess impact of road improvements on economic opportunities.* Projects should consider the economic opportunities that are both lost and created through road improvement activities. Women who are the users of the impacted roads should be consulted so that solutions can be found to help alleviate economic losses. Likewise, entrepreneurial capacity should be promoted in areas where transport conditions have improved. In addition, job opportunities could be created for women within a project. For example, successful experiences in projects in Mexico and Peru have showed that women can be employed in micro-enterprises involved in carrying road maintenance activities.



## 7. RURAL TRANSPORT PROJECT COMPONENTS

Improvements in rural transport range from making previously unavailable roads suitable for local transport alternatives such as donkey carts and two or three-wheel vehicles to extending the coverage and reducing the costs of local motor transport services. Improvements of rural roads can also facilitate pedestrian use. Projects that benefit women can focus on any of these policy issues as long as the specific constraints faced by women are addressed within a project context.

**Physical infrastructure.** Improved rural transport infrastructure is important for more efficient transport and better use of services. In some parts of the world, infrastructure is so poor that the use of IMTs is not even practical. Likewise, lack of culvert construction and maintenance to help ensure year round access is a recurring problem.

☞ *Improve road networks.* Improvements to the road network can improve contacts between rural villages and nearby communities as well as the delivery of inputs and consumption goods and the possibilities of selling produce to traders or bringing produce to makers. For women, road improvement, particularly the repair of potholes and the installation of traffic lights, are also beneficial if they translate into greater and safer access to goods and services.

### **Box. 5: Improving access and providing economic opportunities through road maintenance**

Peru's 2<sup>nd</sup> Rural Roads project demonstrates how women's involvement in rural road project design and maintenance activities can result in positive economic and social outcomes commonly ignored by traditional road upgrading systems. The project, which constituted the second phase of a broader rural roads program started in 1995 with the Rural Roads Rehabilitation and Maintenance Project (first phase) gave the opportunity to poor rural women to express their transport needs in participatory workshops as well as the ability to engage in income-generating activities. As a direct response to the transport needs expressed by women, the 2<sup>nd</sup> phase of the program supported the improvement of roads connecting to the communities and of non-motorized tracks, which are most often used by women and are commonly ignored by traditional road upgrading programs.

The project contributed in improving access for rural women by improving women's mobility and increasing their mobility choices. Survey results to assess success of the project reported that seventy percent of the surveyed women confirmed they traveled more and further away while 67 percent felt that they traveled more safely. The project also provided women with economic opportunities linked to road maintenance activities that would otherwise not have been available to them by removing obstacles to wage employment activities and fostering road maintenance activities and their participation in micro-enterprises. Forty-three percent of women reported the project enabled them to earn additional income. In addition to offering cleaner and safer tracks, the project has provided women greater access to markets, less time lost to get food and fuel, increased access to health and education services and greater participation in local politics.

*Source: Peru's Second Rural Roads Project, ICR June 2007*

➤ *Improve footpaths and tracks.* Village-level tracks, trails and paths are essential to the functioning of rural transport infrastructure. Poor maintenance of village paths and tracks especially when paths are slippery or overgrown or if there is a difficult water crossing can make women's walking and head loading arduous, time-consuming, dangerous and inefficient. Also, the lack or poor maintenance of footpaths can render the use of IMTs such as bicycles difficult or impossible. There should be a clear focus on footpaths, footbridges and track improvements as women greatly rely on them for their transport needs, especially when walking and relying on NMTs.

### **Conventional motorized services.**

In many developing countries, the majority of the population lives in rural areas where population densities are often very low. Establishing and sustaining adequate transport services for such areas continues to be one of the main development challenges. For women, the timings and frequency of formal transport services in these areas have a significant impact on the costs and utilization of services. Also, in areas with limited transport and where local customs permit men to board vehicles first, women may not have access at all.

➤ *Availability.* Women who need to access agricultural and food products but also send their children to school, access medical care and obtain raw materials and resources for economic activities will lose valuable time and income if transport services are unreliable and infrequent. Women can also wait for hours or days for services in remote areas or have to walk to get to the nearest junction. Times of operation of buses and taxis should be revised to accommodate the transport needs and schedules of rural women as well as men.

➤ *Affordability.* High costs of public transportation can make services prohibitive for women who spend a very high percentage of their incomes on transport. As a result, women often walk and use public transportation only for longer journeys. Financial solutions such as credit schemes can provide some relief to women's affordability issues in rural areas. It is also important to improve the reliability and efficiency of rural transport services to make them more cost-effective for the whole community.

➤ *Quality of services.* The poor condition of buses and taxis can make it difficult for women to use conventional public services. Women often rely on informal unregulated transport services for travel over shorter distances and destinations if formal transport services are inconvenient or simply unavailable. Vehicles are often overloaded; drivers do not stop long enough for passengers to safely enter the vehicle. Improving the reliability and quality of services through careful examination of the local constraints and opportunities with the participation of local women and men should be envisaged.

**Intermediate Means of Transport (IMTs).** For many women in rural areas of developing countries, IMTs are the most accessible and affordable modes of transport available other than walking. Using IMTs can reduce the loads that women carry, help increase the land area they can farm as well as the amount of produce they can carry to market. Use of IMTs can increase access to markets, schools and health care facilities. Yet, women who are involved in many multi-tasking activities such as domestic chores and looking after children and the elderly, have much poorer access and tend not to utilize IMTs, in a paying service, to the same intensity as men. Rural IMTs often fail to accommodate a rural woman's multitasking role and her need to carry an assortment of tools, raw materials and other goods while transporting her child. Men can also control the purchase and use of IMTs in the household, limiting women's access. IMTs also cost money to run and parts tend to break while tire need repair and replacing. As a result,

women find it much more difficult to get a profitable paying return in using IMTs. Also, they invariably have to resort to just carrying loads by themselves without transport aids.

➤ *Adapt IMTs to local contexts.* Successful programs that have introduced IMTs to benefit women have relied on a range of IMTs such as bicycles, wheelbarrows and handcarts, oxen, cows and donkeys, along with road and path improvements to enhance their usability. One effective way to increase women's access to IMTs has been the provision of credit to women for IMT purchases. Another way has been to encourage joint business ventures by women using IMTs. The establishment of community-based credit schemes to help increase IMT purchases can also help lower prices and make maintenance simpler and cheaper. It is important to work with women's organizations and local leaders to get their support to reduce sociocultural barriers to women's access to and use of IMTs. It is also important to ensure that IMTs are designed for women's size and strength. IMT projects designed to benefit the entire family can help ensure that women's participation does not create domestic conflict (Starkey 2001). Women can also benefit when men use IMTs to undertake traditionally female tasks such as using pushcarts to carry firewood, saving women time for other activities.

➤ *Promote bicycles adapted to local norms and traditions.* Bicycles can be introduced in areas where they are considered acceptable for women to ride, taking into account local cultural norms and traditions. Suggestions for adapting bicycles that would benefit and be adapted to the specific needs of women in rural areas include a carrying device that facilitates the transport of water, crops or firewood. Bicycles are more likely to be accepted as appropriate transport modes for women if they are equipped with rear racks for water, wood and crops, giving the perception that bicycles are 'new' vehicles designed for women so that women are not seen as 'behaving like men' when they use them (Malmberg Calvo 1994). Including baby seats on IMTs can increase women's chances of access or ownership to IMTs by reducing men's incentives to use IMTs as a status symbol (Bryceson and Howe 1993).



## ANNEX: PROJECT INDICATORS

The table in this section provides examples of some of the data and indicators needed to create a baseline and to measure progress and results achieved through policies and components aimed at mainstreaming gender into road transport projects. The indicators to be collected are indicative as these will vary based on the type and focus of projects. The objective is to collect data for the project on **socio-economic characteristics** of the beneficiaries of the project; data on the goods and services generated (**input and implementation process**); on access and user satisfaction (**outcome indicators**); and overall effect on living standards and welfare of the communities (**impact indicators**).

	Socio-economic characteristics	Data source
Demographic	Age; education level; occupation; Household composition (female vs. male-headed household; single-parent)	Travel and/or household surveys; district and national poverty data; labor statistics
Economic	Level of male and female employment and unemployment	
	Average household income; main income source	
	Trends in price and income from primary products	
	Major economic activities of the communities; availability of raw materials; role of agricultural markets for income generation purposes	
	Types of agricultural activities or other sources of income;	
Transport	Main modes of transport; ownership of modes;	
	Fare structures and cost estimates	
	Number of women working in transport (ministry; operators; drivers; etc.)	
Social & cultural behaviors	Data on household travel patterns and needs, by gender	
	Data and qualitative assessment on key social activities and cultural norms	
Focus of intervention	Monitoring the process	Data source
Input & process indicators		
Policy	Number of training sessions on gender and transport, including gender sensitive planning; facilitation of stakeholder consultation; participation for implementing agencies and/or community organizations	Program monitoring; contract documents; Ministry of transport; Road agency
	Number of gender sensitization workshops held for men and women of Transport ministry staff and implementing agencies that consider knowledge gaps in gender elements of urban and/or rural transport	
	Number of women who are represented on tender boards, in road prioritization and decision-making forums related to the planning, implementing, monitoring and evaluating of projects	
Needs Assessment ; Design and planning	Number of meetings using participatory concepts and methodologies to ensure that the planning, implementation, supervision and monitoring of the project will involve and benefit women and men equally	Stakeholder and beneficiary assessments
	Number of women from different socioeconomic groups who have been consulted about the project and attend project meetings/ consultations organized at a time when women find it convenient to attend	
	Number of meetings with local community-based and women organizations and associations to mobilize women's participation	
	Number of women and men in all stakeholder and road user consultation groups	
	Number of female facilitators involved in the meetings, the identification of affected persons	

Public transport; Road infrastructure; IMTs; NMTs; Pedestrian environment	Number of measures and level of expenditure to increase accessibility, personal safety, and use of public transport, IMTs, NMTs and walking (junction improvements; traffic-slowing design features; bus and passenger facilities; pedestrian facilities; street lighting etc.)	Program monitoring; Ministry of transport; road agency
Economic opportunities Livelihood support Production and marketing enhancement	Number of training sessions and stakeholder consultations on work opportunities that target women specifically	Program monitoring
Resettlement	Number of women involved in preparation and review of resettlement plans and compensation options	Stakeholder and beneficiary assessments
	Number of women whose sources of livelihoods/ income will be affected by project	
HIV/AIDS (based on World Bank 2009)	Number of women who attend training or awareness sessions on HIV/AIDS	Program monitoring
<b>Output indicators</b>		
Policy; Design and planning	Number of works contract and tender documents that are gender sensitive	Program monitoring; contract documents
	Number of women who contractors who are awarded labor-based contracts	
	Number of women that are trained to supervise roadworks	
	Number of women laborers and supervisors recruited	
Resettlement	Number of women who receive resettlement packages	Program monitoring
	Percent of livelihood support and income restoration programs targeting women	
	Percent of land committee members who are women	
	Number of land house titles and grants that are in the names of both men and women (both spouses)	
Human trafficking	Number of public awareness campaigns completed	Program monitoring
	Number of skills/education training activities provided	
HIV/AIDS (based on World Bank 2009)	Number and percentage of men and women who both correctly identify ways of preventing sexual transmission of HIV and who reject major misconceptions about HIV transmission (based on UNGASS indicator #14)	Population/ Behavioral survey & program monitoring
	Number and percentage of men and women reached with HIV prevention programs (based on UNGASS indicator #9) (number and percentage)	
	Number and percentage of men and women who report using condom for last sexual intercourse	
	Number of men and women who report sexual intercourse with more than one partner	
	Number and percentage of men and women who report that they can access condoms on their own (based on UNGASS indicator #12)	
	Number and percentage of men and women who received an HIV test in the last 12 months and who know their results (based on UNGASS indicator #8)	
Public transport; Road infrastructure	Gender-disaggregated number of passengers in public transport during peak and off-peak hours	Project monitoring
	Changes in women's travel patterns and transport mode use as result of project	
	Changes in frequency of transport services	
	Number of improved bus stops, signals, terminal and rest facilities	
	Number of handrails, other new gender specific features (additional steps on transport mode or platform; sufficient door space to carry load and maneuver, etc.)	
	Number of lights, seats, toilets in passenger areas and facilities	
	Number of pedestrian and cyclist facilities	



	Number of rural people, by gender, who live within 2 km of an all-season passable road as a proportion of the 'total rural population' ( <b>Rural Access Index</b> )	
Pedestrian & cyclist environment; IMTs	Number of improved sidewalks and shoulders (km)	
	Number of improved pedestrian crossings, safety islands	
	Number of new and rehabilitated footpaths	
	Number of new non-motorized traffic dedicated bikeways; bridges and underpasses	
	Level of increase in number of women who own IMTs	
	Level of increase in number of women who are using IMTs	
Economic opportunities Livelihood support Production and marketing enhancement	Number of women who work in road maintenance operations or in community-based microenterprises	Program monitoring
	Number of female working in supervisory positions	
	Number of facilities for women and men (toilets, shelter for children etc.)	
	Percent increase of new commercial enterprises run by women	
	Percent increase of new market stalls built for women	
	Percent increase of market oriented vocational trainings for male and female	
<b>Focus of intervention</b>	<b>Evaluating for effectiveness</b>	<b>Data source</b>
<b>Outcome indicators</b>		
Policy & Needs Assessment	Increased number of women who participate in the design of the transport project	Program monitoring
Resettlement	Number of women who have their livelihood and income restored	Program monitoring; Land tenure certificates
	Number of women who have their names on land tenure certificates	
Human trafficking	Percentage of training course participants who can define and describe trafficking in persons	Program monitoring;
	Number of rescued victims provided with education/ skills training	
	Number of contacts made to alert a program or government agency about individuals who are in servitude or sexual exploitation	
	Number of human trafficking cases that are publicly reported	
HIV/AIDS (based on World Bank 2009)	Percentage of men and women who have had more than one partner in the last 12 months (based on <b>UNGASS #16</b> )	Behavioral and population-based survey
	Percentage of men and women who had more than one sexual partner in the past 12 months reporting the use of a condom during their last intercourse (based on <b>UNGASS indicator #17</b> )	
	Percentage of men and women who are HIV-infected ( <b>HIV prevalence</b> ) (based on <b>UNGASS indicator #23</b> )	
Public transport; Road infrastructure	Increased use of public transport services by women in terms of number of trips made	Program monitoring; household surveys
	Reduced transport related expenses by gender	
	Increased (perception of) security using public transport	
	Percentage of roads in maintainable condition that receive regular maintenance and are used by women	
	Average travel time to formal and informal places of work, by gender, and by mode of transport	
	Number of women who are satisfied with new transport services provided	
Economic opportunities	Increased work opportunities for women within a transport project	Program monitoring; household surveys
	Reduced time and costs in taking goods to the market; to access agricultural extension services	
	Reduced time spent in collecting water and firewood	
	Increased time spend on productive activities	
	Percentage of road work that is labor-based, by gender (% of wage bill in total costs)	

Access to education, health and social services	Increased number of pregnant women who receive prenatal and postnatal care (can be linked correlated with/without access to all-weather motorable road)	Demographic and Health Surveys (DHS); National Household Surveys; Data collected by Ministry of Health and Ministry of Education
	Increased number of births at home and/or assisted by skilled attendant (can be correlated with/without access to all-weather motorable road)	
	Increased number of children enrolled and attending primary school, by gender (can be correlated with/without access to all-weather motorable road)	
	Reduction in traveling time to access health services by rural and urban residence	
<b>Impact indicator</b>		
<b>MDG 1</b> (End poverty); <b>MDG2</b> (Promote Universal education) <b>MDG 3</b> (Promote gender equality and empower women);	Percent increase of women participation in economic, education and social activities	Demographic and Health Surveys (DHS); National Household Surveys; Data collected by Ministry of Health and Ministry of Education
<b>MDG4</b> (improve maternal health); <b>MDG5</b> ( reduce child mortality)	Percent decrease in maternal and infant mortality rates	
<b>MDG6</b> (Combat HIV/AIDS, malaria and other diseases)	Percentage who HIV-infected ( <b>HIV prevalence</b> ) (based on <b>UNGASS indicator #23</b> )	

## **REFERENCES**

**Aligula, Eric. 2004.** Nairobi Household Travel Patterns Survey. Infrastructure and Economic Services Division. Kenya Institute for Public Policy Research and Analysis. PPT presented at the Transport Performance Indicators Workshop. June 12-14<sup>th</sup>. Mount Amanzi Resort, Hartbeespoort, South Africa.

**Anand, Anvita and Geetam Tiwari. 2006.** A Gendered Perspective of the Shelter-Transport-Livelihood Link: The Case of Poor Women in Delhi. *Transport Reviews*, 26: 1, 63-80.

**Babinard, Julie and Peter Roberts. 2006.** Maternal and Child Mortality Development Goals: What Can the Transport Sector Do? *Transport Papers*. TP-12. August 2006.

**Babinard, Julie and Kinnon Scott. 2009.** What Can Existing Surveys Tell Us about Gender and Transportation in Developing Countries?' Proceedings of the Transport Research Board (TRB) 4th International Conference on Women's Issues in Transportation. October 27-30, 2009. Irvine, California. *Forthcoming*.

**Barwell, I. 1996.** Transport and the Village. Discussion Paper No. 344. Washington, D.C.: World Bank.

**Brown, Allison (ed) 2006.** Contested Space: Street Trade and Public Space and Livelihoods in Developing Cities. Intermediate Technologies Publications. Cardiff.

**Bryceson, Deborah Fahy and John Howe. 1993.** Rural Household Transport in Africa: Reducing the Burden on Women? *World Development*, Vol. 21, No. 11, pp. 1715-1728.

**Chen, Wenling and Shomik Mehndiratta. 2006.** "Lighting Up Her Way Home: Using Public Participation Techniques to Improve Urban Transport Project Design in Liaoning Province, China". Presentation at TRB annual meeting, Jan 25, 2006, Washington, DC.

**DANIDA. Ministry of Foreign Affairs. 2006.** Gender Equality in Danida's Support to the Transport Sector: Good Practices. Good Practice Paper. Final Report. February.

**Donnges, Chris. 2003.** Improving Access in Rural Areas: Guidelines for Rural Accessibility Planning. ILO, Geneva.

**ECOSOC. 1997.** See **United Nations Economic and Social Council**.

**Fernando, Priyanthi and Gina Porter, eds. 2002.** Balancing the Load: Woman, Gender and Transport (London and New York, Zed Books).

**Gajewski, Gregory, Miho Ihara and Francesco Tornieri. 2007.** Socially Inclusive and Gender-Responsive Transport Projects: A Case Study of the Timor-Leste Road Sector Improvement Project. Pacific Studies Series. Asian Development Bank (ADB).

**Giuliano, Genevieve. 1992.** "Transportation Demand Management: Promise or Panacea?" *Journal of America Planning Association*, Vol. 58, No. 3, pp. 327-435.

**Gomez, Lara. 2000.** Report: Gender Analysis of Two Components of the World Bank Transport Projects in Lima, Peru: Bikepaths and Busways.

**Hanson, S. and P. Hanson. 1980.** The Impact of Women's Employment on Household Travel Patterns: A Swedish Example. In *Women Travel Issues*. U.S. Government Printing Office. Washington, D.C.

**Hettige, Hemamala. 2006.** When Do Rural Roads Benefit the Poor and How? An In-depth Analysis Based on Case Studies. Operations Evaluation Department. Asian Development Bank.

**IC NET. 2004.** Integrating Gender into World Bank Financed Transport Programs. Component 1. Case Study Summary and Final Report. June.

**Kunieda, Mika and Aimee Gautier, 2007.** Gender and Urban Transport: Smart and Affordable. Module 7a. Sustainable Transport Sourcebook for Policy Makers in Developing Countries. GTZ.

**Lewis, Leo. 2004.** All-women trains are only way to defeat Tokyo bottom pinchers. *The Times*, Nov. 24, 2004. Article can be accessed at:  
<http://www.timesonline.co.uk/tol/news/world/article394630.ece>

**Loukaitou-Sideris, A. 2005.** Is It Safe to Walk Here? Design and Policy Responses to Women's Fear of Victimization in Public Places. In *Conference Proceedings 35: Research on Women's Issues in Transportation*, Transportation Research Board of the National Academies, Washington, D.C., Vol. 2, pp. 102–112.

**Malmberg-Calvo, Christina. 1994.** "Case Study on Intermediate Means of Transport Bicycles and Rural Women in Uganda." SSATP Working Paper No 12. Washington, DC: The World Bank. February.

**Moser, C. 1993.** *Gender Planning and Development: Theory, Practice and Training* (London; Routledge).

**Nobis, Claudia and Barbara Lenz. 2004.** Gender Differences in Travel Patterns—Role of Employment Status and Household Structure. *Research on Women's Issues in Transportation*. Report of a Conference. Volume 2: Technical Papers. November 18-20. Conference Proceedings 35. Chicago, Illinois.

**Peters, Deike. 2001.** "Gender and Transport in Less Developed Countries: A Background Paper in Preparation for CSD-9." Background Paper for the Expert Workshop "Gender Perspectives for Earth Summi 2002; Energy, Transport, Information for Decision-Making." Berlin, Germany 10-12 January. Commissioned by UNED.

**Porter, Gina. 2003.** "Spatio-temporal perspectives on the social benefits and costs of roads and road transport: A discussion paper with special reference to women and children."

**Rosenbloom, Sandra. 2004.** Understanding Women's and Men's Travel Patterns—The Research Challenge. *Research on Women's Issues in Transportation*. Report of a Conference.

Volume 1: Conference Overview and Plenary Papers. November 18-20. Conference Proceedings 35. Chicago, Illinois.

**Root, A., L. Schintler and K.J. Button. 2000.** "Women, travel, and the idea of 'sustainable' transport" *Transport Reviews*, 20: 369-383.

**Rural Access and Mobility in Afghanistan—A Gender-Sensitive Analysis. 2010.** The World Bank. March.

**Starkey, P. 2001.** Local Transport Solutions: People, Paradoxes and Progress. Lessons arising from the spread of Intermediate Means of Transport. SSATP Working Paper n. 56. Article can be accessed at:

<http://www.animaltraction.org/Local-Transport-Solutions-RTTP-Starkey-Jan01-540kb.pdf>

**Sarmiento, S., 1980.** Households, Gender and Travel. In *Women Issues*. U.S. Government Printing Office, Washington D.C.

**Schlinter, A. L. 2001.** Women and travel. In K.J. Button & D. A. Hensher (eds.), *Handbook of transport systems and traffic control*: 351-358. New York: Pergamon-Elsevier Science Ltd.

**Srinivasan, Sumeeta. 2002.** "Influence of Residential Location on Travel Behavior of Women in Chennai, India. Research on Women's Issues in Transportation. Report of a Conference. Volume 2: Technical Papers. November 18-20. Conference Proceedings 35. Chicago, Illinois.

**South Africa. 2003.** National Household Travel Survey 2003, Key Results. Department of Transport. Republic of South Africa. PPT presented at the Transport Performance Indicators Workshop. June 12-14<sup>th</sup>. Mount Amanzi Resort, Hartbeespoort, South Africa.

**Tanaka, Sonomi. 2008.** Trafficking, Infrastructure and Regional Integration Experience of the Asian Development Bank. Presentation at the International Conference on Gender, Migration and Development. 25-26 September, Manila.

**Tanzaran, N. 2003.** Integrating Gender into World Bank financed Transport Programs. Case Study. Uganda. Washington, D.C.: The World Bank.

**Thomas, Helen T., Shireen Lateef and Ferdousi Sultana. 2005.** Gender Equality Results in ADP Projects: Bangladesh Country report. Manila, the Philippines. Asian Development Bank.

**UN Economic and Social Council (ECOSOC),** Agreed Conclusions 1997/2, 18 July 1997, 1997/2, Article can be accessed at:  
<http://www.unhcr.org/refworld/docid/4652c9fc2.html> [

**Venter C, Mashiri M, Buiten D. 2006.** Engendering Mobility; Towards Improved Gender Analysis in the Transport Sector. University of Pretoria Law Press, Pretoria.

**Venter, Christoffel, Vokolkova, Vera, and Jaroslav Michalek. 2007.** Gender, Residential Location, and Household Travel: Empirical Findings from Low-income Urban Settlements in Durban, South Africa. *Transport Review*, 27:6,653-677.

**World Bank. 2009.** Transport against HIV/AIDS: Synthesis of Experience and Best Practice Guidelines. Transport Papers. TP-25.