

Ensuring safe mobility in Stockholm, Sweden

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Stockholm is one of the most accessible cities in Europe. This Scandinavian capital received the 2013 Access City award for disabled-friendly cities, a third place after Berlin and Nantes, France. However, the goal of providing safe mobility for all remains a challenge. People with one or more disabilities report being victims of assault and robbery twice as often as the general population. They avoid going out after dark because they are afraid of being exposed to crime more often than the rest of the population. The elderly, women and the disabled are often pointed out as being more fearful than other groups of passengers. The aim of this paper is to report on the safety conditions for passengers who report themselves as having a disability using data from different sources. The study also illustrates a number of initiatives that are intended to provide safe mobility for all, both from the perspective of those who are responsible for the delivery of transportation services and from those who use the system. The paper finishes with a discussion of current challenges both in practice and research.

1. Introduction

Distance separates people's homes from the places where they work, shop, do business or interact socially. Mobility enables individuals to overcome distance and access spaces. The World Health Organization (WHO, 2002) defines mobility as moving by changing position or location or by transferring from one place to another. However, the ability of individuals to be mobile is a function of their own ability to move (e.g. physically, cognitively, economically) and society's capacity to provide conditions for all to be mobile, such as public transport infrastructure and services, roads, supply of buses, trains or stations adapted for individuals' needs. Individuals may face physical and/or cognitive constraints to move, particularly when using public transportation. The often-called mobility disability includes a wide range of impairments, from very serious diseases or damage to easy mobility conditions that varies over time (Hanson *et al.*, 2012). Real (or perceived) barriers of the transport system inhibit the accessibility of certain groups who may feel excluded from using the transport system (Church *et al.*, 2000) and have wide-ranging effects on older people, individuals with impaired physical mobility and those with learning difficulties. The public transportation system is an important pillar in society's provision of services for all. It is also recognised as being part of the solution towards achieving economic prosperity and liveable cities in the face of challenges such as climate change, congestion, as well as safety and security. However, ensuring the safety and security of all passengers is increasingly challenging and a challenge for sustainability. Individuals may face a number of constraints that impair their movement. Lack of safety is one

of them. Women, the elderly and people with disabilities are particularly vulnerable as victims of crime and often report feeling more fearful than the overall population. In the EU, people with disabilities are poorer than other citizens; fewer of them have jobs, and their opportunities to enjoy goods and services such as education, healthcare, transport and housing are restricted (EC, 2010).

The aim of this paper is to report on the safety conditions for passengers in Stockholm who report themselves as having a disability using data from different sources. The study also illustrates a number of initiatives that are intended to provide accessibility for all, and by adopting a whole-journey approach to safety, both from the perspective of those who are responsible for service delivery and from those who use the system. This means that passengers should feel safe while moving from door to door; for example, having routes suitable for wheelchairs, accessible platforms when waiting at transportation stops and having safe carriages along the trip. Although many changes of the physical environment have improved the mobility of these groups, a whole-journey approach is still conditional. Interactions between different organisations and governments are needed in order to set up policies in favour of specific groups of persons and their travel needs.

Stockholm has been chosen as a case study because the Swedish capital is one of the most accessible cities in Europe. This Scandinavian capital received the 2013 Access City award for disabled-friendly cities, a third place after Berlin and

Nantes, France. The European Commission's motivation for the prize reads

...chosen for its long-term, inclusive approach following Design for All. The *Vision Stockholm in 2030* aims to turn the city, where 30 percent of the central area consists of water, into a world-class city accessible to all. Good examples include accessible pedestrian crossings, public toilets and playgrounds to ensure that they are accessible to children and parents with disabilities. (EC, 2010)

The award is given to the city that has demonstrably improved accessibility in fundamental aspects of city living, such as the built environment and public spaces, transportation and related infrastructure, information and communication, including information and communication technologies (ICT), public facilities and services. Stockholm is not alone. The Swedish parliament has decided that until 2015 all municipalities have to have an action plan to prevent violence against older persons and disabled, and identify and support older people who are exposed to violence and other abuse. Moreover, the transport system design, performance and use will be adjusted to individuals' needs (Torstensson and Forslund, 2011). The paper also assesses how interventions aimed at safety consider the variety of passenger needs and resources. Although these suggestions are not the first in the literature, they are certainly new in terms of relying on the experiences from a Scandinavian study. The suggestions take into account the need for a whole-journey approach to safety (door-to-door), both from the perspective of those who are responsible for the supply side of service delivery and those who use the system.

2. Theory

Safety is the antithesis of being or feeling at risk or in fear. In this paper, poor safety is the recognition of a situation as possessing at least potential danger that involves exposure to the chance of injury or loss (Ferraro, 1995), such as the risk of being victimised by a crime or by an accident while in transit. The objective dimension of safety has to do with statistical risk, while the subjective dimension stems from a rational and/or irrational feeling that something wrong is going to happen, often leading to the feeling of fear. As Ferraro (1995) suggests, while risk entails a cognitive judgement, fear is far more emotive in character. Fear is an emotion, a feeling of alarm or dread caused by awareness or expectation of danger (Warr, 2000).

Individual factors play an important role in defining people's perceptions of risk and safety while on the move (Fyhri and Backer-Grøndahl, 2012). Overall, women and older people are often regarded as more fearful than men and younger people. According to Smith and Cornish (2006) women are more fearful of sexual crime and harassment on public transportation, whereas men tend to be more fearful of personal violence

committed by other groups of men. Gender differences in stated personal safety may be related to the fact that women and men are travelling in different ways. The truth is that women still have greater responsibility for childcare, care of the elderly and household chores – activities often limited to the private sphere or places close to home. When compared to men, women tend to take more, shorter and more varied trips at more varied times, but they tend to travel less during nighttime and avoid dark places. Research has also suggested that men travel long distances and use the car more frequently, while women travel shorter distances and use public transportation more often. However, new evidence questions this common assumption. Recent studies in Sweden show that gender differences in travel patterns are marginal for certain age groups, but that men still tend to travel by car more often than women (Trivector, 2010). Regardless of the choice of transportation mode and/or journey length, women are more likely to have multiple purposes and multiple destinations within one trip (Kunieda and Gauthier, 2007), which imposes specific needs for transportation and urban planning. Loukaitou-Sideris (2014) examined women's safety in transit environments through a comprehensive review of the literature and in-depth interviews with representatives of 16 national women's interest groups in the USA. The author found that women have distinct safety/security needs, are often fearful of certain transit types and frequently adjust their behaviour and travel patterns to avoid them.

Gender is, however, not the only factor that affects safety. There is also the fact that safety varies within groups; for instance, ethnic minorities tend to be more fearful than the native population (for a review, see Smith and Cornish, 2006). Sandercock (2005) argued that expressions of fear of crime are actually expressions of fear of difference (fear of others). In the UK ethnic minorities, those with disabilities and the elderly more often express concerns about their own safety (DfT, 2004). One factor that seems to be important for perceived safety is familiarity with the area and with the transportation mode (Detr, 1996). Previous studies indicate that elderly persons who live in violent and deteriorated urban environments are more likely to be isolated and fearful (particularly in the evening) compared with those living in better-off areas (e.g. Torstensson and Forslund, 2011).

The urban environment can also improve the odds for individuals to be mobile, which in turn impacts on their safety (for a review see Ceccato, 2012). Some minor details of the physical environment can make a big difference in freedom of movement and avoiding falls and other accidents (Buffel *et al.*, 2012; Yiannakoulias *et al.*, 2003). Loukaitou-Sideris (2014) suggests that design, policing, security technology and education/outreach strategies should be improved to make women riders feel safer in transit settings. In terms of design, about a quarter of pedestrian crossings have been rebuilt and improved

since the 1970s to make it easier for people with mobility or vision impairments to get about in Stockholm municipality (City of Stockholm, 2010).

Whether the risks of danger are real or not, the effect is the same. Individuals do not see public transportation as an alternative and, in extreme cases, become less mobile, which is evidence of functional fear (Gray *et al.*, 2011). In this case, constrained behaviour might be adopted; for example, by staying away from certain places in order to minimise exposure to potentially dangerous situations (Foster and Giles-Corti, 2008). This extreme type of fear that affects behaviour becomes a barrier to individuals' physical activity and good health (Miles and Panton, 2006), creates borders between groups and neighbourhoods (Landman, 2012) and in turn, isolation and more fear.

3. Stockholm: the case study

According to the Swedish Institute of Assistive Technology, there are 1.3 million people with some form of disability in Sweden, or about 19% of the population (2002–2004), which is slightly above both the European (13%) and global (16%) average prevalence rates (WHO, 2011).

The municipality of Stockholm has a population of 871 952 (2011), spread over 188 km², while the Stockholm metropolitan area is home to approximately 22% of Sweden's population. Stockholm is part of an archipelago; therefore, water occupies a large part of the urban landscape as the city is spread over a set of islands on the east coast of Sweden. The central parts of the city consist of 14 islands. A third of the city area is composed of waterways and another third is made up of parks and green spaces. The islands (and the county) are well connected by roads and an extensive and efficient public transportation system, comprising buses, trams, the Stockholm subway system, regional and suburban rail, and archipelago boats. The Stockholm Public Transport Company (SL) has a common ticket system for the entire county, which allows for easy transfers between different modes of transportation. The main public transportation junction is located in the central business district area, in the central area of the inner city. All subway lines pass through the central station (T-Centralen subway station, railway and bus platforms), which is the main railway station of the capital, making this area a place where many travellers and workers pass daily. According to Stockholm's Storstockholms Lokaltrafik (2007), on a normal weekday the flow of people travelling to and from the central station is around 215 000 people.

As a municipality, the City of Stockholm is subdivided into 14 district councils or boroughs, which have the responsibility for urban maintenance, primary schools, social care and support services for disabled persons and cultural services within their

respective areas. Stockholm also has 29 advisory councils that monitor issues from the perspective of persons with disabilities. These advisory councils participate in operational planning and monitor planned activities in cooperation with the disability ombudsman. The municipality's formal cooperation with disability organisations, which play a role in planning and monitoring, is conducted primarily by means of the municipal advisory councils responsible for issues involving barriers for persons with disability problems. Age structure as well as the population's socioeconomic conditions vary between the 14 districts, which affect both risk of crime and declared perceived safety levels.

3.1 Data and methods

The analysis of the perceived safety was based on answers from the 2008 and 2011 Stockholm Safety Survey, which was sent to a sample of households, and representative for each district (City of Stockholm, 2011). The empirical material with stakeholders was gathered by means of interviews conducted at the beginning of the research and at the end in 2012. Semistructured interviews were carried out with heads of safety and security departments at the main public transportation companies in Stockholm (SL and MTR (metro)), experts from the national board of transportation (Trafikverket), civil servants (safety experts and disability ombudsmen), urban planners and architects, to give a total of 12 individuals. Participants were identified through snowball sampling (Babbie, 2010) with key agents in each area who were interviewed and then they suggested other individuals in their respective area. These conversations mostly generated access to written material, presentations, reports, DVDs, photographs and maps. The template of the semistructured interview covered basic information about the person's role in the Stockholm transportation system in relation to safety, the budget directed towards safety and security issues, common problems (areas) identified by each participant, current solutions, characterisations of work done, current cooperation initiatives, perceived hindrances in the cooperation process (e.g. economic, technological, cultural), descriptions of safety-related work regarding the mobility of special groups (e.g. elderly and disabled), stakeholders' own perceptions of the challenges when working with safety using a whole-journey approach. The questions on the template were adapted to each participant and can be accessed on request.

4. Risk of crime and perceived safety: women, elderly and disabled

In Stockholm, as in Sweden as a whole, theft, vandalism and alcohol and drug offences are the most common types of crime. In 2010, 87 crimes per 1000 inhabitants were reported in the whole country, while Stockholm reported 142 crimes per 1000 inhabitants. Also in urban areas fear of crime is reported as being higher than in rural areas. Women report being more concerned than men, older people are more worried than

younger people, and individuals with worse economic conditions are more worried than people with good economic conditions (City of Stockholm, 2011) (Figure 1).

In Stockholm, although women are underrepresented as victims, more commonly women (17%) than men (12%) report being concerned about being a victim of crime. The National Victim Survey (2013) showed that in Sweden, one woman in four feels unsafe (Figure 1(a)), and one woman in ten feels so unsafe that she feels scared to go out alone when it is dark. Women more often than men are worried about their close friends/family being exposed to crime.

In 2011, as in 2008, worry about being a victim of crime has fallen in all age groups except among elderly men in whom the rate is unchanged. For Sweden as a whole, the elderly report feeling more fear than the rest of the population (Figure 1(b)). These figures are confirmed by other studies. Aromaa and Heiskanen (2008) indicated that elderly persons who live in violent and deteriorated urban environments are more likely to be fearful (particularly in the evening) compared with those living in better-off areas. It is often at home or in the nearby environment that the elderly are vulnerable to crime. They also suggest that the most common types of crime against the elderly in Sweden are residential burglary and robbery. These figures go hand in hand with statistics about accidents. In Sweden, although the elderly represent only 18% of the population, more than two-thirds of all fatal accidents occur in their age group; more than half of these accidents take place around their homes (Torstensson and Forslund, 2011).

Disability also affects safety. In Stockholm municipality, those who feel that they have one or more disabilities report being victims of assault and robbery twice as often as the general population (Figure 1(c)). They are also overrepresented in terms of exposure to domestic violence, threats and sexual harassment. Individuals with disabilities experience anxiety and fear of being victims of crime. Three times as many say they are worried or do not go out after dark where they live because they are afraid of being exposed to crime.

5. Actions

Stockholm municipality has actively strived to provide accessibility for all by implementing tangible changes in the urban environment and by introducing legislation to ensure accessible urban environments in all new constructions since the 1990s. The design principles have been compiled in a manual entitled *Handbook for the Design of an Accessible and Usable Environment* as well as in the report *Stockholm – a City for Everyone* (City of Stockholm, 2010). The manual is based on Swedish planning and building legislation and was prepared in cooperation with disability-related organisations. Since 1999, a number of changes that have improved people's

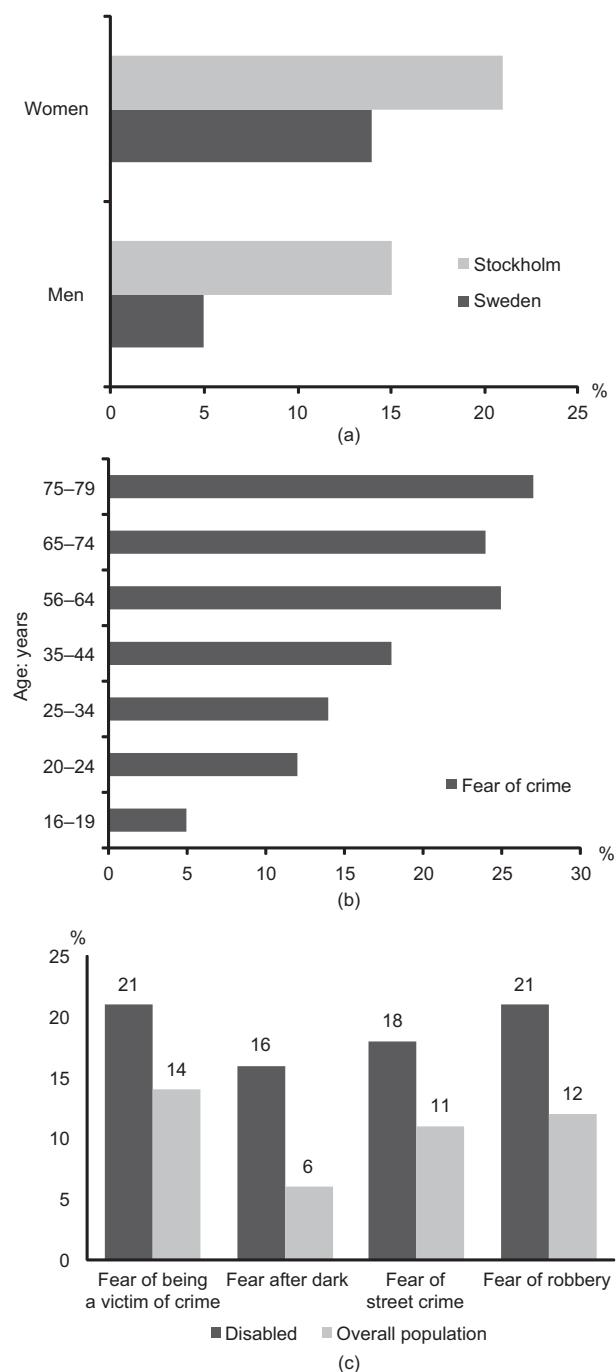


Figure 1. (a) Fear of crime by gender in Stockholm and Sweden; (b) fear of crime by age in Sweden; (c) fear of crime by disability in Stockholm: percentage of respondents. Source: 2011 Stockholm Safety Survey, 2012 and National Victim Survey, 2013

accessibility have been carried out, which came under the umbrella of the accessibility project. For example, 65% of the inner city's and 25% of the suburban areas' pedestrian

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crossings were rebuilt. The pedestrian crossings feature curb cut ramps for persons with disabilities and contrast markings for visually impaired persons. Deep, cross-pavement drainage channels across footpaths were replaced with new, shallow, rounded channels to facilitate wheelchair movement. The first and last steps of 1500 stairways were contrast-marked and new railings on stairways and along sloping footpaths were supplemented or constructed. Accessible public toilets were built in public areas. A large number of children's playgrounds were refurbished to ensure that they are accessible to children and parents with disabilities. Fundamentally, vertical height differences at entrance doors were improved in conjunction with the renovation of city squares and pavements. Lighting and benches along footpaths, pavements and in squares were also part of the programme (City Executive Office, 2011).

Another important initiative has been public campaigns to improve the quality of the journey for all. They may include posters in stations, subway cars and buses requesting passengers to engage actively in a more safe and pleasant trip (Figure 2). This example thanks passengers in advance for opening up space for embarking passengers or for making sure that disabled and elderly passengers have access to designated seats – a right that far too often is taken for granted.

As Waara (2001) suggests, information is a decisive factor in vulnerable users' decisions to travel, especially to unfamiliar destinations. With regard to public transportation infrastructure, about half of inner city bus stops and a quarter of suburban ones have been rebuilt in the last decade (bus stops have gained higher curbstones and contrast markings). All buses are equipped with internal communication systems and automated announcements of the next bus stop through both speech and text, as well as external communication of the bus

route as it pulls up to the bus stop. Tracks have been adjusted to minimise the vertical and horizontal gaps between the cars and platform. Manual ramps were installed on commuter trains to cover the gap between the car and platform; train attendants are responsible for extending the ramp. This service is offered to wheelchair-bound travellers both on a pre-ordered basis and spontaneously. A personal guidance service is offered to all passengers requiring extra assistance in orientating through the public transportation system.

Reference groups with functionally disabled representatives give input on the website's maintenance, design and additional launches of e-services. Representatives of disabled organisations have also been involved with the e-Adept and digital pedestrian network projects that have focused on developing pedestrian navigational aids for visually impaired and elderly persons (City Executive Office, 2011). ICT has the potential to alleviate mobility barriers by improving the flow of relevant information and increasing mobility. There are about 2000 digital signs with public transportation information in Stockholm county. The digital information is supplemented with audible information that is helpful for visually impaired travellers. The city's public documents are also accessible. The city's website can be listened to or downloaded as MP3 audio files, and some 33 videos are available in sign language about these accessibility projects.

6. Challenges in ensuring safe mobility

Much of the practical work done takes place under the municipality's district authorities (*Stadsdelnämnd*). Anything carried out at the district level is determined by local priorities, which means that the most problematic areas are not necessarily the ones receiving the most attention or resources, because transit environments are not a priority. Ensuring safety along the entire journey is not a task for a single stakeholder group. In the case of Stockholm, safety depends on the coordinated cooperation of transportation service providers, police, private companies, local crime prevention councils and non-governmental organisations, just to name a few. For example, the county council-owned SL is responsible for the county's public transportation network (more than buses and subway; also trams, boats and commuter rail). The operation and maintenance of the public transportation systems are delegated to several private contractors.

Current practice faces two important challenges: the problems with cooperation between operators and, despite major efforts in recent decades, the lack of focus on users' needs, particular differences influenced by gender, age and disability.

6.1 Cooperation between operators

It is often unclear who is in charge of the safety conditions along the trip. While operators' responsibilities for safety



Figure 2. Example of a campaign in Stockholm transportation system. '700-thousand thanks!' We want to thank you for moving further back in the bus. People can sit, making it easier to get off the bus, and that contributes to smoother transportation and a nicer trip. Source: <http://sl.se/>

conditions at a transportation node (e.g. the subway station) are clearly defined between private and public companies, the responsibility for safety conditions in the surrounding areas is not clear. First, because there is a range of operators who are supposed to share the responsibility (of promoting accessibility for all and dealing with safety problems) with the police, who are traditionally the major agent in public safety. This unclear assignment of tasks creates a grey zone in which only a few operators are willing to take charge of problems and/or share costs beyond their predefined roles. Some districts have succeeded better than others in establishing the cooperation needed to intervene. One important instrument for intervention has been the Stockholm Safety Survey, which has not only created a database of safety indicators for the different city districts, but has also established a dialogue between the city administration and the districts regarding safety issues. However, explanations for the districts' success are not always known because of a lack of assessment of their interventions, and, if assessments exist, they are fragmentary and patchy, as with other types of safety intervention initiatives.

According to an expert working at the municipality, one of the problems that hinders cooperation in the work done with safety is organisational: general goals are imposed on the district administrations. Although the administrative system is decentralised, activities follow central political goals, leaving little room for individual initiatives. There is always a risk that what is at the top of the political agenda today may not be tomorrow, and a successful safety project may cease to exist because of changes in political priorities. When a safety problem involves more than one administration (municipalities, companies, counties), networks are built to solve that particular problem. The expert believes that

the cooperation has to be driven by a specific issue... the attempts to solve the problem are what drive cooperative network... the network can't exist by itself.

One of the interviewees suggested that there are barriers to cooperation between public and private operators, and especially some resistance against private companies. What needs to be improved in terms of safety in public transportation from the suppliers' perspective is that the transportation system has to be adapted for the future needs of the Stockholm region.

Politicians need to take advantage of the existing resources in the best way possible; regardless of if they are public or private... Stockholm is growing every year by about 40,000 new residents. We need to provide the basic infrastructure and this can be done in cooperation with the private sector, suggests an expert at a private transportation company.

Most of the experts interviewed provided examples of their experience of cooperation between the police and the various local, regional and state operators (what works; what obstacles they are experiencing). The Swedish legislation has to be rethought to allow information-sharing among those working on intervention with youngsters at risk. Fewer barriers (particularly data secrecy) between local authorities would facilitate early intervention. One expert suggested that one of the challenges for cooperation between police and local operators will be the police reorganisation taking effect in 2015, when the police authority will become more centralised. According to him, this reorganisation will go in the opposite direction of local needs. He is concerned that

some of the more problematic areas create great demands on maintaining the local connections with police. Right now we are making an expansive effort to find sustainable interaction strategies with municipalities.

Another problem with the cooperation between local operators is that multiple reorganisations (within the municipality and other public authorities) make long-term cooperation difficult. Priorities may change based on the profiles of the organisations' leaders. Cooperation can also cease to exist because of these new set-ups (e.g. key public officials lose their authority and are replaced by others who may not know how to drive the issue further). A long-term strategy would be desirable (but is not always easy to achieve); one that takes the existent barriers for cooperation into account. At same time, achieving cooperation in itself should not be the main goal of getting together. Partnership should be a means to support different operators to solve safety problems at transportation nodes, not the end.

6.2 Focus on individuals' needs

Although the city recently won (together with two other European cities) a prize for good accessibility, challenges still remain. The Stockholm municipality now has two ombudsmen with complementary roles. The first is to look after the needs of disabled persons, focusing on living conditions and the conditions of participation. Ensuring safe mobility is an important dimension of this work. The other ombudsman's task is to improve the care of the elderly. In both cases, the task is to make sure that these groups can influence their care and how it will be established in practice, including their mobility using public transportation.

All experts interviewed in this study eagerly talk about safety for all, but most of them have difficulty in clearly defining what their organisations currently and specifically do to tackle the needs of special groups. Nearly all experts mention that they do not have a special programme to ensure safety for these specific groups. One of the reasons is that their organisational

philosophies are to provide good service to all, indiscriminately, and not only to special groups. One of the experts suggested

We do not have a program for passengers with special needs.

However, one can always ask for help at the station if one needs it... what is important is to provide general information... for the elderly we have provided extra information in housing for the elderly on how one uses the subway (expert, private company).

Some experts working in one of the transportation companies actually suggested that: '...there is a risk for stigmatization of certain groups when creating special needs programs'.

This exemplifies the fact that, far too often, little is said about the risk of exclusion of these same groups when services are offered by assuming that individuals have the same abilities to be mobile and/or feel safe in urban environments – which obviously does not fit the reality of certain groups. There are significant differences between women's transportation demands as opposed to men's that justify targeting women separately (Hamilton and Jenkins, 2000). Lack of knowledge about and systematic strategy for gender equality as well as lack of resources for implementation are often used as justifications for gender-neutral policies.

Other factors can be associated with the way gender equality policies are put into practice. At the national level, the Swedish National Board of Housing, Building, and Planning in collaboration with the counties have supported projects to strengthen urban safety from a gender perspective, such as 'safe and equal' (*tryggt och jämt*) (Boverket, 2010), but there is still a long way to go. One of the conclusions was that from the gender perspective, safety and equality have tended to be overlooked in municipal planning, and from the initiatives that were put into practice, there was little time for reflection (Boverket, 2010).

6.3 More than technological solutions

Intelligent transportation systems, the integration of ICT in transportation can be particularly effective to ensure safe mobility to disabled individuals as they allow, for instance, tracking and monitoring, which facilitate the collection of movement and activity data as well as the provision of personalised information. In Stockholm, Sochor (2012) shows that the use of a pedestrian navigation system for visually impaired users increased mobility and the ability to travel alone and to unfamiliar destinations, and supported the use of general public transportation instead of special transportation services. Users believed that the navigation system alone should not be the answer; their mobility should be ensured by other efforts that go beyond technological solutions. Support that involves more than technological solutions should be in

place to ensure a safe whole-journey approach to disabled individuals, such as those that involve changes in the physical environment (indoor and outdoor environments), 24-h information as well as supporting programmes towards housing and leisure activities.

7. Conclusion

Safety as an individual right has to be further investigated in the context of mobility. Therefore, a better understanding of safety and mobility for groups with special safety needs, such as women, the elderly and disabled individuals, is of particular importance for research and practice.

Regarding women's needs, evidence from the USA, the UK and Sweden has in this paper shown that gender-neutral policies have led to a significant mismatch between the safety needs of female travellers and interventions that have been put in place. Far too often it has been assumed that women and men have identical needs as consumers of public transportation. Future initiatives must go beyond this initial belief and make plans of action that strive for the safe mobility for all, keeping in mind that some actions might paradoxically be perceived by other groups as discriminatory (Dymen and Ceccato, 2012). There is a need to echo the words put forward by Loukaitou-Sideris (2014: p. 21)

... the "gender gap" in mobility should concern transit agencies and policy makers. For one, women's reluctance to walk, bike, or use public transit out of safety concerns counteracts many cities' promotion of greener travel modes. Second, an aging society means that many more elderly women than in previous generations would have to rely on public transportation after they become unable to drive. They need to feel comfortable that their transit trip will deliver them safely to their destination. Lastly, and importantly, planning and implementation of strategies seeking to close the gender gap in mobility would not only improve life for women but will also positively affect their families, and should not be narrowly classified as just a "woman's issue". A daughter, mother, or wife who feels comfortable in her travel around the city does not need to rely on a parent, spouse, or kid to transport her. Indeed, unimpeded mobility and accessibility to safe transportation are extremely important for both men and women.

Research in this area constitutes a united but multidisciplinary research field, which, in practice, has been developed by distinct types of professionals who do not always follow the same theoretical principles (e.g. criminologists, planners, gerontologists, transportation engineers, psychologists, etc.). This seems to be a natural development as some problems better fit certain types of professionals, but this also imposes a price in terms of advancement and acceptance of methods. The

future challenge is to deal with a reality that demands more integrated, holistic and cross-disciplinary theories, as well as methods that are capable of analysing an ever-increasing volume of data, especially with the use of ICT.

In practice, one way to capture different needs is, for instance, to use focus groups to stimulate the debate and help operators to identify the priorities and actions that should be taken. On the one hand, the discussion on the safety provided by public transport suppliers among specific groups of users would provide valuable information on the main problems that users come across. On the other hand, a discussion between decision-makers and other professionals would result in the identification of the specific tasks and responsibilities, and the design of measures.

In Scandinavian countries, dark winters with harsh temperatures and long periods of snow and ice impose special barriers to movement. It is relevant to investigate how the elderly and/or disabled perceive barriers and constraints to movement in space when using public transportation over the course of the year. Beyond technological solutions, future studies should investigate other alternatives for improving the mobility of the disabled and/or elderly both indoors and outdoors. Homes and the near environment should be assessed in terms of physical characteristics, design and planning (e.g. accessibility, illumination, entrances, door frames, stairs, floors, etc.). What is an ideal urban environment for the elderly and/or the disabled? As disability is a multifaceted phenomenon, the answer to this question can never be a simple one. These groups themselves are the best sources of information about their own fears, needs and mobility barriers.

A safe whole-journey approach requires an understanding of the barriers that lead to poor cooperation between operators within and across sectors and organisational scales. They demand more than quick-fix solutions. The quality of the coordination between operators would be worth investigating. Municipalities also influence the decision-making power of district groups, police, developers, businesses/companies and other agents in the political process. The role of municipalities is fundamental here because they are responsible for day-to-day spatial planning decisions ranging from designing a new residential area or subway station to placing and maintaining physical infrastructure – all of relevance for individuals' safety and mobility. A remaining question is how to prioritise this array of suggested initiatives? A possible way to go is to consider some of the ideas presented by those interviewed in this study as necessary first steps towards safe mobility as an individual right.

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