

Written Summary of the Webinar Diversity in Transport

May 7th, 2020 10:00 – 12:00

Part of T11.1:

Ethics monitoring and Responsible Research & Innovation

1. Introduction

Mobility and transportation are crucial for connecting people with a wide variety of opportunities. In urban areas mobility patterns greatly differ regarding modal choices, the purpose of travel, time of travel, travel distance and travel routes between the old and the young; men and women; people with limited mobility and those without limited mobility.

According to this diversity of mobility patterns in the transportation sector it is crucial to consider this reality when conducting research in the field of user-friendly e-mobility solutions. Therefore, the USER-CHI Ethics Advisor, IKEM, invited the project consortium to participate in the webinar “diversity in transport” focusing on the following questions:

- How to promote diversity in the research field of electromobility?
- How can diversity be encountered within USER-CHI activities emphasising the gender dimension?

2. Keynote

Before discussing the key questions, a short introduction focusing on why it is important to address “diversity in transport” has been provided. IKEM gave a brief overview of the key elements of diversity while highlighting that gender is only one of various elements. Diversity is defined as a state of being diverse, which reflects the inclusion of different types of individuals (e.g. gender, origin, colour, religion, sexual orientation, etc.)

In the transport sector, gender-related inequality exists in various areas, e.g. gaps in access to transport infrastructure and services, inequalities within the transport labour market (e.g. weak representation of women in the decision-making process in the transport sector) and gender-based safety issues, of which mostly women are affected by.

Another aspect that has been highlighted during the keynote is the strong need for data emphasising the mobility behaviour of women which helps to improve transport policies, hence, reduces gender-related inequalities.

IKEM also provided a brief insight into a few examples by presenting results from existing studies that examined gender-related mobility patterns, and the difference between men and women accepting new technologies in transportation. As a final part of the keynote, a brief overview of actions aiming to reduce gender-related inequalities in the transport sector on the European level have been presented.

Mobility patterns and factors

The gender-related difference in mobility patterns is closely linked to the different roles both men and women represent in Western societies, nowadays. These observations are strongly linked to the following factors:

One factor determining the mobility behaviour of women is related to safety issues. In particular, women hold a strong fear of harassment which they consequently want to avoid. This does not only affect the mobility choice of women, but also their decisions participating in social life, in general.¹

Another factor determining the mobility pattern of women is related to trip-chaining. While men tend to move from A to B and from B to A, the mobility pattern of women usually seem to be more complex. Women tend to undertake multiple trips – not only from A to B and vice versa – based on their different daily activities compared to men, e.g. related to household maintenance and taking care of children and elderly.²

¹ JRC (European Commission) Science for Policy Report – Women in European transport with a focus on research and innovation: An overview of women’s issues in transport based on the Transport Research and Innovation Monitoring and Information System (TRIMIS), 2019, available at: <https://op.europa.eu/en/publication-detail/-/publication/ee562f6e-cec7-11e9-992f-01aa75ed71a1/language-en/format-PDF/source-119908128>.

² JRC (European Commission) Science for Policy Report – Women in European transport with a focus on research and innovation: An overview of women’s issues in transport based on the Transport Research and Innovation Monitoring and Information System (TRIMIS), 2019, available at:

Another factor influencing the mobility pattern of women is related to the consciousness for environmental issues. In particular, women tend to be more aware of environmental impacts related to their transportation mode of choice. Based on this, women are more willing to adapt their everyday-life behaviour in order to contribute to a greater environmental impact.³

The last factor that has been highlighted is related to ergonomics of women. Ergonomics of female bodies are mostly not considered for safety tests and adaptations. For example, smaller women and pregnant women are often not represented in the development process of vehicles when it comes to crash and safety tests of vehicles.⁴

Women and new transport technologies

The second main aspect that has been highlighted during the keynote is the difference between men and women when accepting new technologies. In general, women tend to be more sceptical about the readiness of new technological solutions and its liability, such as EVs and charging infrastructure, respectively.⁵ One argument for this observation may be linked to the fact that women tend to have fewer positive attitudes towards emerging technologies in general.⁶ Therefore, it does not seem to be surprising that a typical early adopter of EVs may be a man.⁷

It also has been pointed out that female e-mobility users tend to be less interested in EV car-ownership compared to male users.⁸ This aspect may be relevant for transportation services following the concept of mobility-as-a-service (MaaS).

<https://op.europa.eu/en/publication-detail/-/publication/ee562f6e-cec7-11e9-992f-01aa75ed71a1/language-en/format-PDF/source-119908128>.

³ JRC (European Commission) Science for Policy Report – Women in European transport with a focus on research and innovation: An overview of women’s issues in transport based on the Transport Research and Innovation Monitoring and Information System (TRIMIS), 2019, available at: <https://op.europa.eu/en/publication-detail/-/publication/ee562f6e-cec7-11e9-992f-01aa75ed71a1/language-en/format-PDF/source-119908128>.

⁴ IBV, Interview Questions for the Webinar, USER-CHI 2020.

⁵ Nils Berkely, David Jarvis, and Andrew Jones , Analyzing the take up of battery electric vehicles: An investigation amongst drivers in the UK., Transportation and Research – Part D: Transport and Environment (2018).

⁶ JRC (European Commission) Science for Policy Report – Women in European transport with a focus on research and innovation: An overview of women’s issues in transport based on the Transport Research and Innovation Monitoring and Information System (TRIMIS), 2019, available at: <https://op.europa.eu/en/publication-detail/-/publication/ee562f6e-cec7-11e9-992f-01aa75ed71a1/language-en/format-PDF/source-119908128>.

⁷ *ANS Project - Analyse der Nachfragereaktionen und der Stellplatzbelegung bei Variation des Preismodells für die Nutzung von Ladeinfrastruktur im Berliner Modell, IKEM, (to be published).*

⁸ JRC (European Commission) Science for Policy Report – Women in European transport with a focus on research and innovation: An overview of women’s issues in transport based on the Transport Research and Innovation Monitoring and Information System (TRIMIS), 2019, available at: <https://op.europa.eu/en/publication-detail/-/publication/ee562f6e-cec7-11e9-992f-01aa75ed71a1/language-en/format-PDF/source-119908128>.

EU activities – Gender & Transport

Activities aiming to reduce gender-related inequalities in the transport sector have been initiated by the European Commission. IKEM presented the initiative “Women in Transport: EU platform for change”.⁹ The platform was launched in 2017 with the goal of strengthening the employment of women and provide equal access to job opportunities for both men and women in the transport sector. This initiative has been initiated when the overall share of women being employed in the European transport sector was only circa 22 % in 2017.¹⁰

The initiative offers a forum for discussion and exchange of good practices for enterprises in the transport sector. Moreover, on the practical side the platform provides a toolkit, which assists companies in order to check what measures they can apply deriving from different case studies from European countries. Moreover, the Position Paper of the Advisory Group for Gender for the H2020 Work Program was introduced.¹¹ It defines the concept of “gender dimensions” in research projects within the H2020 context. It states that the gender dimension is a dynamic concept that ensures that researchers question gender norms and stereotypes and address the evolving needs and social roles of women and men. Gender dimensions within research projects need to be distinguished from the aspect of gender balance within the participating research teams.

⁹ European Commission “Women in Transport: EU platform for change”, available at:

https://ec.europa.eu/transport/themes/social/women-transport-eu-platform-change_en

¹⁰ <https://ec.europa.eu/transport/sites/transport/files/images/women-in-transport-infographic.jpg>

¹¹ Advisory Group for Gender, For a better integration of the gender dimension in the Horizon 2020 Work Program 2018-2020, Position paper, 2016, available at:

<https://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetailDoc&id=28824&no=1>

3. Human-centred design & the gender perspective in USER-CHI

Another key aspect addressed was brought to the participants of the webinar by Matilde Chinellato (EUROCITIES) and Ricard Barberà-Guillem (IBV) through a short interview about the approach of human-centred design and how it contributes to the gender dimension in general, and particularly to USER-CHI.

Chinellato: Why is human-centred design so important?

Barberà-Guillem: First, what do we mean by human-centred or user-centred design? It means to put the person in the middle of the design and development process. And it means also that the user or consumer has to be seen as a source of relevant information for the design and development of the product. That the (potential) user is the one who better knows their needs, requirements or preferences for the product. So, in a human-centred design our users become the desired and required collaborators of the development process, from the initial requirement definition until the final concept and prototype validation.

If we don't focus on the needs and expectation of the user, we will face potential undesired situations. Let's see two examples. Some years ago, IBV participated in the development of a communication system for people with cerebral palsy. There were important differences between the final users desires and the opinion of their parents and care professionals. User's explained "If I'm going to use a communicator, I want one with bright colours and a futuristic shape, so I can be proud of it!" On the contrary, parents and professionals wanted the system to be very discreet, almost invisible, to be unnoticeable.

Having a look to the substitution of a gas appliance by ceramic glass hobs in the kitchen, if we think in technology for elderly people. It means that gaining safety avoiding the use of gas may become a problem because touch trigger controls are not ease of use, nor intuitive, especially if we add age-related tremor problems.

In this case, from a gender perspective, it is almost certain that we will find an old lady living a nightmare when she tries to cook. Because women are normally, no matter the age, the ones still cooking at home.

In summary, human-centred design means better products and more satisfied and happier clients.

Chinellato: By definition, human centred design should be women inclusive and should have a gender perspective, is that right?

Barberà-Guillem: Yes, at least it should. In human centred we put the person in the middle of the design and development process. The problem is, that person is always as default a man.

It is not only that the development of innovations and technologies misses business opportunities because of failing to understand sex or gender factors. The critical point is that sometimes this may cause health problems for women. For instance, if we try to use the men symptoms of a heart attack to detect this situation in women's bodies.

Traditionally in the automotive sector human centred design has been overshadowed by technology-led innovation. The evolution of vehicles from past to present can be explained based on the degree of “intelligence” transferred to the car, if we think in autonomous vehicles. But also, by other innovation drivers, such as power efficiency, new materials, safety mechanisms and of course, the change in the powering energy.

And, although users have gained more weight in the development processes, so far, the cars in the market are not crash tested with women dummies nor have safety belts for pregnant women.

Questions or problems important for women are not considered properly because they are out of the “standard” or “neutral” user. Therefore, as a consequence of that, problems or situations important for women are not well analysed.

We need to think twice meaning that the project team has to answer continuously the question: is this information, data, or proposed design relevant also for women? Or only for men?

There are things that we can do systematically: analysing results differentiating by gender, looking for a well-balanced gender representation of participants in any phase of the design or development process; and ensuring that problems or situations mostly involving women are put into consideration and are not avoided because they are not in the core of an “hypothetical neutral user”. If we want to analyse patterns of mobility, it is important to introduce population with young children, because we will ensure the presence of the challenges related to the mobility of care.

Applying the gender perspective means being a tourist in your own town or using feminist wording to wear gender-sensitive glasses for gaining perspective of “what has always been”.

Chinellato: So, according to what you are saying there is not something like “gender neutral” or valid “design for all”?

Barberà-Guillem: “Gender neutral” is like “design for all”, two fake news. With the idea of solving accessibility problems we could substitute stairs by ramps! And we will discover that some people who manage properly stairs are not able to walk slopes. In this case the solution could be to have both options in the same point, stairs and ramps. Is a traffic light a design for all product? Let’s consider colour blind people and then we will realize that it is not! That’s one of the reasons to add sounds to traffic lights in pedestrian crossing. One idea in the design for all, “design for most”. We will always leave someone out. But as designers, developers, manufacturers or policy makers we should quantify this number and be able to limit it by finding ways to compensate this lack of accessibility. But women are half of the population. However, they are treated as an outlier sample in a statistical analysis. Let’s talk about music! Female pianists have more serious work-related diseases than men. Why? Because ‘no-man’ has ever considered that women have smaller hands. Let’s change the topic. Industrial cyborg-skeletons? A sort of orthotic robots used in industrial workplaces implying great physical efforts. They are not comfortable or even safe for women. Why? Maybe the data sets used in their design were based on stocky American male marines? Did not one male person working on the design notice that women have breasts and wider waists? It is not so difficult! To sum up, gender neutral means, otherwise specified, men. Against fake news, open eyes, critical approach and gender differentiated data!

Chinellato: How does a user-centred methodology work along the USER-CHI project?

Barberà-Guillem: We incorporate the final user into the USER-CHI project in three basic phases: learn, ideate and validation.

In the first phase learn the objective is understanding and quantifying the behaviours and habits of users answering questions like: How does people use the electric cars? Which are the main challenges, obstacles or barriers for people accessing to electric cars? Which are the facilitators for a widespread implementation of electric cars?

Second phase, ideate, is the creative part of the process where we identify and generate new solutions and ideas: Construction of a mobile application containing the required information by users, development of a charging point that is easy to use by men and women, development of a campaign to promote the use of electric cars that is women inclusive. And last but not least, it comes the validation first the concept and then a functional prototype: Does what we have developed cover the needs and requirements of the users? Are there any elements or aspects we need to incorporate or improve to have a better product according to the preferences or the expectations of the users?

Keep in mind that the user is a partner in the development of the product in the project that's the reason we need them in the whole process, learn, ideate and validate.

Chinellato: How do we ensure that the methodology incorporates a gender perspective?

The three phases to incorporate the voice of the users are learn, ideate and validation. Each phase has its own tools and methodologies. In all of them we will promote the participation of balanced number of women and men and analyse the differences and similarities between men and women, using descriptive and segmented data. In the learn phase we are using netnography, field diaries, delphi and surveys.

From the netnography (already made!) we wanted to obtain a first approach to the electrical vehicle, the experience of users, desires, needs. In this case the information obtained comes from specialised forums, where the majority of participants are men. So, in this case we have to be aware that this is the situation.

We have a similar situation with the delphi methodology where most of the answers from professionals have come from men, and in the field diaries where users of electrical vehicles, men and women, write down their own experience with their use. Including planning the route to charge the car, potential problems of maintenance, lack of autonomy.

However, that's, so far, a reality of the electric car sector, most of the users and most of the professional involved are men. In this case to apply a gender perspective means: first ensure the presence of women, second being aware of the unbalanced situation, third planning possible correction measures such as making extended interviews to some of the women participating in the delphi survey and diaries or identified in the forums after the analysis of the results, if such an approach is required.

In the survey we expect to reach 1800 answers we will select questions that are relevant also for women. For instance, we know from mobility studies that the feeling of safety or the lack of it is very relevant for women. Therefore, we should know how to increase the safety perception in the re-charging points of the electric vehicles.

In the ideate phase we have two main tools the co-creation workshops where users and professionals are put together to generate solutions and proposals. Here, in addition to force a gender-balanced

representation, we will moderate the workshop enhancing the participation of women and highlighting aspects we know from bibliography that may be relevant for women.

The personas and scenarios methodologies consist in imaging potential users and scenarios of use. Here the gender perspective is applied in the definition of them ensuring that are significant for women, for instance some of them displacements are related to the mobility of care or some safety issues are introduced.

Finally, in the validation we will use different tools to assess the acceptance of the product, based on questions about functionality, usability and satisfaction, as well as tools to know the predisposition to buy or recommend the system.

The last tool we will use is the think aloud / interview where a combination of spontaneous thinking and directed questions is used to know the opinion of the product of the users.

Taking all these into account, we expect to help to have a successful development in the user-chi project that contributes to have better electric vehicles systems also for women, considering the use of the electrical vehicle as a combination of tools and experiences.

4. Output of the research field: Gender & Transport

After the interview, IKEM presented a set of studies and research-related media that provide an overview of research and networking activities aiming for answering various research questions, on the one hand; and trying to address the need for further research, on the other hand.

CIVITAS 2020 Initiative

At first policy recommendations for urban mobility planning from the CIVITAS Initiative were described.¹² The recommendations aimed at enhancing the capacity of urban mobility planning to respond to the mobility needs of both women and men in a sustainable way. The first recommendation is to improve gender-based statistical data and research. This is needed in order to understand gender differences in mobility patterns.

The second recommendation is to support women's participation in decision-making processes. In order to take women's needs regarding transport modes into account, they need to be able to express them. Therefore, it is essential to involve women in consultation, transport planning and decision-making processes. Accordingly, two instruments could be promoted: Gender Impact Assessment procedures (GIAs) and Gender Audit Checklists.

The third recommendation is aimed at the improvement of accessibility, safety and comfort of transportation modes: as women walk and use public transportation more than men, the existence of pathways in cities, as well as safe pedestrian crossings, is very important for both safety and comfort. Bus stops and the paths leading to bus stops must also take account of women's needs, and in particular accessibility to transportation vehicles and safety.

Study: "Electromobility is female"

The first study presented is "Electromobility is female" by the Ostfalia Hochschule (University of Applied Sciences).¹³ The starting point of the study is that electromobility is a "masculine" topic, today. This has been illustrated by showing that most EVs are registered by male users. This also applies to the purchase of e-bikes/ pedelecs and speakers at symposiums and further special events related to the field of e-mobility.

However, the study points out, that in order to contribute to the energy transition in the transport sector EVs must also be used by women, which are particularly a suitable target groups for electric vehicles due to their mobility patterns (e.g. multiple short trips per day) and environmental awareness.

Therefore, the study explored the research question of how women can become enthusiasts for e-mobility.

¹² CIVITAS 2020, Policy Note – Smart choices for cities. Gender Equality and mobility: mind the gap!, available at: https://civitas.eu/sites/default/files/civ_pol-an2_m_web.pdf.

¹³ Research project, "Electromobility is female", Ostfalia Hochschule für angewandte Wissenschaften, Final Report (in German) available at <https://www.ostfalia.de/cms/de/ifvm/projekte/die-elektromobilitaet-ist-weiblich/>.

The study aimed at overcoming the scepticism towards technical innovations, which tend to exist among female users. The methods used within the study were first of all information events on e-mobility, exclusively available for women and offered short test drives. Secondly, a selected group of women was offered a testing period of 14 days where they could either use pedelecs or electric cars independently within their everyday life. In addition, exchange platforms for the participants were established to enable them to discuss their experiences and connect with each other.

The study came to the conclusion that the test drives with the pedelecs were received more positive than the test drive of electric cars. Besides, even though the female test drivers all used public charging points without any great difficulties, they expressed the relevance of deploying further public DC charging points with uniform and easily understandable instructions regarding the charging process.

Study: “Early adopters of carsharing (...)”

In addition, the study “Early adopters of carsharing with and without BEVs with respect to gender preferences” by Ines Kawgan-Kagan, which was undertaken in 2015 with research participants from Berlin, was presented.¹⁴ The study dealt with several questions regarding the differences between female and male early adopters of BEV carsharing in Berlin.

Firstly, female early adopters show a higher affinity to bicycles. Secondly, they tend to combine different modes of urban transport. Moreover, they show affinity towards technology and innovation in general, even though they include e-mobility in their transport modes from an early stage on. Lastly, the findings of the empirical study suggest that that female users of e-carsharing services tend not to use the service while being accompanied by children. Therefore, the study suggests that research need to explore why female users with children do not consider e-car sharing services appropriate. In order to make sustainable mobility an option for more users than the typical early adopter. This research question is also relevant for WP1 “Analysis of user needs and patterns for requirements definition.”

However, Bruno Lombardi (DSI) highlighted that the project partners should take into account that the empirical data the study is based on only represents the attitudes of Northern European female early adopters to e-mobility. “Therefore, the attitudes of northern European women may be different.” Accordingly, one of the positive aspects of USER-CHI is the participation of five demo site partners from different northern, central and southern European countries, which will all proceed data from female, local e-mobility users. Thereby, the data will provide useful insights for a broader European perspective.

Article: “The real reasons why mobility is not women friendly”

¹⁴ Ines Kawgan-Kagan, Early adopters of carsharing with and without BEVs with respect to gender preferences, Eur. Transp. Res. Rev., 2015.

Furthermore, the article “The real reasons why mobility is not women friendly” by Kelly Saunders, which was published in the Urban Mobility Daily was introduced.¹⁵

Even though the article does not refer to e-mobility in particular, but rather to the transport sector as a whole, it provides useful ideas and approaches.

The article states that one of the major reasons for the unfriendliness of mobility for women is the lack of interest in gender issues on the part of leaders in the mobility sector. Moreover, a lack of root cause analysis can be determined. Saunders further describes that she sees the reason for the lack of root cause analysis in the determining factors of such: male behaviour in public space, justice systems to respond to incidents, poverty, education, mental health issues and anti-social behaviour, amongst others. Saunders points out that these are not easy or natural subjects for a mobility sector heavily focused on technical solutions.

Saunders argues, that there is a need for more funded projects, which are focused on the improvement of women’s mobility. Moreover, on more general terms the mobility sector needs to be connected with aspects of social justice in order to be more inclusive for women.

Repetition of stereotypes

To close this section, an old commercial for an American car brand was shown. The headline of it states: “Wear a Mustang to match your lipstick”, suggesting that the main reason for women to buy a Ford Mustang would be the option to choose it in a colour matching their lipstick’s colour.

On this basis the participants have been asked whether the car industry is repeating the 20th century stereotype of women and cars with EVs?

Sexism and marketing are still seen as a relevant issue fostering stereotypes. Therefore, within the USER-CHI communication it is common ground to pay attention to the gender dimension making sure that stereotypes are avoided, and women’s visibility is ensured.

5. Gender neutral planning and managing of e-mobility: Best practices? / Gaps?

The last aspect addressed during the webinar was based on the topic of gender-neutral planning and managing of e-mobility. The section aimed at fostering the exchange of best practices between the project partners, as well as providing new input.

The first question aimed at finding out whether the gender dimension is already considered in the planning process of charging infrastructure for electric vehicles as well as in its managing process of the demo site’s administrative staff. If so, it has been discussed at what planning stages they are considered.

¹⁵ Kelly Saunders, The real reasons why mobility is not women friendly, The Urban Mobility Daily, 2019, available at: <https://urbanmobilitydaily.com/the-real-reason-why-mobility-is-not-women-friendly/>

The city of Turku stated that its city administration is in an early stage of planning for their e-mobility infrastructure concept. Accordingly, most of the people involved in the planning process of the city's administration are female. Therefore, the male perspective needs to be taken into account more in this specific example.

This input leads to the questions of differentiation between the organizational level (involvement of women as employees / researchers) and gender-dimension of planning (taking into account women's needs). If the involvement of women as employees and researchers automatically leads to the consideration of women's needs in infrastructure planning is something which needs to be further analysed.

The second question addressed was related to whether actions performed by the city administration, as well as companies exist in order to motivate women particularly to use e-mobility services. The city of Turku stated prior to the Webinar that no such activities are planned by their city's administration so far.

The participants were also asked whether they have ideas for projects regarding the subject "gender and electromobility" they would like to implement either in the short-run or in the long-run. Turku explained that it would be interesting to address different behavioural mobility patterns of women and men during the project, as well as the differences regarding communication needs. Turku plans on taking the different communication needs into account in future campaigns that are part of the USER-CHI actions in Turku.

In conclusion, it can be said that the USER-CHI project partners were highly interested in the topic of gender and e-mobility. However, the topic is still a new approach towards transport planning processes. Therefore, the demo site partners were not all able to share best practices yet.

6. Wrap Up

In order to wrap up the webinar the key findings were summarized. The measures that were presented throughout different parts of the webinar were related to the production and usage of innovative data, which includes women's needs in regard of transport and e-mobility in particular. Thereby, it is of major importance to provide an equal share of male and female research participants. However, if this cannot be achieved it is an option to adapt qualitative research methods in order to provide an equal share towards the female perspective. This can be implemented by offering a larger platform for female research participants in order to enable them to specify their needs and views.

Another aspect is the need to include women in the decision-making processes within the transport sector. This will partially be reached automatically by increasing the share of female employees within the European transport sector.

Moreover, communication strategies should highlight the environmental friendliness of e-mobility, as this is an important aspect of women's choices of transport modes.

However, regarding the safety of women while using public transportation, which is also linked to e-carsharing and the concept of mobility as a service, there is still the need of improvement.¹⁶

During the Webinar's discussion Alessandra Barbierie (FLO) from the City of Florence emphasized this by stating that "the safety for women at night needs to be a priority aspect in transport planning." "The goal should be a city for all", she developed further. In relation to the topic of e-mobility potential security issues in regard of electric charging points surveillance systems might be an option.

According to Alessandra Barbierie (FLO) "The increasing activities of women regarding their role in the employment market needs to be taken into account by city planners". Moreover, she affirmed the idea of test-drives for female users by explaining that she made good experiences with pedelec test drives as well. Women should be seen as enablers of sustainable mobility due to their different attitudes towards environmental issues, such as the carbon footprint of transport.

This remark was also highlighted by Claudia Baumgartner (VMZ) who emphasized that "the flexibility of women regarding multimodal trips is an important key factor for innovations, which could be integrated in Berlin's general mobility strategy."

Felix Nowack (IKEM) further explained that (also) in Berlin about 90% of EV users (car sharing not included) have been male. This finding is based on the ANS Project conducted by IKEM in 2017/2018. This shows that e-mobility is still at an early stage of its implementation into the mass market, which highlights the need for further efforts in this direction.

Another important aspect, that was mentioned by Chiara Lorenzini (FLO) during the final discussion and question round was the possibility to provide children's safety seats for both e-cars and e-bikes by sharing companies, as this circumstance might be an important factor on why women don't use the services with children.

¹⁶ See also: Nicole Karms, Ross Douglas, Complexity and Contradiction: MaaS and the gender-sensitive lens, The Urban Mobility daily, 2019, available at: <https://urbanmobilitydaily.com/complexity-and-contradiction-maas-and-the-gender-sensitive-lens/>.