




How to Integrate Gender Equality in the Future of “Smart” Mobility: A Matter for a Changing Planning Practice

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Abstract. Sustainable transport is one of the key challenges of the UN and EU to ensure to meet society’s economic, social and environmental needs whilst minimising undesirable impacts. Sustainability planning may require changing the way we solve transportation problems. From the perspectives of the sustainability, we may assume that the emphasis should move in direction to changing the practice: but exactly what practice and who’s practices are to be changed? One way is to investigate gendered mobilities. The main differences in mobility patterns between women and men at a general level, are found in modal choice and travel distance. Women’s practices tend to be related to the most sustainable means of transport, while men’s practices are related to more unsustainable transport. Relying on studies on transport planning including focus groups, interviews and workshops in Sweden, this paper ties the concepts of gender equality, to contemporary planning and sustainable “smart” mobility, and investigates in what way knowledge about gender equality is elaborated in regional planning practice. It appeared from the interviews that both gender equality and diversity were perceived as difficult in regional transport planning and that more knowledge and experience were needed. It was pointed out that there existed some knowledge but that there were no structures for how it could be incorporated into the planning process. Noticeable are conflicting practices, while policy on gender equality are attached to the planning there are still beliefs that transport planning can be gender neutral and free from social impacts. The smart mobility approach promises improvements of mobility and access opportunities for all.

Keywords: Gender equality · Knowledge production · Practice · Mobility · Transport planning

1 Introduction

Sustainable transport is one of the key challenges of the UN Sustainable Development Goals (UN 2018) and EU Sustainable Development Strategy (EU 2018) with the intentions to ensure that the transport systems meet society’s economic, social and

environmental needs whilst minimising undesirable impacts. A narrow definition of sustainable transport tends to favour technological solutions, while a broader definition tends to favour more integrated solutions, including travel choices, economic motives, institutional reforms, land use changes as well as technological innovation and users' perspective. Following the broader definition, we assume that sustainability may require changing the way people think about and solve every day transportation problems. Mobility and everyday movement differ between different groups. Women's practices tend to be related to the most sustainable means of transport (walking, biking, public transport), while men's practices are related to more un-sustainable transport (private car). In this paper a practice lens offers an opportunity to identify and problematise prevailing knowledge about gendered transport and the strategies/routines constituted through the everyday practice of transport planning.

The aim is to explore what gender equality may mean in contemporary transport planning. The following questions are guiding the analysis: How do the planners perceive gender equality generally and in relation to the planning practice? In what way do practice elaborate knowledge about gender equality and how do gender equality connect to future transport solutions? The data consists of interviews, focus groups and workshops with transport planners in Sweden. We consider the practice as the dynamics of everyday activities, how activities are generated and how they operate within different contexts and over time (Feldman and Orlikowski 2011; Shove et al. 2012; Shove et al. 2015; Watson 2012).

2 Theoretical Framework

The theoretical framework of this paper is inspired of practice theory, and gendered transport planning/gendered politics. The concept of practice is central to the understanding of social life and everyday routines. The logic of practice is how it is produced, reinforced and changed by situated actions with intended or unintended consequences. The world is seen as brought into being through everyday activities. 'The social is a field of embodied, materially interwoven practices centrally organised around shared practical understandings' (Schatzki 2001: 3; cf. Garfinkel 1967). From a theoretical view: structures, institutions, routines, etcetera cannot be conceived without comprehending the role of agency in producing them, and similarly agency cannot be understood as an isolated human action but rather be understood as always already configured by structural conditions (Feldman and Orlikowski 2011). Social actions and interactions are forming mutual constitution of e.g. an organisation or a specific job setting. However, it is important to note that mutual constitution does necessarily not imply equal relations.

This paper takes up the idea that social practice is connected to infrastructure across space and time (Shove et al. 2015; Watson 2012) and that chains of activities, discourses and interactions are important for the understanding of a contemporary practice. In taking this approach, we work with the proposition that the forms of mobility in a society are dependent on citizens' everyday practices and on the structure of the cities, landscapes, etc. Automobility, for example, can be understood as the outcome of interconnected patterns of social practices, such as working, going to school, shopping,

and visiting friends and family. We also acknowledge that social practices are partly constituted by and embedded in material arrangements that cannot be completely controlled by individual transport users.

Litman and Burwell (2006) pointed out that conventional transport planning tends to assume that transport progress is linear, and that the progression consists of newer, faster modes displacing older, slower modes: e.g. walk → bicycle → bus → automobile → improved automobiles. At the same time, there is an emerging new sustainability paradigm that reflects a model which assumes that progress means that all modes, not just the newest, should be developed by improved conditions. Walk and bicycle are useful modes in urban city space while bus and train are useful modes in suburban and inter-city areas and improved automobiles are useful on certain distances in the city as well as rural areas. Improved transport does not necessary means faster travel or more mileage, but increased comfort, safety, cost savings and reduction of the total need for travel. ‘[I]n many cities, the most beneficial strategies may involve improving walking and cycling, more support for public transit, and restricting automobile travel in congested urban area’ (Litman and Burwell 2006: 335). Furthermore, research and sustainable planning reflect that impacts, and objectives often interact, and solutions must reflect integrated analysis (Papa and Lauwers 2015; Yamini 2017).

It has been shown in research and practice that women and men still have different roles and responsibilities and that these differences affect travel choice and opportunities (Greed 1994, 2008, 2019). Noticeably women are still responsible for childcare, shopping and household work. In the same time, most women work outside the home. This means that women’s journey-to-work looks more complex and multipurpose compared with the home-to-work and back again journey of the traditional (male) commuter (Greed 2008: 244). The main differences in mobility patterns between women and men at a general level, are found in modal choice and travel distance reported in travel surveys (cf. Law 1999; Levy 2013; Scheiner and Holz-Rau 2012) and obviously, women’s practices tend to be related to the most sustainable means of transport, e.g. walking, bicycling, and public transport; while men’s practices are related to more un-sustainable transport, e.g. longer journeys by private car.

Differences are in many cases related to driving licence and access to private cars (Blumenberg 2000; Rosenbloom 2006). General figures in transport planning do not often analyse gender differences, or various resources and cultures among citizens (cf. Greed 2008; Polk 2008). Levy (2013) means that while mainstreaming transport planning avoids recognising the social position of transport users, it is not ideologically neutral either. The notion of travel choice is central to the modelling process in transport planning. Levy grounds her critique on that transport policy and planning is predicated on several implicit assumptions. Such assumptions relate to gender relations and the structure of households, the division of labour in households, the control of resources and the power of decision-making – and these assumptions are basically informed by “western” and middle-class values. To these assumptions are added other transport-based biases – e.g. the focus on the journey to work and motorised transport, particularly on private cars which are unaffordable to most poor urban women and men. The affordability approach is still actual in the era of planning for automated private vehicles, regardless whether the automated system would be based on ownership or hired vehicles.

The genderless modelling is a problem but also the assumptions that women and men, boys and girls, can exercise individual choice. Levy points out that women tend to use cheaper modes of transport than men, particularly low-income women. Both poor women and men tend to walk more than the average of the population and especially poor women. Hanson (2010) and Sheller (2004, 2014) have emphasised the need for alternative to the ideas of genderless modelling of transport planning and a need for a more inclusive approach. Research have also argued for more explorative and interdisciplinary studies instead of the instrumental quantitative studies promoted by governments and transport authorities (Aldred et al. 2015; Angeles 2017; Law 1999). Global as well as national and regional challenges today make it impossible to ignore diversity and the inequalities that arise from not having a plan for gender equality and diversity mainstreaming. According to CIVITAS (2014) evolution of household and parental models, developments in the labour market and new technologies with the new forms of work, as well as women's increased labour market participation and population ageing; are likely to extend the variety of mobility patterns and necessitate appropriate transport policies. Especially a need for combining attention to sustainability with attention to gender and age-specific mobility needs. Research shows that multiple categorisations play a role in the conditions under which a person lives. Geographical location, city or rural, inner city or suburb, residential area, educational level, socioeconomic (class), employment, race, colour, belonging to national minority, political view and appearance are examples of categories (cf. Crenshaw 1991). Several of these categories are protected against discrimination by the Treaty of Lisbon and collated in the 2030 Agenda.

In this paper the concept of mobility refers to people's movements outdoors, in terms of transportation to access desired places, activities, services, and people (i.e., destination dependent) or simply to move around alone or together with other people (i.e., destination independent). Both perspectives (i.e., destination dependent and independent) can be important for a person's health and wellbeing and impose independence and self-fulfilment (Jones et al. 2013; Mollenkopf et al. 2004; cf. Levin 2019). The subjective meaning of getting out and about includes the psychological and social benefits of mobility as a personal resource and the ability to take part in society. Metz (2000) and Kaufmann et al. (2004) have also identified another dimension of mobility: the potential to travel, which is sometimes discussed in terms of motility. In this paper the concepts refer to a transport and infrastructure planning context. The concepts are tied to the practice of planning for future mobility, and in this sense, also the motility approach might be relevant for understanding of who are included and who get access to a smart mobility solution.

The concepts of smart city and smart mobilities have been launched, as a long-term vision of a better urban area, aiming at reducing its environmental footprint and at creating better quality of life for citizens. However, the concepts of smart cities and smart mobilities constitutes a complex vision and it is a difficult topic to grasp. It involves both environmental, social and economic aspects and it needs both high-ranking technologies and intellectual and just behaviours. Smart mobility is permeated by ICT, to reduce congestion and support the optimization of traffic fluxes but at the same time, it seems as the current storylines very much reinforce and reproduce the "system of automobility" (Freudental-Pedersen et al. 2019). It has been stated that

smart mobility is sometimes used as an “evocative slogan”, with its core in vehicle technology and ITS, in consumer centred demand for mobility and the solution in new techno-centric mobility services, which in many cases seems to lack fundamental connections with other central aspects of mobility planning and governance. Jeekel’s (2017) suggestion is to broaden the approach towards sustainable mobility and towards smart city and city as a place, ‘to become an active and comprehensive strategy helping to reach sustainable development’ (p. 4306). It is also about citizens’ opinions about liveable cities and quality of life, including e.g. accessible local public transport services (Benevolo et al. 2016). Bencardino and Greco (2014) interpret “smart cities” as “social cities” and asking for a system with new technologies that responds to a strategic project that start from the bottom, from the real needs of the citizens. The challenge is to urbanise technologies to make them useful to new urban needs. Talking about social cities instead of smart cities explores how media technologies can empower people to act and co-construct their mobility and the mobile environment in what may be called civic empowerment. Smart mobility is in the best case an approach that promises the improvement of mobility and opportunities for all.

3 Data and Methodology

This paper is about planning processes, focusing on how planning traditions, values and perceptions appear and may shape the future. The examples come from one region in the middle of Sweden with many industry-related transports where new service sectors have difficulty in claiming space in the transport system; and from one region in south-west of Sweden with both a heavy industry (e.g. cars, trucks) and growing information, service and tourism industries.

Data collections of four focus groups with 5–10 participants each, were carried out in 2014 (Thoresson and Levin 2014; cf. Levin and Faith-Ell 2014; Levin et al. 2016), document analysis and eight follow up interviews four years later (Levin 2019), and workshop data from an ongoing research project on social impact assessment connected to a new smart urban bus system (i.e. metrobus).

There are 21 geographical regions in Sweden, and they are responsible for producing regional plans (county plans) for the transport infrastructure sector twelve years ahead. These plans, which are updated every four years, form the basis for the national planning and economic allocation of resources in the transport area. This planning process was the back ground for a transdisciplinary research project during the years 2013–2015 focussing on how to integrate gender equality in regional transport planning. The focus group interviews were accomplished in the beginning of the project. They were moderated by a researcher, and another researcher took notes during the discussions. The sessions were recorded by a voice-recorder after the permission from the participants (cf. Codex 2019) and transcribed afterwards.

The two regions participating in the transdisciplinary research Region Dalarna (in the middle) and Västra Götaland (in the south west of Sweden) took part in a series of activities (e.g. focus groups, workshops, seminars). Before the recruitment of focus group participants, the researchers analysed planning documents from each region and noted topics relevant for the interview study. Questions were thematic and based on the topics from the document study, and participants were also invited to develop own questions and ideas during the focus group discussion. The issues that started the discussions were about how to consider gender equality and the fulfilment of the gender equality goals in the core of transport planning. The focus group discussions then centred on how they work today with gender equality and how they wanted to work with gender equality in the future.

A follow up study including eight telephone interviews were conducted during October 2018 with planners in Region Dalarna. Together with document analysis the interviews constituted an evaluation of the gender mainstreaming in the Region Dalarna four years after the transdisciplinary research. The work in Västra Götaland has developed in another direction and they are now participating in another project about developing tools and methods for social impact assessment in the planning of new smart mobility solutions in the city of Gothenburg (Levin and Gil Solá 2019).

In this paper we relate to the four focus group discussions (2014), follow up interviews together with document analysis (2018), and data from workshops and planning meetings in Gothenburg (2018–2019).

Analysis was based on the transcribed focus group talk and notes from interviews; and with qualitative discourse analysis approach. Here we use an active reading methodology. When we read a transcript, it is to find opinions and get an insight into various issues. An active reading means that we try to understand the content patterns, the ideational structure. What is it about and what perspectives does it bring about? (cf. Fairclough 1992). Especially interesting is the practice, i.e. the compilation of activities that the text/talk describes (Feldman and Orlikowski 2011; Shove et al. 2012). The excerpts presented here are translated from Swedish by the author.

4 The Nordic Context

The Nordic countries are usually at the top of the list in international comparisons on gender equality. Despite this top position we can (based on current research and the data analysis in our study) assume that Sweden struggles with operationalisation of the gender equality goals. Research show that in the both women and men are car drivers to a large extent, but men drive longer distances and women are more often travelling as passengers (Hjorthol 2000, 2001). The main differences occur in the older ages where fewer women than men have access to driving licence and private cars, but during the past few decades differences between older men and women have decreased (Hjorthol et al. 2010). Other analyses show that differences between men's and women's travel have remained constant over the past 20 years. Men spend more time in travel linked to business or education and less time in travel for household purchasing and service matters. Compared with women, men make approximately 20% fewer trips linked to unpaid domestic care and work. Men drive cars almost 80% farther than

women do, according to evaluation of the gender equality objective in Swedish transport policy (Trafikanalys 2017: 28–29)¹. In UK men are twice as likely as women to cycle to work and cycling tends to be dominated by younger adults. By contrast, in higher cycling countries and cities, gender differences are low, absent, or in the opposite direction. In some high-cycling countries, women tend to cycle more than men (Aldred et al. 2015).

Sweden’s long tradition of gender equality work has resulted in six national gender equality goals and a set of national gender equality goals in transport politics (Rönneblom 2011, 2017; Vagland 2004, 2006). The current national gender equality goals in transport politics was adopted in 2009 (Government Bill 2008/09:93) and have since then been evaluated in several studies (cf. Faith-Ell and Levin 2012, 2013; Levin and Faith-Ell 2011, 2014, 2019; Joelsson and Scholten 2019; Smidfelt Rosqvist and Wennberg 2012; Smidfelt Rosqvist 2019; Wittbom 2009, 2018). Evaluations have identified difficulties in implementing goals in practice. For example, significant gender pay gap, lack of women in top management positions in businesses, and sharing the unpaid work on caring for children and relatives which disfavour women’s life earnings from paid labour (Alnebratt and Rönneblom 2016; Göransson 2007). We believe that these inequalities are due to deep-rooted politics in all fields, political assemblies, and a need for more practice-oriented planning and governance.

The transport policy objectives in use today come from the Government bill 2008/09:93. In the bill, a functional goal regarding accessibility and a consideration goal regarding safety, environment and health were adopted. The functional goal also addresses gender equality. It is stated that the transport system should be equal, e.g. address the needs of men and women in an equal way, and that the work model, implementation and results of the transport politics should contribute to a gender equal society. The Governmental bill states that the strategy to reach gender equality should be gender mainstreaming, i.e. a strategy in which decisions in all political areas should have a gender perspective (EIGE 2012; EU: GAP and SDS; cf. Christensen et al. 2017).

5 Research Result

In this section we investigate the planning practice, from the perspective of the two regional planning contexts in Sweden: Region Dalarna och Västra Götaland. The region in the middle of Sweden (Dalarna) is characterised by industry-related transports from mining and forestry where new service sectors have difficulty in claiming space in the transport system; and the region in south-west of Sweden (Västra Götaland) is characterised by both a heavy industry (cars, trucks) and growing information, service and tourism industries.

¹ Transport Analysis is a government agency, providing decision-makers in the sphere of transport policy with evaluations and policy advice.

Based on previous research, we knew (when we started this project) that a basic and common understanding is needed when working with gender equality in planning contexts. The first step was to understand that gender equality has to do with their own activities. This was a reflexive phase. Thus, the research in the two regions started with an explorative focus group study considering gender equality as a concept and the participants' experience of the gender equality goals in the transport planning. The purpose of the focus groups was to investigate the current situation, and to give the research team insights of how the work has been conducted. The focus groups were also a stepstone to start the discussion and reflection within the organisation that aimed at more systematic work with the gender equality goals in regional transport planning. We introduced a transport related operationalisation of the national gender equality goals: for example, the notion of equal division of power and influence, which means that that women and men should have the opportunity to participate in transport planning and have the power on their own mobility; and the notion of economic equality i.e. that women and men must have the same opportunities and conditions as regards education and paid work which give economic independence throughout life. We suggested that the transport system should be seen as facilitating the achievement of gender objectives, then the design of the transport system is central to upholding various parts of daily life for women and men.

The participants in the focus groups were first invited to talk about their thoughts on gender equality in society as a whole, and then in connection with their own practice i.e. the regional transport and infrastructure planning with the perspective 10–12 years forward. In the conversation, several basic dimensions of gender equality were discussed as economic equality (income and labour market), unpaid home and care work, power and influence, and men's violence against women. The last theme was only indirectly touched by the participants addressing women's safety in connection with travel.

Several participants preferred to take the point of departure in the individual and referred to an idea that a central task for planning is to create the conditions for individual choice. Implicitly, gender equality is associated with equal opportunities to be able to make individual choices. However, the categories of woman and man are in these discourses often used without being problematised, for example by talks about the different needs, travel patterns, preferences or values of women and men as mirrored through individual travel patterns. It is about women travelling with public transport to a greater extent than men and performing travel patterns which are often linked to home and care work, while men travel longer distances and more by car; and also, that women value traffic safety higher than men do. There appeared elements of uncertainty about gender and travel patterns, especially about possible causes to the differences between women and men when it comes to everyday travel. Excerpt 1 (below) is centred on women concerning both journeys to work and journeys related to home and care work, and it raises the question to what extent the different travel patterns of women and men depend on individual choices, life situation, preferences and social structures. It is also an excerpt that highlights a department in relation to the issue of gender equality in the transport system that is representative of most of the focus group interviews and most of the participants.

Excerpt 1 (FG 4:13):

A: But is it not that women choose ... workplace closer to their home than men do to a greater extent, and then it becomes easier to choose another mode of transport [than the car], I think.

B: But it is also different depending on where you are in the life situation. It's ...

C: However, women do not travel as long as men do in any case and have shorter distances between housing and workplace.

Moderator: Yes, what is it then?

B: They don't think it's so fun to go that far, I don't know ...

C: On average, the women take more responsibility for the children. We talk about, with short trips, that you travel more in the chain [chain trip], maybe go and pick up the child on the way home and so.

There are participants who question the meaningfulness of the categories of women and men, in particular as significances for uniform groups. Several argue that the variations within the groups of women and men are so great that it is misleading to say anything about what women or men generally think or how they usually choose to travel. The categories represent an imaginary average, but it can also be a simplification if the variation is large. The participants who question gender as a category in this way refer to the importance of circumstances, the individual's life situation and that people are individuals more than the sex. But it is also appearing a tendency to gender blindness, as the users of transport systems are seen as genderless individuals.

A recurrent pattern in the focus group conversations was to relate gender equality to equity, usually in terms of “broadening the perspective” and thereby including gender equality as part of equality between all other groups, not just an issue about women and men. This means that women are treated as one of several marginalised groups in society and in a sense also equated with considerably smaller groups. The concept of equality refers to the equal value of all people, which in addition to gender actualises discrimination based on, for example, class, ethnicity, disability and age.

Excerpt 2 (FG 2:28):

A: I think as usual ... I always think it is difficult when the concepts sound almost identical, to keep apart. It would be better if it was black on one side and white on the other side, then it is easier to keep it apart, but yes ... But it is a wide concept I also know. And one would like to make the concept of gender equality in some sense of equality [for all] and think about ... It is not just this with women and men, but disabilities and ...

B: Children and the elderly ...

C: Children and the elderly, [people who have] difficulty with the language and so on. There is a lot to think about in the transport sector.

The conversations that sometimes relate to a broader equality concept give the impression of a desire not to overlook other discrimination and injustice, while at the same time risking reducing gender equality issues to a subcategory. Many times, the planners speak explicitly or implicitly about a transport system for all. One of them says:

Excerpt 3 (FG 4:12):

We do not speak so much perhaps [about] men and women, but to offer as many [people] as possible good travel options as possible. And it covers both sexes, it's not one or the other. It is to offer the residents and citizens sensible travel options. Then we cannot do that in all travel relationships, but that is another issue. And 'everyone' includes both children and the elderly and ... everyone, we do not work so much on men-women, in that way, but travellers and citizens, and this includes more.

That utterance was followed up by this utterance from another participant:

But it is ... I think an important issue when it comes to infrastructure, what you prioritize, it can be the geographical choice. Should one strengthen infrastructure near cities in rural areas, where do you place the money geographically? After all, it is a fairly big question I think among the politicians and the local government associations, to make the choices and the priorities. It is probably a much bigger issue than gender equality I believe.

Although this approach to gender equality recurs in the material, it is important to note that while some of the participants repeated this several times during a conversation not all participants expressed it actively. There are also participants who are openly critical of such an approach. Next citation expresses that women are not marginalised per se and argue for a more comprehensive approach.

Excerpt 4 (FG4: 19):

I do not really think about parallel gender equality with these groups [other discriminated groups] as... if you have the worse financial position or if you are a child [...] then to say that women are among them, it seems a little offhand to considering that, because it is half the population. [...] one cannot say that it is just about equality [among marginalised groups].

In three of four focus groups there were examples of how "specialists" characterise the conversation. It is particularly clear in one focus group, relatively prominent in two further and to a lesser extent in the fourth. These people are more familiar with gender issues, in many cases due to that they have worked with various forms of gender equality projects. They have the capacity to discuss gender equality in a different way than other participants, which in at least one case seems to characterize the conversation as a whole.

One participant expressed that gender equality can be regarded as a means of other goals in society, such as economic growth and citizens' independence. She also emphasized that gender equality should primarily be understood as a structural problem, not an individual. It's about economic equality; 'That public resources should be distributed equally to men and women'; and about 'creating structures that smooth out the distribution of unpaid home and care work'. She was one of the participants who

were particularly familiar with gender issues and in this focus group the issue of individual versus structure became central.

Even though most of the participants in the focus groups emphasized that gender equality is an important issue that should have an impression in the planning process, descriptions indicated that equality in practice has a weak position in relation to other goals such as economy and road construction. It appears to be something with symbolic value rather than a real integrated analysis of consequences that are important for the prioritisation of measures.

Excerpt 5 (FG 4: 38):

But there is no one who raises this issue of gender equality [as a real objective] ... any discussion about that issue at all. It is in some way that it is done afterwards, so you write down; yes, ‘this is good for gender equality’, or something like that.

Excerpt 6 (FG 3: 9):

... I think it is very good if someone could work out better tools. We [...] do such aggregate impact assessments now and then we do this goal analysis [e.g. goals on gender equality] and one should also give an interpretation if the measure favours women or men or both and then we have a standard formulation which one always inserts ‘when you build a new road it will probably benefit most men for they are driving cars but it is probably good for women if they go by bus’, so we do.

A part of the focus group interviews concerned questions about their own room for maneuver, i.e. what the planners themselves think they can do. The view of this seems to vary between different participants and be dependent on what support is available in the form of tools, knowledge and methods, but also resources in the form of time and money. It happened that the participants expressed that the room for maneuver is limited, for example by referring to political goals or directives and to other authorities, or to the issue so cross-sectoral that it limits the possibility of change. One participant expressed that sometimes it is unclear who should take responsibility in infrastructure planning. Another participant said, about work at weekends (e.g. caring professions, retail trade and tourism workers):

Excerpt 7 (FG3: 11):

We talked about this with weekend workers [...] who are usually women then and women-dominated professions. There I feel that what we in the transport policy, what we can do ... we can offer and facilitate for them, and not complicate [...] but then that is the other aspect; what comes to mind in the great gender equality perspective that you... maybe... just this with raising wages for example or take a holistic approach around... the women’s profession [...] it is as much as you can grasp here but i feel that we can do; we can facilitate their everyday lives.

This quotation relates to a couple of things mentioned above; partly the perceived conflict between satisfying unequal needs or contributing to a change in society, and partly that the concept of equality is perceived as so large and cross-sectoral that it becomes difficult to manage. Not least, it becomes difficult to translate into concrete implications for the planning of the transport system. In the last sentence, the participant

explicitly makes his view on the scope for action. Next two excerpts (8 and 9) pointing into the future. First about how to enlarge the region to increase the labour market for citizens and what this is about:

Excerpt 8 (FG 2):

A: I think about this regional enlargement, I think this is an interesting concept. So, the regional expansion itself is... is about changing travel patterns all the time, we want people to travel longer, and it should go faster. The whole goal itself is to change a travel pattern because we believe, believe and know, in any case according to research, that if we can move, and a larger as well as critical mass [of people] can retrieve new labour markets, then it goes better as well, in growth, we earn more money, wages increase. So really, one can say that the regional enlargement right now benefits men, because most men travel these long journeys today.

B: But then I think that regional enlargement can be achieved through digitalisation as well, not just through infrastructure. You can reach several parts of the region in a different way.

Speaker A probably mean that most men have already embraced regional enlargement and benefit from it since they already travel long journeys. The aim is to further increase the region for all citizens by more efficient and faster travel modes. Speaker B points out another possible solution with the digitalisation not relying on traditional transport infrastructure. New technologies may increase mobility options but does not have to increase commuter distance every day. Digitalisation, media technologies, and so on can empower people to act and co-construct their mobility and the mobile environment in other ways than before and increase civic empowerment. People may work on distance and like speaker B suggests 'reach several parts of the region in different ways'. Smart mobility is in the best case producing well-functioning networks and opportunities for all. Still, when gender equality is considered, the fact is that many women cannot choose the times they would like to travel or places to visit, since they often are expected to be in a certain place during a certain time of the day (e.g. hospitals, schools, preschools, home care services).

There was a quite low awareness of what resources should be needed from the travellers to use new regional enlarging transport supplies, e.g. affordability and other aspects on access to faster (automated) high speed transport modes (e.g. long distance commuter trains, cable ways and super buses). Next utterance link to a discussion on social impact assessment which was developing in Gothenburg at the time for the focus group study.

Excerpt 9 (FG 1):

So when it comes to the future, I think so to say that one ought to get into it more and more in the societal planning, thinking so [...] when a municipality plans and builds new housing, like in Gothenburg, you really do such social impact assessment about what does it mean to build residential areas here? what is accessibility? That already, in some way eliminates the problems [...] what you then desire and see are such measures that promote gender equality and integration.

In all focus groups, there was a generally idea that there is a lack of knowledge, tools and methods for integrating and working with gender issues in infrastructure planning. None of the participants said that the support was satisfactory, although the view of how big this problem was varied between participants. The planners asked for several types of support and improvements to develop work on gender issues. It can be summed up: concretisation, objective or impartial facts, more knowledge of those who plan and decide, e.g. through education, and developed methods for analysing consequences and finding solutions. The first theme, concretisation, revolves around understanding the concrete implications for the transport system and responds to the difficulty described above that the concept of equality was perceived as a large area difficult to grasp. It simply requires a kind of translation from the general to the specific, according to the focus groups.

Excerpt 10 (FG1: 37):

But (...) when you start working with gender equality in [relation to] new issues, you need this specific knowledge and how it is linked to the [specific] area. For when we... when we have worked with gender equality and growth, we experienced that all people working in our organisations’ target groups, yes, they have been on these gender equality courses, and talked about it at some general level. But then they go home and do not have an idea how they should connect this to their business. [...] So, this is... that you must be able to work in the area of gender equality in your area.

When we found this noticeably lack of knowledge and need for working methods, we decided to produce a simple handbook (Halling et al. 2016). However, despite this effort the discourse on need for knowledge, methods and tools continued in the follow-up study in Dalarna four years later. There were two planning documents which were evaluated from a gender impact assessment perspective. The document analysis showed that in the work with the regional system, data on the population have been integrated into themes such as road safety, education and work commuting, but the analysis of population data had weak contextual connection to gender equality and to diversity. In the documents, goal formulations were often repeated from national policy documents without having a regional disaggregation of data or their own analysis.

It appeared from the interviews that both gender equality and diversity were perceived as difficult in regional transport planning. It was pointed out that there existed some knowledge but that there were no structures for how it can be incorporated into the planning process. The biggest obstacle to further integrating these aspects was said to be that the planning does not really take the step of continuing to develop the methods and to improve the internal work after the research project was ended. Compared to other fields of work, the field of transport planning seems to lack skills:

Excerpts 11–13 (interviews):

We spend more time internally rather than external work. We must change our approach to internal work. (IP1K)

It’s just politically, there are other trends. Old structures, that there is no tradition. There is a certain path way. (IP3K)

Skills supply. When you work in the municipalities and have a dialogue with them, you can point to large areas where it is big difference between women and men, and have a creative discussion about why it looks like this and what can be done. I have not seen such contexts in the transport field. (IP2M)

Some statements indicated that pioneering work was going on. Gender equality and diversity were described by some interviewees as “new” elements in regional transport infrastructure planning, compared to issues such as accessibility, economic growth and the environment. There, was a lack of developed routines for integrating gender equality and diversity into the work processes. Primarily a clearer focus is required – to integrate, for example, gender-disaggregated statistics at regional level and analyses of the region linked to the target formulations at national level (transport policy and national gender equality goals). An example of a method could be gender impact assessment (GIA), but also a broader social impact assessment (SIA) where different groups can be included based on the objectives stated in the Discrimination Act. These analyses should be strategic and goal oriented (cf. Levin and Faith-Ell 2019).

What does it mean to plan for increased sustainability in relation to gender, public transport, more cycling, regional enlargement, travel faster with more technically developed faster modes of transport (smart mobility solutions)? This is the topic for the ongoing process in the other region we have investigated. Västra Götaland is in the beginning of planning for a new rapid bus system called metrobus. Citation from the responsible planning officer after a workshop in October 2018:

Excerpt 14 (conversation):

Lack of knowledge about the needs and conditions of different groups: We need to describe where it is relevant to acquire more knowledge and conduct dialogue (e.g. around station design) and how it should be done. Here we think that the time geography approach can give us more knowledge about different groups’ use of a place and how the metro bus system needs to be designed to contribute positively to the area from a social point of view. Who will benefit from the new metro bus system? New travel opportunities and thereby broadened work and study market for those who today lack realistic public transport connections and who cannot take the car. Important to think all day and the whole trip, (possibility of night workers to take the fast bus line, security at the stations when it is dark, etc.): Identify which are the target points for workplaces? GIS? How many people are affected? Everyone should feel welcome in the system.

A recurring paradox is experienced by planners between meeting “unequal travel needs” and changing the transport system. It is largely based on the existing process when one considers and discusses how gender equality can be considered in the planning. Sometimes when gender equality and diversity were described as “new” elements in regional transport infrastructure planning, at least compared to issues such as accessibility, economic growth and environment. It was obvious that deep-rooted planning traditions impinged on the development process and that a lack of skills in how to integrate gender in the planning practice may preclude data and complementary analysis that would help shape a future that is consistent with the sustainable development goals.

6 Discussion

The research cited here looked at the prospective regional planning for new transport and infrastructure in the perspective until 2035. The first planning processes followed were the regional plans for the period of 2014–2025; and then a follow up study about the planning for the period of 2018–2029 and the metrobus planning aiming for the year of 2035.

The examples were taken from transdisciplinary studies where researchers came into a regional transport planning and introduced an idea about more gender smart planning but were met with a planning tradition with difficulty in embracing a development process in how to integrate gender into the planning practice. This was still part of the problem reported in the follow up study on Region Dalarna.

Working systematically on gender mainstreaming in transport infrastructure entails implementing a gender perspective in all stages of decision making, planning, and execution (Christensen et al. 2017; Levin and Faith-Ell 2019; Woodward 2003). None of these regions had hitherto succeeded with such an effort. Many of the regions in Sweden have an aim to work with gender equality and to some extent also diversity mainstreaming in the transport and infrastructure plans for the upcoming twelve years. The regional plans will fit into the national transport and infrastructure plan driven with a new political paradigm, aiming at more sustainable “smart” mobilities. Nevertheless, the idea of the future is somewhat in line with what Freudental-Pedersen et al. (2019) call an “evocative slogan”. The core idea is in an expectation of consumers’ demand for high speed and to increase the travel distances i.e. a travel practice dominated by men. The idea of new techno-centric mobility ends up in faster mobility and the enlargement of the commuter space, which in many cases seems to lack connections with other central aspects of mobility planning and governance. There were a few utterances in the focus groups problematising the idea of increased mobility from the perspective of gender equality. The ideal traveller seems to be a person who can choose transport mode, and even has the opportunity to choose distance work and thus overcome geographical distance by media technology instead of using the transport infrastructure. This approach however is gender-blind. Hospitals, primary schools, day care centres, elderly care, as well as grocery stores and hotels; still need workforce that is in place, and the majority of this labour consists of women.

User friendly, connected technology e.g. automated vehicles, integrated information and mobility services, intended to improve the transport system is part of a political process. Large transport and infrastructure projects have hitherto often failed to approach diverse citizen needs because they have tried to solve problems from top down, when they also need to take account of power struggles and lack of power, and the need to increase peoples agency, whether concerning matters of employment, market production, or household reproduction (Mouffe 2005, 2013; Sharp et al. 2003: cf. Levin and Faith-Ell 2019.) Still the planning must be done by skilled personnel who are capable to include knowledge on people’s reality, i.e. in everyday life and everyday travel. Sweden is a leader when it comes to gender equality in many areas, but not in transport planning. Though there is a policy for gender mainstreaming, the planning shows shortcomings when it comes to implementing policy in practice. Both the national and regional transport

plans are weak when it comes to gender and diversity. From this point the research has displayed problems to change a traditional planning perspective into a new paradigm including gender and an intersectional perspective early in the planning process on both national and regional levels (Levin et al. 2016; Levin and Faith-Ell 2019; Smidfelt Rosqvist 2019; Smidfelt Rosqvist and Wennberg 2012). The understanding of gender equality in transport planning – based on planning routines are not institutionalised. Noticeable are conflicting practices, while new thoughts about social sustainability are increasingly attached to the planning there are still beliefs that transport planning can be gender neutral and free from social impacts. Following Papa and Lauwers' (2015) definition of conventional mobility planning it often focuses on the physical dimensions and on traffic (and in particular on the car) rather than on people: it is large in scale, rather than local, it is forecasting traffic and it is based on economic evaluation and may fail to adequately consider wider impacts (Jeekel 2017). We here recognised the discourse centred on the conventional approach (cf. Banister 2008). It was only in the metrobus project in Gothenburg that an obvious social impact approach was noticeable. The present study showed that regional transport planning is far from the interpretation of “smart mobilities” as a “social” system and a system with new technologies that responds to a project that start from the bottom, from the real needs of the citizens. The challenge is to urbanise technologies to make them useful, technologies can empower people to act and co-construct their mobility and the mobile environment in what may be called civic empowerment. Smart mobility is an approach that promises the improvement of mobility and access opportunities for all. However, the smart transport system does not get smart until it can be used by a wide range of users without too much effort and prior knowledge. Planning for smart mobility has only started to recognise the importance of integrating knowledge on gender and diversity.

The present research will be further development in the new research and innovation action: TInnGO, Transport Innovation Gender Observatory. (EU Grant agreement #824349).

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