Knowledge on Gender Dimensions of Transportation in Portugal

By

Margarida Queirós & Nuno Marques da Costa

Abstract

Transport has been studied as gender neutral, as transportation services or infrastructures are considered to benefit all, men and women, evenly (Kunieda and Gauthier, 2007). However, surveys and statistical evidence reveals that the transport consumption between men and women is often gender blinded or gender biased. Until recently we knew little about gender differentiation in transport consumption in Portugal; as the EU gender policies develop, a deep effort is being made by Portuguese government to know more about gender mobility patterns.

This paper explores the statistical groundings on the transportation sector on gender inequalities in Portugal, and develops the discussion of the role that transport plays in the experience of men and women in daily mobility. It finally seeks to highlight possible gender transportation policy for future development. The overall research methodology was based on a review of the literature and in the analysis of national statistics on mobility concerning commuting displacement, separate by sex, by mode of transport and by travel time.

After a brief review on the issue context, we present the main achievements of the research on the gender dimensions of transport in Portugal and demonstrate that women: 1) tend to take shorter trips, use more the public transport system and a have an additional complex trip chain, and 2) tend to use less the private car than men in daily use, revealing a more fragile condition concerning accessibility and mobility, in an urban form more and more shaped by the use of the car.

The paper concludes that formal policy analysis in this domain should always be informed by gendered approaches as they demonstrate substantial differences among women and man’s patterns of mobility. Thus the effort to introduce the gender perspective into transport policy in Portugal is urgently required.

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1 A research on territory and daily mobility of men and women was conducted to inform National Commission for Gender Equality (CIG) for mainstreaming gender in transport policies and strategies (Gender, Territory and Environment). Some of the outputs of this research are used here. Centre for Geographical Studies of the University of Lisbon conducted the research (CEG/UL) - in which we fully collaborate.
Transport can make a big difference in increasing women’s productivity and promoting gender equality. In addition to its major contribution to economic growth, transport plays a crucial role in socially sustainable development by broadening access to health and education services, employment, improving the exchange of information, and promoting social cohesion. Yet, claims the World Bank, little attention appears to have been paid to women’s needs in transport development projects worldwide. (Information Paper 3.3 A Gender Perspective in the Transport Sector, WB)

Introduction

In recent years, major development institutions such as the World Bank, and some other international agencies, integrated gender concerns in transport analysis and developed guidance for the transport sector and, at the same time, encouraged its application in all the transport investments, which it supports. A growing number of academics over the last few years have addressed the relations of gender and transportation (Peters, 2001). In a first stage these studies were mainly conducted in developing countries. Later, gender approaches to transport analysis gained a special relevance in studies carried out in European Union countries and revealed a clear and persistent gender differentiation in travel patterns.

Because the statistics do not differentiate between men and women, it is hard to understand the differences in reasons for making trips, trip frequency, distances travelled, mobility-related problems in gaining access to health services, employment, and other related issues. The matter of taking account of gender in transport is, therefore, a fairly recent one (Duchène, 2011).

Today there are numerous studies that address the relationship between transport and social exclusion and there is now particular evidence on inequalities driven by gender\(^2\) patterns of mobility reflecting the different distribution of responsibilities among men and women (Polk, 2001; Kunieda and Gauthier, 2007). Women and men have substantially different patterns of demand for transport services. Women are more vulnerable users of transport; they frequently choose public transport and make several trips a day, often on foot. These specific features are both a challenge and an opportunity to bring transport operators in line with

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\(^2\) According to Duchène (2011) gender refers to the social construct that determines the social relations between men and women. Integrating gender consists in taking account of the determinants of masculinity and femininity, as well as gender-related obligations and needs; the concept of gender equality refers to the aim of reducing inequalities of access and opportunity between men and women.
the demand by women and position them in a context of reducing poverty and boosting economic activity (Gaspar, Queirós et al, 2009).

Determining factors that affect women in particular are walking to work and waiting for public transport (Riverson, Kunieda et al, 2005). Ignoring women in their various roles, especially in the domestic economy and social reproduction, or in formal economy, reduces the productivity of the entire economic system and impairs women’s access to public services, social and political participation and household efficiency (Peters, 1999). Significant gains in time and productivity can be achieved by applying strategies to adapt services (i.e., timetables and routes) to the needs of women, aided by the provision of other, less formal modes of transport if necessary. The reproductive responsibilities of women, such as caring for home and family, lead to different travel patterns and sometimes are a restriction to their full integration into the labor market.

Recent studies on developed economies have pointed to the integration of the gender perspective in transport, which necessarily takes critical aspects into consideration (Masika and Baden, 1997; Mashiri, Venter and Buiten, 2006); that is, public transport services should reflect women’s domestic responsibilities that result in different needs relating to journey times and destinations and ageing problems. Fewer women, particularly older women, drive their own cars, and are therefore more likely than men to rely on public transport. Women are more likely than men to be engaged in part-time employment, and this has implications with regard to transport needs and patterns (Economic Commission for Europe, 2009; EOC, 2007; Polk, 2001). This knowledge must contribute to the rethinking of mobility aiming to reflect women's lives and responsibilities.

Gender mobility indicators can be used to inform transport operators of the consequences and impacts of their decisions, and also to shape public policies to improve women access to public or private transport. Recently research into women’s travel patterns and needs has been undertaken, following in part from the identification and increased awareness of the divergent social and economic roles performed by men and women, and consequently the gendered nature of travel and mobility needs and constraints (Mashiri, Venter and Buiten, 2006). This research effort demonstrates that transport policy is becoming more responsive to the needs of women and requires developing a structured approach to address those needs, identifying instruments and analyzing their costs and benefits, and establishing an appropriate policy framework.

Framed by the policy goals defined in the 3rd National Plan for Gender Equality (III PNI), the Portuguese government recognition of the links between transport and gender issues established the necessity to promote a study to support the integration of gender aspects into public transport policy (i.e., to introduce a gender perspective into urban and land use planning and to improve the
accessibility, quality and adaptation of public transport to the needs of men and women, ensuring routes that facilitate the reconciliation of professional, personal and family life. Supported by the III PNI, a study was undertaken (from June 2008 to February 2009) named *Diagnosis Study and Creation of Gender Indicators in the thematic fields of Territory and Environment* (Report), followed by a *Guide to Gender Mainstreaming*. The methodological approach of the study was divided into three stages using both qualitative and quantitative approaches. These were: (i) theoretical literature from transport policy science, reports and studies of the processes of transport decision-making in the world and Portuguese context, (ii) interviews in urban and national transport authorities, and (iii) statistical data from official sources such as Statistics Portugal (INE).

**Gendering the Transportation Sector**

_**International Milestones**_

In the 1990s, it was recognized that women and men have substantially different patterns of demand for transport services and that interventions in the transport sector usually did not address to the needs of women (Riverson, Kunieda et al., 2006). In the mid-1990s some voices spoke up about inequalities of access and opportunities between men and women in the transportation sector (Table 1).

After examining the reasons for the failure of a number of development projects, the World Bank addressed the issue of gender in the late 1990s. It created a thematic group and published its gender strategy action plan in 2000. In order to improve its policy strategy in the transport sector, the Gender and Transport Thematic Group (GTTG) was set up and the Bank, in partnership with other sponsors, funded ten case studies of the integration of gender into transport projects. In 2004, the GTTG was terminated and integrated into the larger Transport and Social Responsibility Thematic Group (TSR). In the last decades, as the levels of mobility have increased substantially in all European countries, we can see scattered and timid initiatives; nevertheless gender has begun to feature as a recognized issue in transport policy and planning.

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3 Commissioned by the Portuguese Commission for Gender Equality (CIG) at the Centre for Geographical Studies of the University of Lisbon (CEG-UL/FLUL). For more information on the subject see: Gaspar, Queirós et al. 2009.
Table 1. Gender in Transport Policy Agenda: emerging women's issues in the use of transportation

<table>
<thead>
<tr>
<th>Year</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>1995</td>
<td>Human Development Report, UNDP (words of Mahbub ul Haq)</td>
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<tr>
<td></td>
<td>Gender equality is not a technocratic goal, it is a political process. It requires a new way of thinking, which refuses the stereotype man/woman, giving rise to new ways of thinking about all people, regardless of gender. What is needed is a strong political commitment...</td>
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<tr>
<td>1995</td>
<td>The Beijing Platform for Action</td>
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<td></td>
<td>Governments and other actors should promote an active and visible policy of mainstreaming a gender perspective into all policies and programs, before decisions are taken.</td>
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<td>1995</td>
<td>UNDP/Japan Women in Development Fund</td>
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<td></td>
<td>Joint follow-up initiative between the Government of Japan and UNDP. It supports national capacities in promoting gender equality and the empowerment of women through innovative projects that broaden and sustain women's opportunities.</td>
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<tr>
<td>1996</td>
<td>World Bank</td>
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<td></td>
<td>World Bank strategy, Sustainable Transport (its pillars are social, financial, economic, and environmental sustainability).</td>
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<tr>
<td>1998</td>
<td>Gender and Transport Thematic Group (GTTG), the World Bank entity for endorsing the integration of gender into transport policies and projects. GTTG was integrated into the larger Transport and Social Responsibility Thematic Group (TSR) by 2004.</td>
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<tr>
<td>2001</td>
<td>Transportation Program of the World Bank</td>
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<td></td>
<td>The Japanese Trust Fund financed a study to promote gender mainstreaming in Transportation Program of the World Bank. This study has reviewed the existing literature on &quot;gender and transport&quot; and identified examples of transport projects that took account of gender.</td>
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<tr>
<td>2003</td>
<td>European Commission</td>
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<td></td>
<td>Report: Europe at a Crossroads. The need for sustainable transport (the Commission is recognizing that mobility is gender specific and provision must be made accordingly).</td>
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<tr>
<td>2005</td>
<td>Gender and Transport Network</td>
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<td></td>
<td>The community GATNET (Gender and Transport Network, a network of Internet discussion housed in Dgroups) grew from a research program on gender mainstreaming of the World Bank. The discussions are exchanged experiences that are placed on the Internet.</td>
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<tr>
<td>2006</td>
<td>European Parliament</td>
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<td></td>
<td>Women and Transport Study: the first ever recognizing the issue of women and transport across the enlarged European Union showing that European transport policy still has deep and structural gender problems.</td>
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<tr>
<td>2006</td>
<td>International Transport Forum</td>
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<td></td>
<td>The International Transport Forum was created under a Declaration issued by the Council of Ministers of the ECMT (European Conference of Ministers of Transport).</td>
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<tr>
<td>2007</td>
<td>Seminar on Gender Equality and Scientific Excellence</td>
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<td></td>
<td>In the third Seminar on Gender Equality and Scientific Excellence in Brussels, it was concluded that women remain underrepresented in research areas of transport and the theme was to show the poorest in the adoption of gender mainstreaming.</td>
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Different mobility patterns

According to research done under the auspices of the World Bank and the United Nations, particularly in developing countries, the major differences in the basic mobility needs of women and men have their roots in the division of labor according to gender, within both family and community.

Until the 1950s women were limited to traditionally female occupations, whereas today they can be found in almost any job. This means that gender roles in society have dramatically changed from the times when men were the breadwinners and women quit their jobs as soon as becoming mothers - that is, if they worked away from home. Since that time women have seen some progress in the labor market, management ranks and pay equity. The overarching trend is toward more equal gender roles. Although there are significant variations and changes in the last decades of the 20th and first decade of 21st centuries in terms of women’s roles and household composition all over the world, women, in general, make shorter, more frequent trips dispersed throughout the day; they care for children as well as elderly relatives, and perform other reproductive and productive tasks (UNEP, 1999; Gaspar, Queirós et al, 2009). This means that major differences in the basic mobility needs of women and men are grounded in the gender-based division of labor within the family and community.

Even in Europe, where public transport is widespread, the systems rarely provide an adequate service to the everyday needs of women. Public transport is, in most cases, set up to meet the transportation needs of those who work outside the home in paid professions, usually men, who need transportation in concentrated and well-marked periods throughout the day. For example, a national survey conducted in Scotland in the early 2000s showed that women travel less frequently for work and more frequently for reasons associated with maternity care and visits to friends' homes. Women in Scotland traveled on average 6.4 miles (10.3 km) and the men, 8.3 miles (13.4 km). The study also stated that the women went out on foot, used the collective public transport, more often traveled by train, and traveled on shorter routes (Scottish Executive, 2005). A similar study in Ireland identified the income and family responsibilities and boundaries of women's transport choices. These in turn limited the entry of women into the labor market and limited women’s leisure activities and opportunities for education and training (EOC, 2007).

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4 In almost all societies men’s stereotypical role is that of the income-earning breadwinner while women, in contrast, usually perform triple roles as income earners, homemakers, and community-managers. As a rule, they take shorter, more frequent and more dispersed trips during the day. They frequently carry bulky shopping loads and are accompanied by children or elderly relatives, and usually do not get paid for these reproductive and community-related trips (UNEP, 1999).
Duchène (2011) notes significant differences between men and women with regard to the modes of transport that they use in all European countries. In Sweden, fewer women than men use a car, as men own 70% of cars on the road. In France, 60% of men living outside the Paris region only travel by car. French men only use public transport for 10% of their trips, while two-thirds of passengers on public transport networks are women. In Sweden, the same proportion of women uses public transport. Another study, conducted in Sweden from 1995 to 1997, had as its aim to characterize the differences between men and women in patterns, attitudes and travel times and the influence of transport systems in the conditions of mobility for men and women. The study showed that men made a greater number of trips per day, on longer routes, preferably using the car and spending a greater percentage of income on transportation (Polk, 2001).

The Netherlands Institute for Transport Policy Analysis reports a clear discrepancy in car ownership among men and women. Men are more likely to own a car than are women, and that is the case particularly for the group ages 50 and over; however, women are indeed quickly catching up to men in this phenomenon. In the late 1980s, Swedish men were three times more likely to own a car than were women, whereas, 20 years later, men are only one and a half times more likely to be car owners (Olde, Harms and Jorritsma, 2011).

Much transportation planning has been based on the assumption that the male journey to work during rush hour by car was the main category of journey. As an outcome, most public transport services are designed to serve the commuting male population rather than the movements of women in their dual roles as workers and mothers whose travel destinations require off-peak transport services (Gaspar, Queirós et al, 2009). Thus, gendered patterns of transport demand reveal the need to devise modes of transport, equipment and infrastructure support, calls, times and frequency of public transport services that respond to women’s as well as men’s needs.

Access to individual motorized transport is determined by the context not only economically but also culturally, resulting also in gender differences regarding the use of individual transport. Despite the negative consequences of automobile use, well documented and known, it remains a symbol of economic prosperity, at both the individual and the community level. The ownership and use of cars are associated with success, power and high social status (Polk, 2001).

Several studies of possession and use of the car revealed that it represents much more than a mode of transport; it is an object of desire and is associated with concepts like freedom, control and success. The car may be associated with the stereotypical image of women in relation to passive movement, which opposes the image of the active man, bold, powerful, fast and not limited (Polk, 2001). On
the other hand, transport is associated with this technology and masculine control, while women are more related to the passive condition of passengers than drivers.

Some interesting conclusions emerged from a large-scale survey amongst Oslo inhabitants about the cultural perceptions that men and women have of public and private modes of transport (Transgen, 2007). The study showed that men and women had different cultural values directed toward different types of transport. Women seemed to be more positive than men towards public transport and believed that public transport gave them access when and where they wanted to travel. In contrast, men saw the car as enabling freedom in time and space, and considered the car as a “masculine conquering project”; men’s work on and maintenance of the car can be seen as an important arena for their identities. In contrast, women saw the car in functional terms (Transgen, 2007).

The incorporation of gender equality in the transport sector approach is a very recent one in Portugal. Neither policy makers or regulators, such as transport operators themselves, have shown particular sensitivity to the integration of this issue in their practices. For operators, the principles of gender equality have been applied primarily at the level of ensuring equal opportunities in access to different functions within companies, thus following the general guidelines of labor law. In relation to customers, there has been a particular emphasis on gender by operators, defining these services and addressing the demands of women and men, in aggregate, unlike the efforts that have developed in relation to other groups of customers, for instance, those with reduced mobility. The analysis of gender in Portuguese transport system is constrained by limited information disaggregated by sex, both with regard to information provided by the National Statistical System, and in relation to information collected by different institutions and by the transport operators.

Although there are a few scientific papers on the subject in the 2000s (e.g., Beirão and Cabral, 2007), the first study to prepare an analysis of gender differences in transport was carried out in Portugal in 2009 by the Portuguese Commission for Citizenship and Gender Equality (CIG); the study published a report titled Gender, Territory and Environment. As mentioned above, various studies have shown the existence of international different standards mobility for men and women; in Portugal the available data analyzed in the referred report also revealed the existence of such differentiation. We will analyze this issue further ahead.

Figure 1 shows the major milestones of general public policies for gender equality in Portugal towards different analytical categories. It is from the mid-1990s and especially in the 2000s, when we note a sharp strengthening and multiplication of instruments necessary for construction of a national policy of equality and anti-discrimination in different analytical categories (gender, sexual orientation, immigrants and ethnic minorities, disability and age).
The national framework for gender equality and equal opportunities, combating discrimination and promoting inclusion, reveals clear and important priorities. However, the mainstreaming of the issues that the legal framework and national policy sought to anticipate or address, refers to a complex and confusing environment, placing the national challenge of a clearer and better integration of policies between sectorial administration entities and between these and other civil society institutions that operate in the discrimination categories (gender, sexual orientation, immigrants and ethnic minorities, disability and age) (Queirós, 2011). Also, in Portugal policies for infrastructure provision focused on technical requirements and goals have generally been dominated by a top-down planning approach. In addition, the incorporation of gender equality issues in the transport supply is absent in Portugal. The policy makers, the regulation entities and the transport operators do not seem to be particularly interested in this issue in practice. Generally, except for handicapped clients’ special needs, the transport operators define the services and the demand of women and men in an aggregate approach. This is a result of a lack of information desegregated by sex at the national level, by the national statistic system, or even by the operators who are not sensitive to different transportation needs of their clients, men or women.

In Portugal, gender equality issues in transport do not differ significantly from other European countries. The automobile accident rate associated with women is lower than that for men, although this is tending to equalize. At the same time, access to driving licenses has already reached a situation of parity, particularly among younger age groups (Gaspar, Queirós et al, 2009). As regards mobility patterns, Portuguese women travel shorter distances for work-related reasons than do men; they walk more, spend less time commuting and use public transport more often.

In more peripheral urban areas with lower transport supply away from the fast public lanes designed for commuting, women depend on a lower level public transport service for shopping and social activities. The daily household tasks

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demand multiple trips and multiple stops, which result in use of many transport services and additional costs of subsequent tickets. For the group of people who do not use private transport, the combination of multiple tasks and reduced public transport services consume much of their time, limiting the tasks that can be undertaken throughout the day (Marques da Costa, 2007).

Portuguese statistics on gendered patterns of transport indicate that modal splits are more diverse in urban spaces than in rural areas, urban travelers tend to use a variety of modes during one single trip and also vary greatly across geographical, social, cultural and economic levels, which allows for only cautious generalizations.

**Taking account gender in policy and transport planning**

According to Greed (2006), classical analysis assumes that the family behaves as a whole and therefore reflects the aggregate preferences of individuals. In this perspective there is a general lack of recognition of the need for a gender dimension in planning. Gender analysis challenges this perspective. Research and human experience show that women suffer disadvantage within towns that are developed by men, primarily for other men. For instance, Greed notes that in British towns planning traditionally puts great emphasis upon the importance of zoning, separating out workplaces and houses, often in the name of efficiency and public health. Many women would argue that this viewpoint makes the fundamental mistake of equating work with what is done outside the home and ignoring all the homemaking, childcare and other types of reproductive and productive work that occurs inside the home and within the local neighborhood (Greed, 2006).

In this sense, the introduction of gender equality should be part of a general reorientation of the transport planning process (both in urban and rural areas), introducing the differing needs in the analysis of mobility due to gender.

The construction of infrastructure and development of transport services have overall positive impacts on economic development; they can, however, lead to negative impacts and often do not meet the specific needs of service and safety of certain population groups, especially for marginalized ones such as the young and the elderly, but also women. Therefore, the design and planning of infrastructure and transport services will have to take into account the analysis of how women use their time on everyday tasks, since measures can be designed to contribute decisively to the reduction of time spent in travel, with individual gains and aggregates.

It is also important to understand how to develop patterns of travel and transport use, in rural as well as in urban areas. This will require an analysis of the internal dynamics of families to know the distribution of income in relation to the
control of means of travel. Particular attention should also be given to the impact of transport policies and programs in the daily lives of women (Gaspar, Queirós et al., 2009). In this respect, transport planning should focus on improved access, use of better-adapted buses, increased service or provision of services on low-use routes that may be used mostly by women. Such gender-sensitive planning could minimize some negative situations. Where women are highly dependent on public transport, studies in several countries show that the investment in the simplest forms of wheeled transport (e.g. cycling) may have a significant impact on time travel budget (World Bank, 1999).

The fact that there are significant gender differences in men’s and women’s mobility introduces significant challenges in the way public transport policies should be designed, implemented, monitored and evaluated. In this context, it is necessary to rethink transport policies at two distinct levels: transport policies that have benefits for gender equality, and interventions at the level of gender equality that have transport implications and benefits.

Despite the growing interest in the relationship between gender and transport, it must be acknowledged that professionals who plan transport networks still do not produce methodologies for incorporating gender analysis into the dynamics of transport planning and development. This may be a problem that derives essentially from professionals’ training and the lack of direct involvement of users in planning and development of transport networks and services.

According to Gaspar, Queirós et al. (2009) in the last decade, the issues that have been most studied relate to the following dimensions: 1) access to private motor transport; 2) mobility patterns associated with employment, family and social responsibilities; 3) infrastructure and road networks; 4) major constraints to mobility.

First, the number of women who own and drive a car or motorcycle is clearly less than the number of men, which translates into a need for greater use of public transport for women in a society where the individual transport has gained preponderance in daily travel. The fact that women are more dependent on public transportation to get around has implications for how the use of transport is thought by the authorities, in particular on setting transport units (buses and coaches), network design, information access, stops location, among others.

Second, men tend to use public transport for single purpose journeys (home–work–home) while women use public transport to carry out a variety of activities (multi-purpose journeys) beyond access to employment, such as travel related to children’s care (school, public park, health services), shopping, or visiting, among others. As a result of the division of family roles, women tend to work closer to the place of residence. This situation challenges the way connections and integration of public transport is perceived. In terms of employment, the transport
sector presents a breakdown in which men dominate, with women being under-represented in different activities such as driving, mechanics, maintenance and executive functions in transportation services.

Third, normally cost-benefit analysis of public transport in urban areas, includes, preferably, the change in travel time between place of residence and employment. That is, all other needs that are associated with the use of public transport (which in turn are associated with female population) are rarely considered. It is necessary for planners to take into account the facilities of concern to women (schools, day care centers, health centers, places of recreation and leisure, and child care) that are or will be located along routes between residences and employment sites. In most cases in cost-benefit analyses, women are less influential in the decision-making process.

Finally, in addition to the analysis of patterns and mobility needs of men and women, it is essential to study transport from the perspective of gender equality. Particular attention must be paid to the main constraints to mobility and the use of public transport, the safety, comfort, physical accessibility, routes and schedules, cost and availability of information on transport.

**The Portuguese Gendered Dimensions of Mobility**

*Destinations (travel purposes) and modes (means of travel used)*

Although there is no systematic collection of information concerning the mobility of the population in Portugal, the data used in the analysis of gender differences in relation to labor-study-home mobility is from the 2001 national census (tables 6.40 and 6.41). The information in the census of 2001 identifies the destination of travel due to work or study in three domains: movements whose objective lies 1) in the parish of residence, 2) in another parish in the county of residence, and 3) in a place outside the county of residence.

In Portugal, mobility patterns are closely linked to the definition of local labor markets. In regions where interaction is greater, men travel outside their municipality of residence more often than women. This is associated with the use of individual transport and the relative increase in travel times. However, in metropolitan areas the differences between men and women are fewer in terms of travels outside the municipality for reasons of employment or education. In these areas also, women use public transport more often. The biggest differences between men and women in the use of public transport can be seen in the NUTS.

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5 This differentiation is based on Portuguese administrative levels: *freguesia* (parish) and *concelho* (county); each county aggregates several parishes.

6 The Nomenclature of Territorial Units for Statistics (NUTS) is a geocode standard for referencing the administrative divisions.
regions of Greater Lisbon, Greater Oporto and the Setúbal Peninsula, with a percentage difference of 12.0%, 11.8% and 12.5%, respectively, in each of the NUTS regions that comprise the metropolitan areas of Lisbon and Oporto.

On the mainland, more than seven in ten of travels due to work or study have as destination the county of residence (74.0%), and four out of ten are performed in the parish of residence (41.9%). Although the average difference between men and women do not exceed 3%, women live closer to the workplace. For 43.4% of women, work or study place is located in the parish of residence and for 32.6% elsewhere in the county of residence, values that for men are 31.0% and 40.7%, 67.0%, respectively. The percentages of exits out of the county of residence represent about 24% for women and 28% for men (Figure 2).

Figure 2. Journey purpose: household-working place-school by sex (H=Male; M=Female; HM= central value) (Source: INE, RGP 2001; CEG 2009)

The major exits out of the county of residence for reasons of work or study occur in the Greater Lisbon, Porto and Setúbal Peninsula (metropolitan areas) and reveal the very structure of these territories. Exits out of the county of residence for males represent 35.3% and for females 30.9% in the metropolitan area of Porto; 41.3% and 39.9% in Greater Lisbon; and 43.7% and 39.9% on the Setubal Peninsula, revealing a more equal gender role behavior in the Lisbon Metropolitan Area than that found in the Porto Metropolitan Area.

of countries for statistical purposes. The standard was developed by the European Union and therefore only covers the EU Member States in detail. The divisions corresponding to NUTS necessarily do not correspond to administrative divisions within the country. NUTS comprises three levels and contributes to the delivery mechanism for the Structural Funds and Cohesion in the European Union. The three levels in Portugal are: NUTS I, corresponding to the country (mainland and islands); NUTS II, which fall into the five regions of the country (North, Centre, Lisbon, Alentejo, Algarve) and two autonomous regions of the Azores and Madeira; and the 28 NUTS III that correspond to groups or associations of municipalities/counties.
The differences between men and women are more pronounced with regard to the modes of transport used (Figure 3). The use of bus or other public transportation is a behavior associated with women, while car use and, although with much reduced values, motorbikes and bicycles, are associated with men. Thus more women than men are depending on public transport modes.

Figure 3. Transport mode for journey purpose: household-working place-school by sex (H=Male; M=Female; HM= central value)
(Source: INE, RGP 2001; CEG 2009)
With regard to private motorized transport in Portugal, private cars are not a negligible factor. On the mainland, 46.2% of total trips due to work or study are carried out using the car as mode of transport. For men, the car is the mode of transport for more than half of all journeys made (50.9%); for women this figure is much lower at 40.7%. These numbers emphatically confirm that women continue to literally “take the back seat” when it comes to car transport (Peters, 2001).

Public transport is used in a quarter of journeys made by women (25.3%), while for men the value does not exceed 17% (16.7%). The relative weight of trips made on foot is also quite significant, representing 29.1% to 21.4% for women and men.

Figure 4 represents the Gender Disparity Index\(^7\), according to the modes of travel. This index aims to summarize the differences in the behavior of men and women regarding the use of mode of transport when they travel to work or study. The value of the index expresses the average absolute differences between men and women in each mode. High values indicate the existence of major differences in the use of different modes of transport between men and women. These differences are an outcome of the different contexts in which territorial relations are developed, where the demographic structure, the rate of feminization of work, income, education levels, or provision of public transport, among other factors, contribute to explain the differences in mobility between sexes.

Figure 4 highlights the three areas where there are major disparities in regional standards with regard to the mode of transport. This is strongly related to the amplitude of travelling and the labor basin that are different from men and women. In northern Portugal, centered on the Oporto Metropolitan Area, the effects of “metropolization” show a greater range of travel between men and women, the latter being those that have shorter trips. In the southern coastal area, the effects of oil refineries in the industrial area of Sines, where most jobs are held by men, there is a gender difference in travel behavior. Along the border with Spain, in the NUTS Alto Alentejo, the gender difference manifests in more access to local employment for women and more access to employment outside county of residence to men.

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\(^7\) The inequality gender index was calculated according the following equation:

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IGI_{modal} = \frac{\sum_{i=1}^{n} (\text{percentage of women that travel by mode } i - \text{percentage of men that travel by mode } i)}{\text{number of modes}}
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Nevertheless, NUTS with a higher value of the inequality gender index related to modal choice are also those with a stronger differentiation on exits to outside the county of residence.

**Travel time**

Travel time plays a key role and is one determinant of transport mode decisions, though travel time importance is dependent on the type of journey: for journeys related to work and school activities time importance is much higher (Beirão and Cabral, 2007). Also, travel time is simultaneously considered an
advantage and disadvantage of buses and is an important reason for mode choice; the car is seen as a way to achieve flexibility and overcome the problems and constraints associated with public transport usage (Beirão and Cabral, 2007).

In mainland Portugal about half of all journeys between home and work or study do not exceed 15 minutes, and 53.5% of trips made by women and 50.5% of those incurred by men are shorter (Figure 5). In Figure 5, although the time is similar, the distances are different, due to the difference of the modes used, as previously mentioned. In the same timeframe men move farther, majority due to the use of private faster transport, while women move to shorter distances, as major users of public slower transport.

According to Tanner and Zahavi’s research in the 1960s and 1970s, later replicated by Schafer and Victor in 2000 (Marques da Costa, 2007) the average time that each individual uses for travel remains constant. Since the time frame throughout the day is rigid (travel times are relatively stable), the choice of different modes of transport allows greater range of movement or greater number of movements.

Figure 5. Travelling times: household-working place-school, by sex (H=Male; M=Female; HM= central value) (Source: INE, RGP 2001; CEG 2009)

In most of the NUTS III, most displacement is less than 16 minutes. Only the metropolitan areas of Lisbon and Oporto are observed travel times significantly higher. Less in Porto, where travel up to 30 minutes represents three quarters of total travel, a little more in the Lisbon Metropolitan Area, where travel over 30 minutes represents more than a third of travel, equally affecting men and
women. The biggest gender gap is recorded along the coast, NUTS III Tâmega and Pinhal Interior Sul, where the disparity in regard to location of employment is higher. The differences in exits out of the county between men and women are 8.6% along the coast, from 7.6% in Tâmega and 3.6% in the Pinhal Interior Sul, which, although it shows lower values than the first two, it shows a value above the average of the mainland Portugal (Figure 6).

Figure 6. Regional patterns of inequality gender index, according travel times, 2001
(Source: INE, RGP 2001)

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8 The Gender Disparity Index for travel time was calculated as for the modes, by replacing the modes for the class time spent on journeys undertaken by men and women.
To sum-up: the absence of gender as a measurable aspect of transport policy can be viewed as a deficit. This unintended gender bias in Portuguese transport policy, as in other countries of Europe, means that more women than men are facing transport problems in accessing a range of public services, in taking up job opportunities, and in engaging in the normal activities of citizens (European Parliament, 2006).

Concluding Remarks

Transport is a traditionally male-dominated sector, both from the employment point of view and for the values that are embedded (ECE, 2009). A recent report from the European Parliament (2006) referring to travel differences between women and men as European citizens and as users of the transport system stated:

The study of the data on gender differences in transport shows that “Normal” transport research and transport policies emerge to be androcentric. Men’s travel patterns are the ones which are represented in transport policy reports and decision making as “common” and seem to be its focus, in spite of significant gender differences, that are relevant to transport operations, management and decision making (European Parliament, 2006).

Although transport planning is considered to be “neutral”, this paper has highlighted differences between women and men and suggests that a gendered engineering approach to transport and infrastructure design is required. As Mashiri, Venter and Buiten (2006) suggest, infrastructure provision has until recently generally been dominated by a “top-down” planning approach, concentrating on technical requirements and goals, as it is implicitly regarded as “neutral” technological developments have, however, increasingly come into focus as technologically sound investments fail to achieve their intended goals.

Hamilton (2002) believes that there are significant differences between women’s transport demands and experiences, as opposed to those of men — differences in access to private transport, in patterns of commuting and employment, in child-care and eldercare responsibilities, in basic attitudes to private and public transport — to justify treating women separately.

Recognizing all this makes transport policy more responsive to the needs of women and requires developing structured approaches to understand their needs, identify instruments to address those needs, analyze the costs and benefits of those instruments, and establish an appropriate policy framework. It also requires that women are represented at each step of the planning and design process of transport investments.
Gender differences in time spent on travel and transport are visible from gender-disaggregated quantitative transport data: in Portugal, mobility patterns are closely linked to the definition of local labor markets and different social roles; in regions where interaction is greater, men travel outside their municipality of residence more often than women. This is associated with the use of individual transport and the relative increase in travel times.

There is now much greater awareness that women are more dependent on public transport than men. Women’s and men’s travel patterns vary greatly and different modes are used. As gender-disaggregated data on transportation becomes more available, evidence supporting general trends in gendered mobility patterns and needs is likely to be increasingly supplemented with regional differences. It is this awareness and careful documentation of regional peculiarities that is so essential for the development of local, gender-aware transport planning strategies. Also the particular balance among these will vary from country to country and area to area, and it is therefore essential for policy makers and transport operators to gather information locally in line with best gender balancing practice (Hamilton, 2002).

For mobility patterns, women travel smaller distances for reasons of employment than men, use more public transport and walk more, and spend less time to perform the movements. The mobility patterns shown by both men and women are closely associated with the definition of employment areas, verifying that in regions where the interaction is greater, men go out more often, out of the county of residence than women, associating it with the use of private transport and the relative increase in travel times. However, in metropolitan areas the differences between men and women are fewer in terms of travels to outside the municipality or residence, as expected in a metropolitan functional area. In the Greater Lisbon, Greater Oporto and Setubal Peninsula, women use public transportation more often. Observing these NUTS we can see the biggest differences between men and women regarding the use of public transport, 12.0%, 11.8% and 12.5% respectively.

Gender-sensitive transport strategies need to be developed and for a start, practical advances can be made by improving the quality of household and user surveys and by collecting all data in a sex-disaggregated manner. Meanwhile, these efforts should be complemented by comprehensive, regionally- and locally-targeted gender analyses and action plans for transportation.

According to ECE (2009) all transport system development must be informed by the lived experience of women; governments should integrate experts on gender-sensitive transport system planning and decision-making in their planning structures. Design of transport services and transport schedule must incorporate women’s special needs. As Peters (2001) suggests, several generic
interventions in the public transport sector, such as improved off-peak, non-commuter (decentralized) services, improved safety conditions in waiting areas, and more advance ticket sales, present themselves as obvious solutions for alleviating many problems of access and mobility for women. Many obstacles will require specifically targeted, local responses, however. Affordability remains a key issue. Policy-makers have a key role to play in the active mainstreaming of gender issues into all infrastructure sectors, with transport being one of the most important ones.

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References


