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# Inclusive methodologies to involve disadvantaged groups in the development of sustainable mobility solutions

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This work addresses the following topic(s) from the Call for Contributions:  
(Please check at least one box)

- Placemaking to integrate urban spaces and mobility
- Promoting sustainable mobility choices in metropolitan regions
- Governing responsible mobility innovations
- Shaping the transition towards mobility justice
- System analysis, design, and evaluation
- other: \_\_\_\_\_

## Extended Abstract

This study was conducted in the context of the SmartHubs project, a JPI Urban Europe project investigating the development of mobility hubs as game changers for sustainable urban accessibility. However, this research investigated several approaches to involve disadvantaged groups in the development of a mobility hub, whose findings could be applied to other types of new mobility solutions.

### Problem statement

New mobility solutions offer the opportunity to increase the equity of transport systems and the accessibility of socially disadvantaged groups – Social groups for whom it is more difficult to take advantage of the available resources, due to their limited power in the processes of social production and life (Lv & Li, 2019). Nonetheless, new solutions are rarely used by these groups, as is the case of shared mobility (Bösehans et al., 2021; Horjus et al., 2022; Liao & Correia, 2022; Shaheen et al., 2017). This is the result of how (non-)users can instrumentalise these solutions, which relates to material access, skills and opinions of people. In this respect, the design is key to ensuring that the needs of disadvantaged (non-)users are met (Martinez et al., 2023). For this, the involvement of disadvantaged people in the development of the solution is necessary to identify their needs and ensure the inclusiveness of the outcome.

### Research objectives

The involvement of (disadvantaged) people in the development of transport solutions is not a given, as it can be difficult and there is limited knowledge on how to incorporate social issues in the process (Boisjoly & Yengoh, 2017). This may explain the scarce literature about methodologies to involve disadvantaged groups in the development of new transport solutions. This research aims to fill this knowledge gap by examining different methods to involve (disadvantaged) people in a co-creation process and identifying adequate approaches.

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## Methodological approach

Case study research is considered a relevant approach to conduct in-depth examinations of contemporary events, within a real-life context in which the boundaries between the events and the context are not straightforward (Yin, 2009). In this research, the case study is the co-creation process of a mobility hub in Brussels, considering co-creation as a form of public participation in which creative methods are applied to produce innovative solutions (Papper et al., 2020). From January 2022 to February 2023, this adaptive and exploratory co-creation process applied different methodologies to involve participants (see Figure 1). Firstly, to recruit the participants several methods were tested: posters, flyers, posts on social media, announcements in the local newsletters and newspapers, direct invitations before the events (by phone, e-mail) and in person during the events. Secondly, the data collection methods of the co-creation process included interviews, questionnaire surveys, focus groups and an experiment with a digital information kiosk. Although these activities were conducted in different places, many took place during four day-long on-street events in October and November 2022, as well as in February 2023.

## Brussels ULL: co-creation process

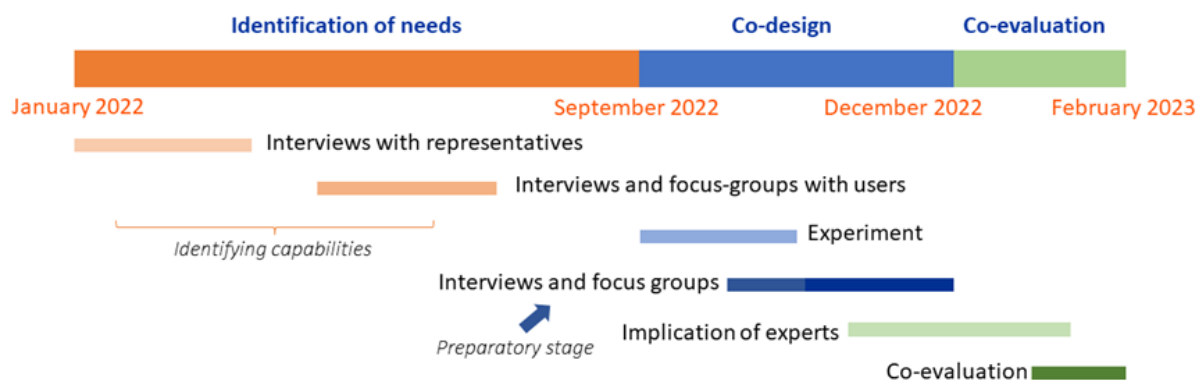


Figure 1. Timeline of the co-creation process

As a result, 25 people were interviewed, 6 focus groups were conducted with a total of 53 participants, 50 people were involved in the experiment, and 47 people filled in a questionnaire. Participants belonged to different social groups (e.g., migrants, women, older people, low-income people, children and teenagers), which were representative of the local population. The methodologies used to involve participants were assessed qualitatively, through participant observation, and in some cases also by the people involved in the co-creation process.

## Results

The co-creation process implemented in Brussels enabled the identification of relevant approaches to involve people especially disadvantaged groups in the design of a mobility hub. This case study allows the generalisation of the findings to the development of other transport solutions, as this study focused on the experience of the participants concerning the methodologies, beyond the object and the result of the co-creation process. Therefore, several recommendations on how to involve (disadvantaged) people and ensure equity in the process as well as its success were produced. The findings of this process are relevant for researchers and practitioners interested in the development of mobility solutions that are user-centred and inclusive.

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