Between 2008 and 2010 the transport sector initiated several country surveys to measure road transport needs and the constraints of both men and women, and more specifically how transport is facilitating or constraining access to resources, markets, and employment. These surveys were conducted as part of a lending operation or Economic Sector Work (ESW) with financial support from the Gender Action Plan (GAP), which seeks to advance women’s economic empowerment and accelerate the implementation of the Millennium Development Goal 3 (MDG3—promoting gender equality and women’s empowerment).

A report that reviews the methodology used for each country GAP-funded survey, the design and content of the questionnaires and the likely effect on the analysis shows that women tend to have access to a wider range of social and economic opportunities when transportation is available, safe and secure.

Except for the country surveys done in the Middle East and North Africa region (MENA), the methodologies, including selection of respondents and sampling, definitions of key transport concepts such as access and the structure of questionnaires adopted across surveys varied significantly. Useful information and data were collected across surveys but comparison between the surveys is difficult beyond the contextual and socio-demographic characteristics of the selected countries, primarily due to differences in survey methodologies, selection of respondents (only women were interviewed in some cases), differences in objectives of the surveys and quality of reporting. Overall, the survey questionnaires were designed to ensure wide coverage of the factors that may influence gender access to transportation (remoteness of villages, quality of existing access roads and of public transportation, poverty status, and availability of economic opportunities).

The main recommendation of the analysis is that a standardized approach should be promoted for collecting and evaluating gender data in transport and the possible creation of a questionnaire module to be easily adaptable for future surveys to collect and report gender-disaggregated data that can meaningfully inform transport policy. Substantial background work in the transport sector was done to develop a transport module to be used in nationally representative surveys. This work could be expanded upon to focus on gender and transportation.
BACKGROUND

Policy-relevant data on gender access to transport (such as how men and women use transportation; how access to transportation is generally related to market (labor, product) and on gender use of transport for service access (such as health and education facilities) is needed to help plan and implement gender-responsive transport projects and policies. This is particularly relevant as traditional transport data (traffic flows, passenger volumes, and so on) is typically not disaggregated, thereby limiting the necessary evidence needed to support and to help formulate recommendations on gender transport measures.

A total of seven transport surveys were undertaken between 2008 and 2010 with the help from GAP funds to seek data on how transport infrastructure and services facilitate or constrain women’s mobility and access to resources, markets training, information and employment. These surveys were undertaken because Task Team Leaders were willing and motivated to apply for GAP funds to support country research and also because of the specific country socio-economic conditions that lent themselves to focus on gender transport and mobility issues in the countries selected for the surveys.

Four studies on gender and transport were done in the MENA region; two in Yemen, one in West Bank Gaza and one in Morocco. The other surveys took place in three countries in South East Asia region: Afghanistan, India and Bangladesh.

OBJECTIVES OF THE SURVEYS

The surveys aimed to collect data and qualitative information about gender transport constraints and patterns in different country settings, whether in rural or urban areas. However, the research agenda and design of each survey varied significantly across studies, depending on the particular objectives of each survey.

Only the surveys done in Morocco and Yemen included the same or similar research policy questions on whether transportation systems meet women’s transportation needs in rural or urban areas. The other survey questions suggest that the research sought to measure ‘mobility’, ‘access’ to facilities and services and ‘accessibility.’ However, except for the Bangladesh survey which provides definitions for access, mobility and accessibility in the particular context of the study, the other studies’ terms of references did not include any definition or parameters that would describe the measures for determining access, mobility and accessibility.

The lack of consistent definitions across surveys hindered the comparability of the data collected. Likewise, it is not clear whether any of the measures used and the data collected did satisfy the research objectives of the surveys as the survey reported only conclusions from the data collected. No conclusions were linked to meeting the research objective. Likewise, findings or recommendations were made based on a review of the variables that could help estimate policy-relevant data in the sector. Providing definitions for the terms used could have been useful. For example, a more useful definition of access might include describing a demand for a particular transport service or the household or individual costs of coping with unreliable services. Collecting data on precise and defined measures could have been linked to generate comparable and accurate data.
SAMPLING AND DATA COLLECTION

The selection of respondents in the surveys ranged from representative survey households samples to randomly selected users selected in targeted study areas. The specific characteristics for each survey, which are summarized in Table 1, show that all the surveys included samples of households selected from a city, specific urban, or village areas. These unique purpose samples were selected for all surveys to represent particular segments of the population of interest, gathering detailed data on specific topics but not from samples that can be considered to be nationally representative. The total number of households surveyed has tended to be small, ranging from 360 in the rural Yemen survey to 1,180 in the Bangladesh survey. This was in part due to budget and time constraints. Information about the sampling process and data collection were not recorded in the final reports and it is therefore difficult to assess how well these procedures worked in the fieldwork phases of the surveys. Likewise, there is no information provided on the selection of respondents within the household. For the surveys where individuals were selected at point of use, some information was provided as to how the selection process took place.

Questionnaires were purposely created for the surveys and varied greatly in focus of analysis, length and format. These included unique questions that each survey sought to cover and based on funding available and the amount and quality of data that the surveys were able to collect. As a result, the questionnaires varied in length, format and types of questions included. Several surveys were fairly narrow in scope with some questions that can seem biased and relied on data previously published in reports for which there was no information or reference provided. To varying degrees, all questionnaires included questions related to access to transport infrastructure and services; reasons for travel (journey length and purpose); travel patterns and mobility constraints.

The technical information provided in several country reports shows that a careful process was generally followed for designing and testing the questionnaires. Questionnaires for the country studies tended to be field tested. In Afghanistan and Morocco, it was reported that questionnaires were modified following field testing to reflect the local specificities and issues. The majority of the questionnaires were pre-coded. This can significantly minimize potential interviewer and data entry errors and reduce the time that a respondent may be spending being interviewed.

Only for the country surveys of the MENA region were the questionnaires replicated and adapted to meet local context differences in terms of cultural and political challenges between countries. The questionnaires aimed to ascertain the degree to which transportation systems were responsive to women’s needs and thereby facilitated or discouraged women’s economic activities, both in relation to securing business needs (moving products around, and so on) and in having access to resources and knowledge (using transportation to purchase products necessary for productive use such as fertilizer and equipment, access support services and networks, gain knowledge for production, and so on). The cost of transport for people and goods and the quality of transport services (frequency, appropriateness of times) was also considered.
## Table 1: Characteristics of Transport and Gender Studies

<table>
<thead>
<tr>
<th>Study country</th>
<th>Sample size</th>
<th>Questionnaire &amp; methodology</th>
<th>Focus group &amp; transport logs</th>
<th>Location of data collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Urban) Yemen</td>
<td>540 (180 men; 360 women)</td>
<td>Over 50 questions in structured and pre-coded questions that also included open-ended responses</td>
<td>2 focus groups for men and 2 for women in each selected area; transport log covering 4 days of activities (time; fare [cost]; duration of each trip, and whether public transport is used)</td>
<td>225 interviews at the interviewees work or study place (university, vocational training center, community college, factory, office, health care center, etc.) and at least 315 interviews done in interviewees' houses.</td>
</tr>
<tr>
<td>(Rural) Yemen</td>
<td>360 (60 from each village and 180 from each governorate; half of them were men).</td>
<td>Over 80 questions in structured and pre-coded questionnaires that included open-ended responses. Two different questionnaires were developed: one for men; one for women.</td>
<td>The sample is composed of 50% males and 50% females from different age groups, education levels, social background and occupation. 2 focus groups for men and 2 focus groups for women were held in each village to collect qualitative data.</td>
<td>Qualitative data was collected through 60 interviews in three different villages, based on formal questionnaires.</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>1180 hh (511 men; 669 women)</td>
<td>Over 70 questions in semi-structured questionnaire.</td>
<td>8 interviews and five focused group discussions (FGD) of gender-aware persons; 9 interviews and 1 FGD of transport-aware persons</td>
<td>Mirpur corridor along 6 areas (New Market; Kalabagan bus stand; Asad Gate; Shyamoli; Technical and Gabtoli bus terminal).</td>
</tr>
<tr>
<td>India</td>
<td>1680 hh selected from 48 villages</td>
<td>Over 100 questions included in semi-structured and pre-coded questionnaire.</td>
<td>56 focus group discussions (46 with men and 50% females from different age groups, education levels, social background and occupation. 2 focus groups for men and 2 focus groups for women were held in each village to collect qualitative data.</td>
<td>665 hh living near State/National Highways and 1015 hh living away from State/National Highways</td>
</tr>
<tr>
<td>West Bank</td>
<td>385 women and men aged 16 years and above</td>
<td>Over 140 questions in structured and pre-coded questionnaire that included open-ended questions. A qualitative questionnaire with more than 10 questions was also developed.</td>
<td>9 focus group discussions were held in the 3 Governorates attended by 96 participants (females and males). 1 FGD was held with each of the following groups: men, drivers, and university students. In addition, 6 FDGs were held with women. Respondents were selected on the basis of certain political, economic and social characteristics. A weekly transportation log covers 2505 trips.</td>
<td>3 governorates were selected to be representative of geographic, social, economic, and political variation.</td>
</tr>
<tr>
<td>Morocco</td>
<td>822 interviews (598 female; 224 male)</td>
<td>Nearly 200 questions in structured and pre-coded questionnaire</td>
<td>Nearly 70 interviews with women respondents and 16 focus group discussions with transport providers and city officials. A transport log was also developed.</td>
<td>8 districts</td>
</tr>
<tr>
<td>Afghanistan</td>
<td>323 hh from 12 villages</td>
<td>Over 360 questions included in structured questionnaire organized in 14 modules</td>
<td>Data collected from 6 provinces including Herat, Kunduz, Saripul, Kapisa, Nangarhar and Daikundi selected based on population densities; regional representation; topography and economic activities.</td>
<td></td>
</tr>
</tbody>
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1 The 14 modules include hh composition; hh possessions; cash income sources; grinding grain; water collection; fuel collection; markets and commercial centers; health; travel to non-market and health centers; land; farm inputs; crop harvesting; crop marketing and products; farm system data.
FOCUS GROUPS
A number of country surveys included focus groups and key informant discussions covering a broad range of stakeholders including village or community associations; transport operators; women’s associations; relevant government agencies and representatives; local stakeholders. The studies in MENA included focus group discussions with respondents, transport providers and city officials despite logistical difficulties experienced, including the short time span available to undertake the studies.

Focus groups provided valuable qualitative information and in some cases complemented surveys with data gaps or lack of data disaggregation. However, the research methodology and participation criteria of some focus group discussions could have been better targeted.

MAIN FINDINGS
The country survey data show that results from the GAP country surveys are consistent with results from other key studies and the literature on this topic for developing countries, in particular in relation to the type of transport mode chosen (walking and public transport are modes of transport more typically used by women while private motorized transport is more often used by men) and the time that women spend on average in transportation. Women are affected by problems related to project implementation that can impact both pedestrian infrastructure and any resettlement more significantly than men. Cultural and social factors that can constraint women’s mobility patterns are very strong factors affecting mobility but it appears that some of the mobility patterns (movement in groups for example) and the use of cultural-appropriate responses could help bring some changes.

Gender differences exist in the way transportation is used and accessed, with women more likely to walk and use public transportation (Figures 1-4). The combination of social constraints and low economic resources result in a low female access to private and intermediary means of transport. Thus, women rely mainly on walking and public transport to get from one point to another. Also, women reported needing transportation at different times than men’s, resulting in their having to arrange their schedule to access public transportation when these are available: early in the morning or at noon time (World Bank 2010b).

Transport costs are a constraint factor for women’s mobility and transport use. In particular, the proximity of transportation to the house and time spent in transportation also have an impact on women’s decision to travel and has an impact on their social and economic empowerment. A common factor that was reported as hindering the use of public transportation by women is the fact that transport costs are higher for them because they need special seating conditions or they have to travel with a male family member.

Cultural and social factors very strongly influence women’s mobility and use of transport. Social norms and security constraints can result in low female access and use of private and intermediary means of transportation. Women’s mobility, particularly in rural areas, is severely circumscribed by cultural and religious norms.

Likewise, personal security issues pose significant constraints on women’s mobility and use of transport. Women do not wait for
the most adequate public transport means: they would rather take the one that comes first, because they might be verbally or physically harassed while waiting in the streets. When public transportation has a random schedule, women would rather not use it, thereby giving up on work or involvement in productive activities. Street lighting protects women from aggressions or thefts. When it is unavailable, women feel unsafe walking the slightest distance.

**Figure 1: Percentage of males and females who use transportation to go to a market**

![Figure 1](image1)

* public transportation only

**Figure 2: Percentage of males and females who use transportation to go to work**

![Figure 2](image2)

* public transportation only

**Figure 3: Percentage of males and females who use transportation to attend social activities**

![Figure 3](image3)

* public transportation only

**Figure 4: Percentage of males and females who use transportation to go to health clinics or hospitals**

![Figure 4](image4)

* public transportation only

**Challenges and lessons learned**

A number of lessons on the survey process and on some of the findings themselves can be drawn in order to improve and replicate the methodologies in other country contexts. The review of the country surveys shows that simple survey methods, including focus groups discussions, can be designed and adapted to meet local and context specific needs and in the process successfully collect data to help design sector interventions. Partnership and
dialogue among local and municipal authorities as well as with transport authorities and residents’ associations or groups are also critical to successfully carry out data collection.

Several surveys went beyond simply collecting gender data in relation to transportation and collected data that can be useful in relation to other socio-economic aspects. Data included information on agricultural and other economic activities, employment, market access, community activities and use of infrastructure. However, this data and the results of their analysis would have to be carefully reviewed and evaluated to be useful for other sectors’ analysis and before any subsequent relevant policy could be recommended.

**Ensuring the adequacy and replicability of the survey methodologies.** The GAP gender transport surveys were innovative and designed specifically for application in the sector. The gender GAP transport surveys were not intended nor were the resources available to meet national efforts for understanding gender constraints and needs in transport. Yet, the fact that there are only a handful of national and local surveys available to contrast the adequacy and relevance of the methodology and results of the GAP transport surveys makes it difficult to evaluate the adequacy of the methodologies. In particular it is difficult to assess what elements should serve as benchmarks in terms of duration and time of the surveys, the costs, and the questionnaires required to undertake gender and transport surveys.

While each survey presents benefits and useful results at the country level, differences in methodologies, sample sizes and sampling focus make it difficult to adequately compare country data which varies greatly across studies. It would have been useful to get a set of variables or indicators that could have helped distinguish and contrast patterns across geographical areas and levels of development. In certain instances, there were questions that could have been avoided or were not necessary; similarities or differences between questions for rural and urban areas could have been easily anticipated.

**The quality of data collected rests on the design and use of the questionnaire and on the capacity for supervision.** The survey tools and methodology could be replicated in similar survey work through other transport project contexts in the region or other client countries. However, the survey questionnaires would need to be simplified, adapted or modified to a new country context before being replicable in other countries. In addition, carrying out field research is challenging and close supervision is recommended. The quality assurance aspects of the surveys were left to consultant hired to undertake the studies. This can ultimately hinder the quality of reporting as well as the extent to which survey questionnaires and findings may have been influenced by prior knowledge on possible gender and transport challenges.

**Gender data should include both male and female data.** A key issue for comparing gender transport aspects is the collection of both male and female data. In the case of the Haryana report in India, only women family members were selected as respondents for household interviews. The collection of data by women-only respondents led to a lack of data disaggregation by gender at both the individual and at the household level. As a result, except for providing a description of the gender distribution of the household members included in the survey, there was no data collected or reported across gender in the
Adapting to difficult country contexts. There were difficult political contexts and unfavorable conditions for field research in a few of the countries surveyed. In Afghanistan, a major challenge for adequately carrying out the survey was the difficult political situation. Security conditions made it very challenging to carry out field research and prevailing cultural/religious norms made the task even more difficult. In general, enumerators were unwilling to travel to rural areas, even when these areas were in the secure regions of the country. Due to the cultural context only female enumerators were allowed to interview women. There were also very few qualified female consultants available because of cultural/religious norms. As a result, the team struggled to identify qualified female enumerators who were willing to travel to rural Afghanistan. The difficult security situation also limited the survey work to provinces to which the enumerators could travel. Despite these obstacles the field research was successfully completed.

Developing capacity building and awareness-raising on gender. The surveys helped raise awareness on gender issues, the development and/or strengthening of gender mainstreaming issues within client institutions and in some instances led to the take-up of the gender mainstreaming agenda by local and national authorities. In Afghanistan, the survey work formed part of a larger approach to sensitize the implementing ministries of the National Rural Access Program to questions of gender, social outreach, and environmental safeguards. In particular, the Ministry of Rural Rehabilitation and Development took interest that led to the appointment of six regional social inclusion officers and a national officer who are now tasked to mainstream safeguards and gender dimension into project identification and implementation.
Usability of survey findings on gender issues in transportation. A key aspect to consider across surveys in order to assess the success of the research activities is the extent to which findings from the surveys were considered or incorporated in the design of follow-up transport operations/investments and how the lessons learned may shape the preparation and design of future projects. In fact, the main risk with undertaking new transport gender surveys is insufficient understanding and ownership of the recent findings and recommendations of the country surveys and little follow-up.

Recommendations

Encourage gender research that is specific to transportation. Gender mainstreaming is a cross-cutting theme in the World Bank's portfolio and a cross-cutting challenge. Transport might be a particularly difficult area to mainstream gender considerations which means that continued research and application of the findings will be necessary. In particular, there should be an emphasis on research related to the various gender factors that can improve the mobility and accessibility of users and other relevant aspects of their security and safety. Dedicated funding for gender research is invaluable but will not guarantee full mainstreaming unless there is a greater institutional push with associated resources and management support across institutions and operations. Teams should be encouraged to engage in research and pilots even when the expected outcomes are modest.

Expectations in terms of behavior change and policy reforms need to be aligned with country realities. It appears that some of the mobility patterns such as movement in groups for example and the use of cultural-appropriate responses could provide opportunities for change.

There are gender specific challenges in urban areas. Women’s mobility is very much dependent on their ability to walk, thereby limiting their access to smaller distances and access to economic and social opportunities. Enhancing urban streets through upgrading, rehabilitation and maintenance is an important step towards improving mobility for all and women in particular. Likewise, providing an adequate pedestrian infrastructure, including sidewalks and appropriate pedestrian crossings on highways would greatly enhance pedestrian safety. This would likely also benefit men who tend to be more affected by road accidents and injuries (although not discussed in any surveys) as well as women who walk for the majority of the time. It would also reduce women's isolation in the peripheral zone and provide better access to opportunities. Lighting streets, especially in urban and peri-urban and peripheral zones, would allow women to move securely for a longer part of the day which could allow them to take night-time work or education opportunities.

...as well as in rural areas... One issue that has reemerged in the context of the rural surveys is the question of whether we should focus on interventions that bring ‘the services to women’ rather than ‘women to the services.’ In Afghanistan, women rarely avail of government services which are located in the district or provincial capital and are always accompanied when they travel. As a result, more thought should be given to the location of government services (schools, clinics, and so on) and to ways of making them more accessible for women. Women are simply not permitted to travel other than under very
limited conditions imposed by male patriarchs—fathers, husbands, and other close male relatives.

Moreover, in certain instances, male mobility is not significantly higher when compared to that of women. The study in Afghanistan revealed that men’s regular mobility is restricted to within 90 minutes of travel time around their homestead. Rural infrastructure therefore should not be only about provision of roads but also other types of physical communications infrastructure. Given the unavailability or unreliability of motorized vehicular traffic in the rural areas, the efficiency of rural infrastructure is reduced. Particularly in areas where the mode of transport is predominantly animals, foot bridges would be more responsive to the needs of the people.

A key conclusion from the survey in Afghanistan is whether rural investments should be prioritized to connect women to health and/or education facilities. Priority could also be given to road investment that would only be considered as part of a specific package to improve health or education facilities in the geographical area concerned (World Bank 2010). Likewise, structures such as footbridges would be more suited to the walking needs of women.

It is important to sustain efforts in providing villages with roads and encourage the use of intermediary means of transport (IMTs). The report on Yemen concludes that IMTs such as donkeys, motorcycles and handcarts are useful in rural areas. Donkeys in particular are used, when available, by women to transport heavy household items such as water, gas cylinders, flour, and firewood. Not all households can afford to own donkeys though. In the village of Al-Hawta, smart small entrepreneurs propose donkeys for rent. It is in this village that donkeys are most used by women to carry heavy loads. It is recommended to encourage small entrepreneurs to propose donkeys or handcarts for rent in Yemeni villages. This could be achieved through the provision of micro-credits to help small entrepreneurs launch this activity.

**Gender-sensitive policies and investments for targeted action in transport are warranted.** A very good contextual solution proposed is the reliance on schools, media and mosques as vectors of change for influencing policy changes and cultural norms about women’s mobility and the positive impact of improving their mobility on the household. Likewise, the suggestion that women can move in groups offers them the opportunity to move securely without the presence of a male family member. Increasingly, in a number of developed economies (Japan, Mexico, Brazil) there are women-only transport services being developed to counter women’s difficulty in traveling alone. Although it is not a recommended long-term solution, it can also help bring gradual changes and act as a stepping stone for women to reach economic and empowerment opportunities.

**Gender sensitive interviewing and female focus group discussions should be encouraged.** Female focus discussion groups, or female key informants, should be used to enquire into the present barriers to the use of transport services provided by different types of vehicle, and cultural attitudes governing women’s use of services. Without this information it will be difficult to define practical countermeasures and policy.

It has been documented in other previous travel surveys that data may not be collected to report on women’s needs because they fail to reveal travel patterns from the previous day
or because women may not have travelled on day of interview because they have more irregular travel patterns. Also, the analysis should consider whether the duration or date of interview questions plays a role in collecting transport-gender disaggregated data and whether surveys document the reasons why women do not travel, not just why they would travel.

**Raise awareness on women’s transportation needs and constraints.** Country surveys have shown that women’s mobility is significantly constrained due to cultural and social norms. Interventions aimed at improving women’s mobility will need to circumvent policies that prevent women from moving beyond the limits of their villages. Awareness campaigns and capacity building activities aimed at raising awareness on women’s transportation’s needs and constraints could be a first step in influencing changes toward improvements in women’s mobility. In Yemen, for example, it was suggested that an awareness campaign could be channeled through the media, mosques, and boys’ and girls’ schools. Such a campaign could present smart ways for enhancing women mobility with respect to local culture, such as encouraging women with similar needs to move collectively, reducing the need for a muhram and thus lowering transport costs.

**Public participation that systematically includes women during project consultations and preparation should be sought.** The study in India reported that public participation in villages and in communities to mitigate losses from involuntary displacement should specifically encourage and invite women to share their views on the mitigation process. Likewise, discussions about the type of road construction; width of road to be constructed; types of vehicles to be allowed on the roads; frequency of such vehicles; setting up of wayside public amenities such as bus stops; public lavatories; and safety features such as footpaths; drains; construction of underpasses and crossovers could lead to having a significant proportion of women participation as these factors affect women more than men especially during and after road construction.

**Restoration of livelihood and income is equally important to women and men.** Evidence from India also confirmed that during construction works and post construction, apart from the safety features, women also suffer a disproportionate amount of economic losses, as quite often the male members of their family migrate to look for work beyond the project impact area. Such migration of male members often cause financial strain to the women and children of the family left behind and at times enhance the health vulnerability of women.

Women are largely engaged in the informal sector—gathering forest produce, working in the fields, or selling grass. Women’s economic activities are an important source of income for households. Loss of private or common property or loss of access to a common property will result in loss of livelihood, adding to women’s economic hardships. Therefore, it is important to enumerate women’s economic activities in the planning stage of a transport project that may lead to displacement or resettlement.

**Develop a transport data module with a gender focus.** A follow-up activity to the transport and gender surveys could be to create a standard or model survey module for transport based on adapted and/or standardized versions of typical transport/travel user surveys and/or national household travel surveys. Data could also be collected as
part of the multi-topic household surveys of the Living Standards Measurement Study (LSMS) type. Substantial background work for developing a transport module has already been carried out and could be expanded upon to include a focus on gender and transportation (Baker and Denning 2005; Frankenberg 2000). A remaining issue will also be to agree on a definition or common nomenclature for defining what constitutes transport accessibility and how related variables linked to investments or policies may influence transport outcomes across gender.

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