

1

Gender and Transport

INTRODUCTION

In this part of the toolkit, we take a closer look at how gender is relevant in the specific field of *Transport* in FP7.

A first section briefly points out the broad **relevance of gender within the field**. The toolkit continues with a more specific discussion of the topics which have been put forward by the European Commission in the field's work programme. This is followed by suggestions regarding gender-relevant issues which may be taken up by the research teams.

To illustrate how planned research in the field of *Transport* can be made gender-sensitive, **three real-life examples** of projects are included. Each case consists of a short text presenting the project and a discussion of the gender-relevant issues in relation to the planned work, both in terms of equal opportunities and in terms of the content of the work. These examples are based on project summaries as they can be found on the CORDIS FP7 website¹ and relate to different topics within the field's work programme.

Finally, a selection of **useful references** dealing with gender in the field of *Transport* is provided.



¹ http://cordis.europa.eu/fp7/projects_en.html

GENDER AND THE *TRANSPORT* RESEARCH FIELD

FP7 Transport objective

The central objective of transport research under FP7 is to develop safer, 'greener' and 'smarter' pan-European transport systems that will benefit all citizens, respect the environment, and increase the competitiveness of European industries in the global market.

How is gender relevant to this field?

Transport policies and provisions have a direct social impact in the sense that they touch on how different groups of citizens access particular and essential facilities and services such as employment, care, education, health and political processes.

Gender is highly relevant to the transport field: not only are there clear and persistent gender differences in the use of the transport system, but the transport sector is also an overwhelmingly male-dominated sector, characterised by masculine values and practices.²

Men consistently travel further than women and are more likely to travel by car. Women, on the other hand, make journeys disproportionately more frequently on foot, by bicycle and public transport,³ and more often combine different transport modes. Women's trips tend to be more local and often combine different destinations (e.g. home - childcare - work). This means that men and women make different uses of a shared system of transport.

These differences are rooted in a gendered system, which casts women and men in different positions on the labour market, in various roles within the family and the community, as well as in different spaces in urban structures.

Worldviews guiding perceptions of transport are also gendered. Research shows how both car travel and the ideas of freedom and movement associated with the car are persistently linked to masculine identity, and that in adverts, images, film and literature, men are disproportionately more represented as travellers.⁴

So far, despite significant gender differences, transport research and policies remain highly androcentric, focusing on men's travel patterns and interests.⁵

² Transgen Project Team (2007), *Gender Mainstreaming European Transport Research and Policies; Building the Knowledge Base and Mapping Good Practices*. Copenhagen

³ Genanet Fact Sheets No. 4: *Gender issues in mobility* (accessible from: http://www.genanet.de/fact_sheets.html?&L=1)

⁴ Transgen, *ibid.*

⁵ See the study realised for the European Parliament on "Women and Transport" by The University of East London (UK) and the Wuppertal Institute for Climate, Environment and Energy (DE).

Transport work programme

The activities envisaged to be addressed during the lifetime of FP7 will be:

Aeronautics and air transport

- the greening of air transport
- increasing time efficiency
- ensuring customer satisfaction and safety
- improving cost efficiency
- protection of aircraft and passengers
- pioneering the air transport of the future
- cross-cutting activities

Sustainable surface transport - rail, road and waterborne

- the greening of surface transport
- encouraging modal shift and decongesting transport corridors
- ensuring sustainable urban mobility
- improving safety and security
- strengthening competitiveness
- cross-cutting activities

Support to the European global satellite navigation system – Galileo and EGNOS (navigation and timing services, efficient use of satellite navigation)

How is gender relevant to these activities?

As the work programme for the transport field calls for activities to improve the safety of transport systems and vehicles, attention needs to be paid to real and perceived safety and security issues for women and men. These are linked to different ergonomic standards, mobility needs, user behaviours, etc. For example, women and children need grab bars at lower heights than men in public transport vehicles.

A high quality, sustainable transport system accessible to all can only be developed when all users' needs and expectations are taken into account equally. Consequently, the research should duly integrate a collection and analysis of this crucial information, using gender-sensitive methods. For example, the urban public transport systems designed to connect city centres with surrounding areas as efficiently as possible during peak hours ignore women's different transport needs (combining destinations, accompanying children to their leisure activities, more frequently undertaking journeys outside peak hours, etc.).

Mainstreaming gender equality into transport research implies considering how transportation affects women and men, taking into account accessibility and mobility. Thus, developing transport systems to meet present and future needs demands the integration of a gendered users' perspective while seeking to guarantee equal opportunities for women and men in the sector. A continuous awareness of creating and maintaining equal opportunities, and a working climate in which women feel welcome as professionals too, will result in more women in the sector, which in turn will promote women's values and experiences, ultimately leading to more socially sustainable transport systems.

3

Gender and Transport

THREE EXAMPLES

Case 1

Avionics for small aircraft

Project outline

This project will focus on developing a future avionics architecture for small aircraft, which will provide easy and safe control of the aircraft. The project aims to significantly reduce pilot workload and to increase safety during all phases of flight and ground operations, including take-off and landing.

In order to achieve this, the project will provide the aircraft with easy handling characteristics and flight envelope protection at all times. The pilot flies the aircraft mainly via a stick controller and throttle lever. Switching between flight control and flight guidance modes will be performed automatically by the system – transparently for the pilot.

Advanced ATC and even ATM will be supported by maximum on-board automation. In the long term, four-dimensional flight vectoring, as a result of the on-board ATM/FM, will be executed automatically. In the midterm, four-dimensional flight vectoring is expected to come from ATC via ADS-B. After being checked by the pilot via display, the project will provide the capability for automatic execution of the flight vectoring (flight trajectories) following engagement by the pilot.

The objective of the project is to keep the aircraft's handling characteristics as easy as possible under all modes of control, i.e. manual control, control via flight guidance and control via flight management, in combination with ATC or ATM. Additionally, growth potential for autonomous emergency flight procedures in cases of sudden pilot illness or incapacitation, or total loss of engine power, will be provided.

The base for the implementation of the concept's functions will be an advanced safety-critical, fault-tolerant fly-by-wire platform applicable to small aircraft. The platform will comprise computing resources, a human-machine interface, a mainly satellite-based fault-tolerant attitude/navigation system and a safety-critical electric power supply with all-electric actuators.



Identification of relevant gender issues

Equal opportunities for women and men in research

It is valuable to ensure an acceptable gender balance in the project team, both overall and within each partner organisation involved, for several reasons: it will reinforce women's participation in decision-making at all levels within the project, it might raise awareness within the organisations on how equal opportunities and fair working conditions and culture contribute to a satisfying work / private life balance, it will lead to the project proposal scoring higher on evaluation. Moreover, as women might be under-represented in the organisations involved in this project, this might be an opportunity to question and address the reasons and mechanisms underpinning this under-representation.

Gender in research content

It is not specified here if and how the involvement of potential users is foreseen at any stage of the project. Male and female pilots might have different needs in avionics architecture, and different perceptions or requirements in terms of user-friendliness of controls. Aviation is a vastly male-dominated sector: in 2005, 6% of licensed pilots in the UK were female, and only half of them were active professionally.⁶ These figures alone show that it is unlikely that any aviation design project invests much resources in investigating the potential contribution of female pilots. Still, this project would benefit from an approach that treats male and female pilots alike: this would guarantee that the project meets its objectives of improved safety and reduced workload for all pilots, be the pilot male or female. Moreover, an inclusive approach to all pilots' needs may hinder a further marginalisation of women in this profession.

⁶ BBC (2005), *Why are so few women taking to the skies?*, http://www.bbc.co.uk/radio4/womanshour/2005_35_mon_02.shtml (accessed on 02/04/2009).

Case 2

Transport research and tourism

Project outline

Tourism is a key driver of economic growth and employment and plays a significant role in achieving the Lisbon Strategy's objective of making the EU a more competitive and dynamic economy. The recent communication *A renewed European Union Tourism Policy: Towards a stronger partnership for European Tourism* introduces a strategy to be pursued in order to better exploit the growth and employment potential of the tourism sector in a sustainable way. It also indicates how stakeholders can be involved in EU activities.

This project will develop a horizontal activity (support action) aiming to create synergies between transport research and tourism services in Europe, in order to improve competitiveness, encourage co-modality and focus on the subject, regardless of which DG's programme is concerned. The overall objective is to propose new concepts guiding tourists through "all stages of their travel itinerary". In addition the project intends to support EU policies to improve tourism competitiveness by considering emerging needs and tourism demand through acting on the main aspects affecting the tourism market (e.g. intermodality, information, ticketing).

In this project the tourism market and transport supply are considered as an integrated environment. The project starts from the assumption that the local community is the key element to a successful tourism destination, as the people living in the community are guardians of the local resources and provide services for paying guests. The project will identify policy-driven solutions to remove barriers, creating the conditions for a value-added transport services provision (e.g. institutions/instruments facilitating co-ordination between governmental departments in the planning phase, tourism travel plans, pricing policies and technical standardisation).

The project focuses on transport as a lever/opportunity and not as barrier to sustainable development and competitiveness. It takes relevant key factors into consideration, such as: improvement of socio-economic benefits, site attractiveness, reduction of adverse environmental/social impacts and guaranteed fair/equal access to tourism for all.

Identification of relevant gender issues

Equal opportunities for women and men in research

All questions pertaining to equal opportunities are of course relevant here (gender balance, working conditions and culture, monitoring of gender equality) but given the strong need for a gender analysis in this project, the involvement of a researcher

with gender expertise would be highly beneficial in guaranteeing a sound research methodology, notably in trying to identify emerging needs, which might be different for male and female tourists.

Gender in research content

The project aims to improve European tourism competitiveness by offering an integrated transport supply, while better exploiting the potential for employment and sustainable growth in the tourism sector.

Tourism is a labour-intensive industry and is particularly important for women. Women make up almost half of the workforce in the tourism sector, a proportion which is higher than in the workforce in general, and they typically earn on average 80% of a male's wage. Another characteristic of the tourism industry that is commonly overlooked is its informal sector, which plays a considerable role in income generation for women.⁷

Despite being more represented than in other sectors, by and large, women face the same horizontal and vertical segregation as in the labour market in general: on the horizontal axis, women are found more in cleaning, waitressing and caring occupations, while vertically they are concentrated in the lower levels, with few career development opportunities, while key managerial positions are dominated by males. Moreover, as gender roles usually assign more family and community responsibilities to women, they are more likely to take up part-time positions in order to accommodate those various roles, thereby earning less and having less potential for advancement.

Since the project aims to create synergies between tourism services and transport research in order to improve competitiveness, it would greatly benefit from a gender analysis of the labour force and its socio-economic dimensions. Collecting sex-disaggregated data, looking into why these are not available when this is the case and investigating gender-related employment issues systematically will not only guarantee equal opportunities for female and male workers, it will also generate a higher impact for the project as it will address all workers in the sector.

The overall objective of the project is to propose new concepts guiding "tourists" through all the stages of their travel itinerary. Here again, the traditional division of labour that casts women in different roles from men, and a gendered social system that has been slow to address violence against women, are likely to determine different travelling habits and needs for female tourists. There is a direct impact on their access to various transport systems, as these have overwhelmingly been designed for male patterns of mobility. Since the project will be examining emerging needs involving stakeholders in the project, it should be careful to involve male and female tourists equally and to value their inputs equally. The same approach should also apply when the project looks at the response that the transport system can put forward: intermodality, ticketing and information responses are more likely to be successful in improving the sector's competitiveness if they attend to the needs of all users.

Organising an event or devoting part of an event to the gender aspect of this project, presenting all the data collected and its gender analysis, would greatly advance knowledge in the field of gender and tourism.

⁷ United Nations Environment and Development UK Committee (UNED-UK) (undated), *Gender & Tourism: Women's Employment and Participation in Tourism*, <http://www.earthsummit2002.org/toolkits/women/current/gendertourismrep.html#sum> (accessed on 02/04/2009).

Case 3

Indicators of transport accessibility

Project outline

FP7's Transport programme highlights the importance of developing pan-European transport systems for the benefit of all citizens, with reference to European transport policy. Despite the recent progress that has been made, many European citizens are still experiencing barriers and reduced accessibility to transport. The overall objective is to contribute to developing inclusive urban transport systems with better access for all citizens.

The project is a coordination and support action and the project objective is to establish a common European methodology for assessing, describing and measuring accessibility to transport. The project will assist public authorities and transport operators in achieving **equality of access** by identifying indicators for describing accessibility, providing a self-assessment methodology for measuring accessibility, making comparisons with good practice solutions, exchanging knowledge among stakeholders involved and disseminating results.

The project consists of eight partners and will actively involve a network of public transport operators and local authorities, an end user platform (including people with disabilities, older people, and people facing barriers to transport), industry, and experts in the field of accessibility, at each stage of the process. This will ensure that all stakeholders are involved in providing input and facilitating dissemination in a European context.

The project is expected to have an impact on developing more inclusive urban transport systems with better access for all, establishing common European standards, and European cooperation. A common European methodology for assessing, describing and measuring accessibility of transport is dependent on a European approach.



Identification of relevant gender issues

Equal opportunities for women and men in research

All equal opportunities aspects as mentioned in the checklist are relevant. The involvement of a researcher with gender expertise would be highly beneficial.

Gender in research content

Major differences in the mobility needs of men and women are grounded in the gender-based division of labour. In the UK, research has shown that men and women made roughly the same number of journeys per year, but if the indicator was distance travelled rather than trips, a very different picture emerges: over all ages and all modes, the average trip length was 7.4 miles for men and 5.3 miles for women, i.e. 40 per cent more for men (1995-1997 figures). As women tend to perform triple roles as income earners, home earners and community managers, they tend to take shorter, more dispersed and more frequent trips, carrying shopping loads and accompanying children or elderly relatives. Another noticeable gender difference is in the times when men and women travel: because women are far more likely to be part-time workers, they travel more often off-peak than men; while because of their fear of violence and aggression, women are far less willing than men to travel after dark.⁸

Since the project is concerned with equality of access, it will have to carefully design gender-sensitive indicators to correctly reflect the gender gaps present in public transport. Addressing women's vulnerability and their specific needs in each of the user groups (e.g. female disabled/elderly might have different requirements and face different obstacles from male disabled/elderly) in public transport should also be a key to the project's success if it wants to improve access for all. A gender audit of identified good practices should also be central to the selection process, for comparative purposes.

The gender balance within the project team should be looked into and monitored. The same applies to the end user platform, the representatives of the industry and the accessibility experts. As far as possible, all groups should be split evenly between men and women. Women are likely to be scarce among the transport industry representatives and accessibility experts, but striving for an acceptable gender balance will bring a further guarantee that women's voices as users are heard and valued. If despite all efforts, women remain under-represented in a group, this should be reported, and possibly explained: this will be the first step in addressing the issue of female under-representation.

⁸ University of East London (2002) *Women and Transport – The Research Report*, <http://www.uel.ac.uk/womenandtransport/gender.html> (accessed on 02/04/2009).

4

Gender and Transport

USEFUL READING

Bomar, M. (2004), *Technology as a Strategy for addressing Personal Security Concerns of Women on Public Transit*, Conference: Research on women's issues in Transport Chicago: Transportation Research Board of the National Academies.

Caprile, M. & al. (2008), *Monitoring progress towards gender equality in the Sixth Framework Programme: Synthesis Report for Aeronautics and Space - Nanotechnologies and nanosciences - Sustainable Energy Systems - Euratom - Sustainable Surface Transport*, European Commission, http://ec.europa.eu/research/science-society/document_library/pdf_06/synthesis-report-aeronautics-and-space-nanotech-and-nanoscience-sustainable-energy-transport-euratom_en.pdf (28.04.2009).

Clifton, K. and Dill, J. (2004), *Women's Travel Behavior and Land Use: Will New Styles of Neighborhoods Lead to More Women Walking?*, Conference: Research on Women's Issues in Transportation, Volume 2: Technical Papers Chicago Transportation Research Board of the National Academies, <http://onlinepubs.trb.org/onlinepubs/conf/CP35v2.pdf> (17.03.2009).

Clifton K. J., Burnier, C. and Kreamer, K. (2004), *Women's Involvement in Pedestrian-Vehicle Crashes: Influence of Personal and Environmental Factors*, Research on women's issues in Transport, Transportation Research Board of the National Academies, Chicago, <http://onlinepubs.trb.org/onlinepubs/conf/CP35v2.pdf> (17.03.2009).

Hamilton, K., Jenkins, L., Hodgson, F. and Turner, J. (2005), *Promoting gender equality in transport*, London Equal Opportunities Commission.

Hamilton, K., Turner, J. and Spitzner, M. (2006), *Women and Transport*, European Parliament, Brussels, <http://www.europarl.europa.eu/activities/committees/studies/download.do?language=en&file=17229> (17.03.2009).

Hamilton, K. and Jenkins, L. (2000), *A Gender Audit for Public Transport: A New Policy Tool in the Tackling of Social Exclusion*, Urban Studies 37 (10), pp 1793 - 1800.

Hjorthol, R. J. (2000), *Same city-different options - An analysis of the work trips of married couples in the metropolitan area of Oslo*, Journal of Transport Geography 8 (3), pp 213 - 220.

Jarvela, M. T. and Lyback, K. T. (2002), *Ecosocial City Transport: Perspectives of Sustainable Urban Mobility*, Conference: International Sociological Association, 15th World Congress of Sociology, International Sociological Association.

Matthies, E., Kuhn, S. and Klöckner, C. A. (2002), *Travel Mode Choice of Women: The Result of Limitation, Ecological Norm, or Weak Habit?*, Environment and Behaviour 34 (2), pp 163 - 177, <http://eab.sagepub.com/cgi/content/abstract/34/2/163> (17.03.2009).

Polk, M. (2005), *Women's and men's valuations of road system infrastructure in Sweden*, Göteborg Göteborgs University, http://www.vv.se/fud-resultat/Publikationer_000001_000100/Publikation_000010/FINAL%20QUEST%20to%20V.pdf (17.03.2009).

Priya Uteng T., Tim Cresswell (Edts) (2008), *Gendered Mobilities*, Ashgate Publishing Farnham, http://www.ashgate.com/pdf/SamplePages/Gendered_Mobilities_Ch1.pdf (16.03.2009).

Schmucki, B. (2002), *On the trams: women, men and urban public transport in Germany*, The Journal of Transport History 23 (1), pp 60 - 72, <http://journals.mup.man.ac.uk/cgi-bin/pdfdisp//MUPpdf/JTH/V2311/230060.pdf> (17.03.2009).

Siren, A. (2005), *Older women's mobility and transportation issues*, University of Helsinki, Helsinki <http://ethesis.helsinki.fi/julkaisut/kay/psyko/vk/siren/olderwom.pdf> (17.03.2009).

Transgen Project Team (2007), *Gender Mainstreaming European Transport Research and Policies; Building the Knowledge Base and Mapping Good Practices*, Copenhagen http://www.sociology.ku.dk/koordinationen/pdf_filer/transgen/EU-rapport-Transgen.pdf, (16.03.2009).

Viano, D. C. (2003), *Seat Influences on Female Neck Responses in Rear Crashes: A Reason Why Women Have Higher Whiplash Rates* Traffic Injury Prevention 4 (3), pp 228 -239.



For further information and useful links, please consult the Gender in Research Toolkit and Training website under www.yellowwindow.com/genderinresearch.