

CO-CREATION IN MOTION

SMALL's practical guide to support the engagement process with people with reduced mobility in shared mobility solutions



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About this report

The “Co-creation in motion” guide presents the Shared Multimodal Mobility for All (SMALL) project's co-creation framework and practical experiences and tips to support stakeholder engagement. This guide provides a deeper understanding of how the SMALL co-creation framework operates in practice and highlights the best practices, challenges, and practical lessons that can enrich future co-creation based projects.

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About SMALL

SMALL is a European collaboration of municipalities, research institutes and companies who want to make sustainable shared mobility options inclusive and accessible for all users, including those with reduced mobility.

Our project stands for **Shared multimodal Mobility Accessible for ALL (SMALL)**.

As the name suggests, SMALL came to life for one specific purpose: to support the development and implementation of shared mobility solutions that are readily accessible to everyone in the European North Sea region. While at first this might seem straightforward

for a project on sustainable mobility, our mission is quite unique, as it aims to fill a significant gap that exists in the current shared mobility context: to make these novel services accessible to everyone, including people with reduced mobility.

This category includes a number of individuals, such as families and children, the elderly, and people with physical disabilities, who hold specific mobility needs, yet are not taken into consideration in the design of sustainable shared travel solutions.

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1. Introduction: A SMALL and ambitious vision

1.1 Introduction to the SMALL project

The Interreg North Sea Programme project SMALL (Shared Multimodal Mobility for All) has a specific purpose: to support the development and implementation of shared mobility solutions that are readily accessible to a wider, more diverse audience in the European North Sea region. While this might seem straightforward for a sustainable mobility project, SMALL's mission is quite unique. It addresses a significant gap in the current shared mobility landscape by making novel services accessible to people with reduced mobility, including families and children, elderly people, and people with physical impairments. Despite their specific mobility needs, these groups are rarely considered in the design of sustainable shared mobility solutions in Europe.

SMALL partners are deploying eleven social innovation pilots across six North Sea Region cities (Brest, Saint-Quentin, Ghent, Amsterdam, Copenhagen, and Varberg). These pilots focus on three key areas where end users often face challenges:

- **Inclusive bike sharing:** the provision of cycling as a shared, accessible, and inclusive mobility solution, with particular attention to adaptive use and the diversity of target groups (e.g., a bicycle fleet for school children).
- **Digital solutions:** the development and deployment of accessible mobile applications, providing customised and additional information for mobility journeys (e.g., an inclusive Mobility as a Service (MaaS) application).
- **Voluntary schemes:** the implementation of volunteer schemes where trained individuals provide a transport solution and offer on-ground support (e.g., on-demand tricycle taxi services driven by volunteers).

As shared mobility plays an increasingly important role in the sustainable mobility

transition and dominates transport policy agendas, SMALL aims to demonstrate that people with reduced mobility can and should actively participate in this movement. SMALL envisions travel solutions that successfully serve people with reduced mobility. To achieve this, SMALL brings together public authorities, knowledge partners, associations representing people with reduced mobility, and mobility operators to co-create new shared mobility and active travel solutions that drive the green mobility transition while leaving no one behind.

1.2 Co-creating inclusive shared mobility

Today, shared mobility is not for everyone yet; the majority of shared mobility users are young, able-bodied adults. A number of individuals, such as families and children, the elderly, and people with physical disabilities, who hold specific mobility needs, yet are not taken into consideration in the design of sustainable shared travel solutions. Therefore, user engagement and co-creation are central concepts within the SMALL project, with partners regularly engaging their target groups to co-create inclusive shared mobility initiatives.

With inclusive shared mobility, we refer to transportation services and resources that are shared among users, either concurrently or one after another. This includes public transit, micromobility (e.g., bike sharing, scooter sharing), automobile-based modes (e.g., carsharing, rides on demand, and microtransit), and commute-based modes or ridesharing (e.g., carpooling and vanpooling).

These services are designed to integrate and respond to a diverse range of user needs across an entire traveling journey in ways which truly comprehend, appreciate, and value their mobility requirements and aspirations (Köse, Herrera & Inserra, 2023).

Research shows that social acceptability (intended use before experience) and acceptance (actual use after experience) of shared mobility services by people with reduced mobility depend on four key conditions:

- 1. The availability of transport options (in time and space) and necessary resources to use a service (like smartphones)**
- 2. The accessibility or the ease of reaching destinations, using transport modes, and accessing information**
- 3. The affordability or reasonable pricing**
- 4. The attractability, which encompasses safety, reliability, comfort, and social acceptance**

A minimum level of these four conditions must be met for people with reduced mobility to consider using shared mobility services, ultimately leading to social acceptance and regular usage (De Paepe, 2023). However, research gaps exist in two areas: (1) few studies focus specifically on people with reduced mobility as defined in SMALL when explaining shared mobility services' acceptability (rather socio-economic and demographic variables are studied), and (2) limited knowledge exists about the PRM user experience and success factors leading to their acceptance of shared mobility solutions (see a recently published study: Research Institute for Disabled Consumers, 2025). By placing co-creation at the heart of SMALL and working bottom-up, we can tackle these research gaps.

Inclusive shared mobility solutions are scarce and dispersed across the North Sea Region, resulting in a lack of good practices to build upon (Research Institute for Disabled Consumers, 2025). Current shared mobility systems are not inclusive enough due to various physical, geographic, economic, juridical, and technical barriers. While public-private collaborations have so far only focused on improving the integration of shared mobility solutions in (urban) transport systems, significant changes must be made to service offerings, business cases, and user outreach to make shared mobility truly accessible to people with reduced mobility.

Engaging with local people with reduced mobility is essential to identify mobility challenges and bottlenecks that impede full participation in shared mobility solutions. Co-creation is central to the SMALL project – from co-identifying challenges to co-

disseminating pilot results. Project partners involve people with reduced mobility and other stakeholders in co-designing pilots to ensure solutions adequately address their needs and contribute to behavioural shifts. Since engaging with people with reduced mobility in designing and implementing new mobility solutions can be challenging (e.g., finding and accessing relevant stakeholders and end user representatives, low participant responsiveness, diverse needs, etc.), exchanging good practices across countries is key to improving the co-creation process. This guide presents the co-creation framework adopted within SMALL, along with good practices and learnings from SMALL's pilot partners.



2. Co-creation

2.1 Why co-creation?

Co-creation is an inclusive approach that helps to bring various societal actors, such as public administrators, stakeholders and citizens to brainstorm together in addressing the shared concern. For instance, citizens and local governments contribute their expertise and knowledge to find solutions, ensuring the voices of those most affected are included (Cancellara et al., 2020). The process of co-creation stimulates active involvement of citizens and stakeholders in decision-making, thereby resulting in more consulted and realistic solutions, empowerment, trust-building and shared responsibilities (Itten et al., 2020).

Apart from enhancing the quality and significance of services, products or policies, co-creation is now also implemented to promote democratic, fair and inclusive governance (Wippoo & Kortlander, 2020). Including this, it is considered as a primary approach in the field of sustainability, markets, services, public spaces, transport, safety and also for developing and planning in the city (Leino & Puumala, 2021). Co-creation is viewed as a promising approach, in the field of energy transition, sustainable urban future for instance, the collaborative approach used by SHIFT an Interreg 2 Seas project, among the citizens and stakeholders has resulted in an implementation of sustainable heating solutions in a prompt and efficient manner (Itten et al., 2020).

The co-creation process benefits all (including the citizens, the government, and the innovators). Co-creation enables the civic actors to understand the challenges faced by city administrations, thereby fostering better mutual understanding and enhancing the credibility of city leaders (SUNRISE, 2020a). The process helps innovators/designers develop need-based and human-centred designs that ensure meaningful and effective uptake, application and sustenance of innovations. Additionally, the involvement of citizens in the decision-making process is considered crucial for cities to make transition towards sustainable urban futures. As an example, the city of Brussels (Belgium)

has made a notable shift by embracing citizen engagement approach. The city has transitioned from a strong top-down car-centric approach to involving citizens in decision-making, leading to transformative urban planning focused on people-centred policies, fair space allocation across all modes of transport (Cancellara et al., 2020). **Without the consideration of co-creation, there is a risk of moving with a project that relies on misguided assumptions regarding people's wants and needs thereby, overlooking the importance of local expertise** (Itten et al., 2020).



Co-creation approaches help establish strong ties within the local networks. Thus, allowing extensive dissemination of information and greater involvement of local residents. Thereby, resulting in the mobilization of abundant local knowledge, ideas and skills. Including this, the findings from SUNRISE also suggest, that the utilization of such resources from civic actors leads to the creation of more innovative and effective solutions, which are widely accepted and are cost efficient compared to traditional planning and implementation approaches (SUNRISE, 2020a).

Overall, managing co-creation requires dedicated preparation, time, and inclusivity. Thorough assessment and rigorous deliberation on complex issues can assist the stakeholders and citizens in making well-informed decision regarding the time, energy, resources investment that are necessary for successful co-creation endeavours (Itten et al., 2020).

2.2 What is co-creation?

The SMALL pilot partners aim to devise and test innovative shared mobility services that meet the needs and demands of their end users. In order to understand the needs and preferences of end users in the area of shared mobility, co-creation stands as an eminent approach, as it allows to ensure their needs are accurately addressed. But first, it is necessary to understand what co-creation is; how it is implemented to meet the needs of a specific end user.

In the SMALL project, co-creation is defined as a **collaborative process that involves active participation of all stakeholders (including end users) in the innovation lifecycle** (in this case, the development of shared mobility solutions), **which entails identifying problems together, designing solutions, developing and implementing measures collectively, and evaluating outcomes as a team.** Co-creation focuses on delivering solutions that directly meet the needs of the people affected, allowing the target group to operate and benefit from them. It involves a shared decision-making process where all participants have a voice and an advantage, reflecting a true partnership in developing and improving initiatives.

Various scholars have also defined co-creation as a joint collaborative approach where human and non-human resources are managed and organised to bring about systems innovation (Grönroos, 2012). According to Sanders and Stappers (2008) and Van Westen & Van Dijk (n.d.) co-creation is a multi-disciplinary concept that has its origin in different disciplines and is applied in various areas, for instance in design, social innovation, participatory design and so on. According to the European Union-funded SUNRISE project, co-creation is defined as a collaborative process that brings various actors to develop knowledge, instruments, technology policy, and expertise. They employ a distinct co-creation approach that goes beyond conventional participation methods and traditional hierarchical organisational structure in the pursuit of finding innovative solutions for complex issues (Cancellara et al., 2020).

The process of co-creation is often divided into different stages/steps to offer a coherent structure for how co-creation should unfold in an innovation project. Often the process is presented as a clear and linear step-by-step structure, which oversimplifies the complexity of real-world projects. However, innovation processes are seldom linear. They are typically more dynamic and iterative, where ideas are continuously refined through feedback and collaboration. This means that stages can often overlap, and earlier steps might need revisiting when new insights and challenges arise.

Therefore, linear co-creation stages alone do not guarantee the desired results of innovation. To address this, the SMALL project has developed a “process model for co-creation in innovation” based on the Systemic Innovation Education (SIE) model (Brouwer & in’t Veld, 2022), as this model highlights the various co-creation stages within the cyclical nature of an innovation project. This framework for co-creation developed and implemented by the SMALL project is presented in Section 3.



2.3 The opportunities and challenges of co-creation

Co-creation, as a collaborative approach, brings together diverse stakeholders to jointly address complex challenges, fostering innovation and inclusivity. Such an approach has significant opportunities as well as challenges in the on-going process. These opportunities and challenges highlight the need for careful planning and implementation to maximize the potential of co-creation while addressing its inherent complexities. Some of the key strengths/

opportunities and challenges/shortcomings are outlined below: These opportunities and challenges highlight the need for careful planning and implementation to maximize the potential of co-creation while addressing its inherent complexities. Some of the key strengths/opportunities and challenges/shortcomings are outlined below:

Strengths/opportunities of co-creation

- **Shared power and responsibility:** It provides an equal space for the stakeholders to have shared power and responsibility thereby, enabling to have a more holistic understanding of context leading to an improved social legitimacy of decision-making (Itten et al., 2020).
- **Breaking hierarchies:** Co-creation is best known for breaking the hierarchies among the local government, business, universities, citizens and other stakeholders. Rather than following a strict top-down or bottom-up process, it embraces a multidirectional approach to address and solve problems (Leino & Puumala, 2021).
- **Drives public sector innovation:** Recognized as means to address challenges in public sector innovation, such as meeting public expectations and global competition by promoting innovations and generating innovative solutions by mitigating the challenges (Commonwealth of Australia, 2009).
- **Encourages citizen involvement:** Genuine citizen involvement in urban mobility planning prompts self-reflection on mobility habits and strengthens their dedication to monitoring and supporting the project in the future (SUNRISE, 2020a).
- **Fosters participatory democracy:** Co-creation connects knowledge generation, sharing, and application in a collaborative environment. It creates pathways for more inclusive and participatory democracy (Luhtakallio, n.d.).

Challenges/shortcomings of co-creation

- **Lack of clear definition:** There is no common agreement on the precise meaning of co-creation. Therefore, without a clear understanding of what co-creation truly entails, the original purpose of co-creation is often overlooked or misunderstood (Fransman, 2018).
- **Limited evidence and data:** There is a lack of evidence and data to adequately monitor, evaluate and assess the outcomes and impact of a co-creation process. This hinders understanding of the effectiveness of co-creation initiatives and their impact on behaviour, policies, and technology. These dynamics can undermine the fairness and effectiveness of the process (Gagliardi et al., 2016).
- **Power dynamics and inequities:** Co-creation is not immune to inequalities, power imbalances, and governance issues. These dynamics can undermine the fairness and effectiveness of the process (Hajer and Wagenaar, 2003; Laws and Forester, 2015).
- **Managing stakeholder expectations:** Conflicting values, power dynamics, and expectations among stakeholders can create risks. These challenges can derail the co-creation process if not managed properly (Flinders et al., 2016).
- **Inclusivity challenges:** There is often the risk of ensuring inclusivity such as, who engages, whose voices and perspectives are heard. The virtual communities and digital platforms do not guarantee inclusiveness and representativeness (Leino & Puumala, 2021).
- **Imbalance in fairness and equality:** Often times, this approach does not seem to ensure the fair and equal participation in terms of resources, time, energy, information and networks, which can impact their level of participation in co-creative activities (Häikiö, 2010; Michels, 2011).

In a nutshell, **a co-creation approach requires a significant shift in the mindset and methodology, where one needs to prioritize the existing diversity of participants and allow them to express their genuine opinions and ideas which ought to be taken seriously.** To achieve this objective, and to truly embrace co-creation, sectors that include public entities need to be re-evaluated or consider undergoing a complete overhaul (Duvernet & Knieling, 2013). The participation of local stakeholders in co-creation processes is vital as it validates and enhances proposed measures, ensuring their acceptance and long-term viability.

2.4 The myths and realities of co-creation

Although co-creation is becoming increasingly popular, there are still many misconceptions about the co-creation process. Now that we have explained what co-creation is, we want to address these misconceptions in order to prevent them from arising in the first place (USAID, n.d.).

Myth 1: Collaboration and co-creation are the same

Reality: While various collaborative methods exist for activity design—such as consulting and partnerships—they differ fundamentally from co-creation. Co-creation's distinguishing feature is power-sharing and shared decision-making. It serves as a tool for innovation and problem-solving while enabling organisations and teams to adapt their strategies based on real-time stakeholder feedback and insights. Other collaborative approaches typically focus solely on defining solutions and establishing partnerships.

Myth 2: Co-creation requires large workshops

Reality: Co-creation is highly flexible and adaptable to different scales and formats. It can involve just a few participants or large groups, take place in one-on-one sessions with end users or stakeholders, or occur virtually. The exact nature of the co-creation process will depend on the project (e.g., local context, skills available within the team, target group, etc.) for which it will be used.

Myth 3: Everything needs to be co-created

Reality: While co-creation is valuable, it is essential to carefully consider in advance what you do and do not want or are able to co-create. Certain decisions may already be fixed, or you may lack the authority to alter a choice through co-creation. In such cases, it is important to communicate this transparently to participants from the very start of the process. Moreover, co-creation requires resources—time, staff, and effort—and it must be clear beforehand what is realistically possible within these constraints. Promising what cannot be delivered undermines the credibility of the entire co-creation process.

Myth 4: Co-creation is limited to external collaboration with partners

Reality: Co-creation extends far beyond external partnerships. This versatile methodology can be effectively applied within internal teams to build people-centric organisations and foster continuous innovation. Dedication to internal co-creation cultivates trust and harnesses collective team wisdom to generate favourable outcomes.

While other misconceptions about co-creation exist, this guide focuses on the practical reality: what co-creation actually entails according to SMALL's co-creation framework and how it can be effectively implemented. Rather than dwelling on myths, we concentrate on demonstrating real-world applications in mobility-related projects and other inclusive initiatives. This guide provides the essential tools and frameworks you need to understand and implement co-creation in a strategic and well-informed manner.

Reflection questions

- How can you clearly define co-creation for your project to ensure everyone is on the same page?
- How can you ensure that all stakeholders feel equally empowered and responsible in the co-creation process?
- How do you create an environment where all voices, regardless of hierarchy, are valued equally?
- What strategies will you use to manage stakeholder expectations?
- How can you encourage meaningful participation from everyone involved?

3. SMALL's co-creation framework

The framework utilized in the SMALL project represents an integration of two established frameworks: the five-stage framework of co-creation (Franta et al., 2017) and the Systemic Innovation in Education (SIE) model (Brouwer & in't Veld, 2022).

The first framework depicts the five key stages of co-creation (see Figure 1) in innovation. The first stage involves the co-identification of problems, followed by the co-development of ideas for sustainable solutions and the selection of the best ones. The third stage, co-implementation, focuses on putting these selected solutions into practice. The fourth stage, co-evaluation, entails assessing and reflecting on the ideas, both as a final step and throughout the entire process. Finally, the co-dissemination phase ensures that the knowledge generated and/or solutions developed during the innovation process is shared and promoted widely while also providing insights for further refinement, scaling-up/out, or new innovations in future projects (Franta et al., 2017).



Figure 1: Five stages of co-creation.

The second framework - the SIE model (See **Figure 2**)- highlights the trajectory of the innovation process thereby showcasing how the process of user/human-centered innovation unfolds. This model aims to guide changes at the program level within different institutions by empowering stakeholders to lead innovation processes effectively. It consists of four distinct phases, emphasizing the importance of involving all perspectives in the change process from the outset to foster shared ownership of the innovation (Fullan, 2007). The SIE model highlights two key ideas. First, innovation alternates between exploration and implementation, and between a leader's role and the team's collaboration (sharing the lead). Second, it follows a cyclical path, shown by an infinity loop, emphasizing ongoing change, iteration, and progress. This approach underscores that innovation is a continual process. **Figure 2** has four grids representing a cyclical process that transitions from **exploration and commitment building to design and realization**. In the x-axis, the journey of innovation is represented, beginning at point **C (Creation)** and continuing on to point **D (implementation)**. In the y-axis, the spectrum of stakeholder engagement is depicted, wherein the lower end of the spectrum (line) showcases instances where the innovation team takes the lead in the process (with minimal involvement of other stakeholders), while the upper end of the line showcases moments where the innovation team shares the lead and includes and engages with broader stakeholders (including end users). Most importantly, within these two axes lies the infinity loop that highlights the non-linear and iterative nature of co-creation in an innovation process. The left loop emphasizes **understanding and committing to end user needs**, while the right loop focuses on **delivering and refining inclusive mobility** solutions, creating a dynamic, end users-centered development process (Brouwer & in't Veld, 2022). Often the process of innovation starts from the convergence points **A' and A** towards **B, C** and back to **A'**

and **A** (within the quadrants of Exploration and Commitment), where mobility needs, barriers, and potential solutions for PRM are identified and developed through iterative collaboration with end users and stakeholders. The process moves through point **D** across quadrants of Design and Realization, where various concepts and mobility options are tested and refined, and the resulting practical and accessible shared mobility solutions are deployed and evaluated. The innovation (mobility solutions) are/can be further improved by passing through the continuous feedback loops across the four quadrants.

Finally, in the combined SMALL co-creation framework (see **Figure 3**), the infinity loop illustrates how co-creation unfolds in an innovation process. Often, co-creation begins with **co-identification** as the first step, where a small group of stakeholders, typically the innovation team (along with a few representatives of end users and/or other stakeholders), identifies a broader societal issue. It is important to note that the issue-at-hand is identified often through evidence collected from various sources (e.g. consultations with end users, public data, other projects, etc.). With

snowballing inputs from a wider range of stakeholders, including the end users of an innovation, the problem becomes more specific and tailored to their needs. **Co-development** follows, involving a broader stakeholder group, such as operators, project managers, and financial team, and transitions from the ideation phase of the innovation to actionable steps. However, not all stakeholders, can actively contribute during the more technical phases of this stage (e.g., engineering prototyping), resulting in the innovation's development being primarily driven by a smaller team (often an innovation team including technical experts and representatives of end users). Conversely, **co-implementation** necessitates substantial input from multiple stakeholders, as successful execution requires their diverse expertise and perspectives. The **co-evaluation** phase involves both the innovation team and a broad range of stakeholders, as their honest feedback is crucial for refining and improving the innovation. Finally, **co-dissemination** is largely managed by a smaller group including the innovation team (and stakeholders with wider outreach like the municipality, public service officer, etc.), typically occurring through a mix of

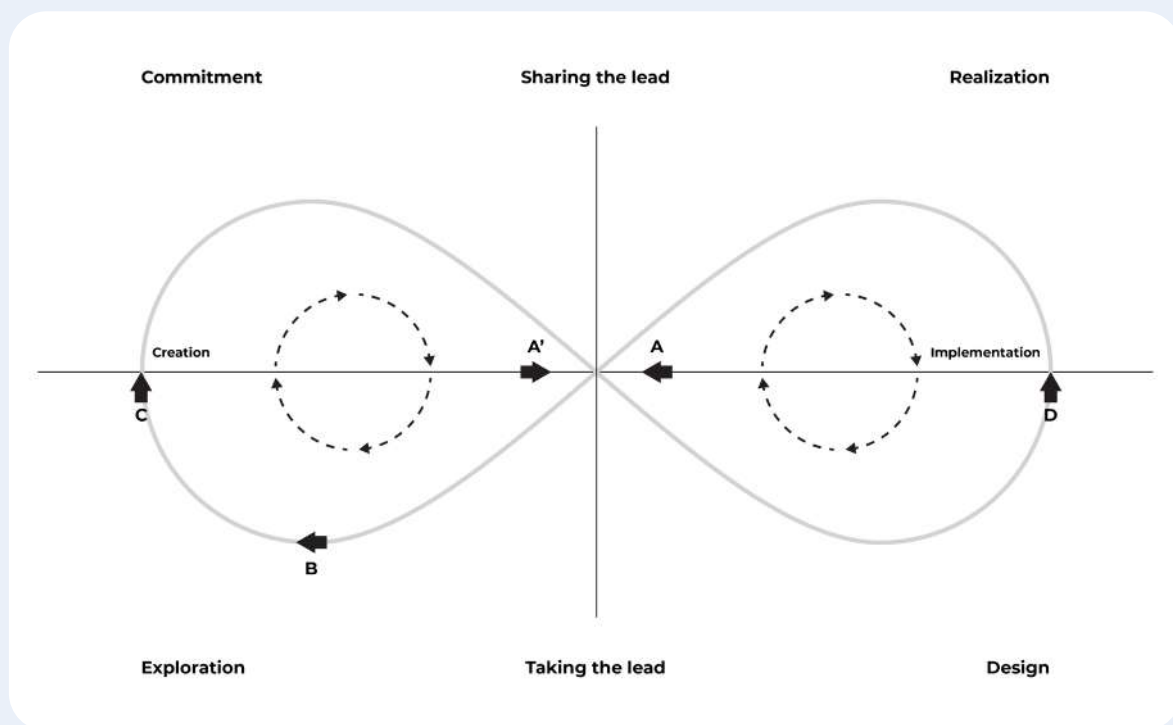


Figure 2: Conceptual Framework designed by Joyce Brouwer & Rachna in't Veld (2022). Retrieved from https://doi.org/10.1007/978-3-030-80967-6_31

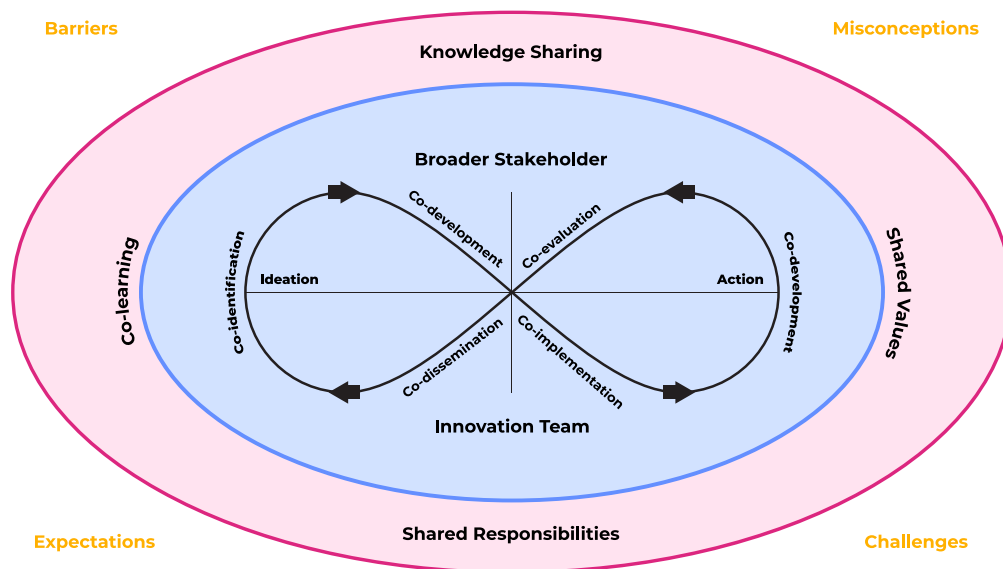


Figure 3: The SMALL Co-creation Framework adapted from Brouwer and in't Veld (2022).

public and scientific communications in the form of social media posts, newspaper articles, academic forums, publications, or conferences, where the findings are shared with a wider audience. It is also important to note that the co-creation in innovation process can start from any point/stage, provided that it enters the respective quadrant within the framework and follows the subsequent stages through the loop thereby ensuring participation and engagement of stakeholders across the co-creation process. For instance, an on-going mobility solution innovation that has already been prototyped (by an innovation team with no engagement of end users) can still enter the co-creation process from the co-implementation stage, where inputs from broader stakeholders (including end users) can shape the co-evaluation stage, the learnings be communicated through the co-dissemination stage, and then based on the inputs/feedback – the innovation could be refined further by co-identifying aspects that require improvement, thereby moving through the infinity loop as shown in the framework.

The SMALL co-creation framework provides a comprehensive lens for understanding and enhancing collaborative innovation processes. It emphasizes the importance of multi-stakeholder engagement, as well as highlights the **core values** (represented by the **red concentric oval** in **Figure 3**) and the **core considerations** (highlighted in yellow on **Figure 3**). Throughout the engagement process, the **core values** such as **knowledge sharing, shared values, shared responsibilities and co-learning** are deemed important elements to be considered during the co-creation process. At the same time, it is important to take heed of the **core considerations** in the co-creation process such as understanding the **barriers, misconceptions, challenges and** (managing) **expectations**, which are presented in the outer circle of the infinity loop. Nonetheless, the combined framework ensures inclusion, offers iterative processes, and the alignment of diverse perspectives to achieve sustainable outcomes and successful innovation.

3.1 Stages of co-creation aligned with SMALL's co-creation framework

SMALL's combined co-creation framework consists of five key co-creation stages that are embedded in the innovation process model (see Figure 2). As mentioned in the above chapter, often co-creation frameworks are presented as linear structures where each step follows the other one sequentially (see Figure 1), while in reality, the co-creation process is dynamic and iterative. Co-creation in reality is a cyclical process, where it is not mandatory that all stakeholders are engaged throughout all stages of co-creation in the innovation process. Therefore, this novel framework addresses the issues of a linear process in the typical five stages of co-creation by introducing the infinity loop which allows the stakeholders to have a dynamic experience by following an iterative process. Thus, the new framework has the same five-stages BUT highlighting that all steps are cyclical : **(1) co-identification**, where stakeholders establish connections and define the challenges; **(2) co-development**, which involves brainstorming and prioritizing solutions; **(3) co-implementation**, focusing on the execution of agreed measures; **(4) co-evaluation**, assessing impacts and process effectiveness; and **(5) co-dissemination**, collectively sharing results and learnings. Each stage relies on structured methodologies, participatory tools, and good practices to foster transparency, inclusivity, and long-term success in mobility initiatives. We will go over each stage separately and explain what is expected within a certain stage, some key steps and give good practices of SMALL partners.

3.1.1 Co-identification

For a successful co-creation, identifying relevant stakeholders and establishing meaningful connections among stakeholders is critical. Co-identification, also known as co-ideation, ensures that the innovation team develops a detailed understanding of the problems and needs as expressed and experienced by end users. This ideation process involves understanding shared goals, barriers, challenges and the interpersonal dynamics

of those involved to prevent misconceptions and misunderstandings. A thorough co-identification process helps identify, validate, and articulate the end users requirements. This step is crucial in innovation processes, as it places end users at the centre, providing critical insights into their preferences and the improvement needed.

The co-identification stage begins with mapping mobility-related challenges and stakeholders' needs. Various stakeholders can be identified, such as children, elderly people, people with physical impairments, caregivers, retailers, hard-to-reach groups, experts, administration, political entities, etc. Strengths, weaknesses, barriers, opportunities and threats are assessed in a participatory manner. The team creates a structured and clear roadmap, clarifies decision-making authority, inventories existing knowledge, and identifies synergies within and between projects. All input is considered without judgement. Some preparatory steps are described below (Rupprecht Consult & Koucky & Partners, 2021; SUNRISE, 2020b).

3.1.1.1 Considerations for Co-identification

a. Identification of end users: Identifying end users can be accomplished through various methods and tools designed to engage various stakeholders. This can be achieved using tools like the interpersonal circle (Interpersonal circumplex tool), which helps participants explore their own personality traits, promote transparency and foster mutual understanding (Wiggins, 1996; Michalik, 2023). This process encourages recognition of differences, reflection on biases, and collaboration. Success depends on aligning individuals, groups, and shared goals through clarifying questions (e.g., Who am I?, Who are we?, What connects me with the group?, What is the goal? What connects me to the goal?, What connects us in the relation to the goal?). This foundational step is crucial prior to the co-identification stage of co-creation.

b. Mapping relevant stakeholders: The next step is to identify or conduct a stakeholder analysis to create a list of relevant stakeholders. Depending on the needs of the project, special attention should be paid to hard-to-reach groups, so that their voices/opinions are fairly reflected.

c. Discover the challenges and needs:

After assessing and mapping relevant stakeholders, the focus shifts to gathering facts and impressions and identifying challenges using an analytical and non-judgmental approach. Stakeholders collect unbiased data, identify obstacles and opportunities, and organise the findings into thematic clusters for greater clarity. The process concludes with summarising the results in key statements, highlighting factors that support or hinder the objectives. Investigating the underlying causes (e.g. cause analysis) deepens understanding and helps to find common ground.

d. Internal kick-off: Provide the team members/colleagues with comprehensive information about the project's objective and the process involved. Identify any potential synergies that can be utilized for the project. Gather and share pertinent existing information, ideas, and concerns relating to the neighbourhood and the project. The leading team member plays a crucial role in ensuring a well-informed and collaborative approach is taken into account.

e. Develop a process roadmap: At this level, it is important to ask questions such as, the steps to be taken in the project, timing, engagement methods with target groups and stakeholders, and the PR strategy to maximize the outreach and public awareness. This level of enquiry contributes to effective project planning, communication and execution, leading to a greater likelihood of success and increased stakeholders and citizen support (SUNRISE, 2020b).

f. Create a participation promise: Prior to the next stage of co-creation, the project members jointly discuss the potential opportunities and limitations of the process. Important topics include the influence of citizen input on the projects, determining and allocating a realistic implementation budget, ensuring genuine citizen participation, and clearly communicating the concrete added value or return for the participants in the co-creation process.

3.1.1.2 Good practices on co-identification noted by SMALL partners

- **Prepare in advance:** Understand the dynamics of the end user group, identify their needs, and prepare solutions to stimulate focused discussions. Share important documents with stakeholders (including end users) in advance. Ensure the meetings are held in environments (physical or virtual) that are safe, open and conducive to sharing knowledge and insights, and accessible. It is also important to plan for reimbursement and/or incentives, especially for the end-users, thereby honouring their use of personal time and financial resources to participate in the initiative.
- **Use existing systems:** Use existing resources/tools (e.g. municipal data, research tools from existing projects, etc.) to save time and build team expertise.
- **Use visualisation tools:** Maps and images can help stakeholders visualise project goals and needs.
- **Conduct field assessment:** Assess the barriers faced by people with reduced mobility on site to gain a better understanding of their needs and the environment in which they live.

3.1.2 Co-development

This stage is characterised by creativity, collaborative brainstorming, and collective prioritisation, aiming to address the mobility challenges or other issues identified in the first stage. During this stage, ideas from various identified stakeholders are gathered to nurture the understanding of both the possibilities and limitation of the issues/subject in hand. The proposed measures are extensively discussed and decisions are made collectively, taking into account the alignment with the city's goals and budget. Moreover, it enhances the likelihood of citizen's acceptance and adoption of selected measures. In this stage, all the pertinent stakeholders actively engage and collaborate to create potential

solutions to overcome the identified challenges (e.g., shared mobility challenges) within the neighbourhood. Throughout this stage, effective communication and managing expectations are essential with the understanding that the final decisions lie with democratically elected bodies. Various methods and tools can be used to reach stakeholders, such as roundtable discussions, public events/workshops, newsletters, press releases, field trips and thematic walks. Here are some steps to carry out this stage (SUNRISE, 2020c):

3.1.2.1 Considerations for Co-development

a. Co-development plan: In the co-development plan ask questions such as: Who should be included as participants in the co-development stage?; What are the goals to be achieved?; How can the goals be achieved?; When can the objectives be achieved?

b. Set-up feedback mechanism: Facilitate feedback rounds by involving all relevant stakeholders, including seeking political approval if necessary. Plan for regular and timely reflections on the co-creation process with all stakeholders involved and discuss things that went well, and areas for improvement.

c. Dissemination: After selecting suitable measures/solutions from the co-development stage, share the potential measures with the involved stakeholders, promote and/or share the measures on a larger platform (online: project website, offline: postal services, workshops, campaigns) to validate the results.

d. Documentation: Record every participation activity and ensure proper documentation.

3.1.2.2 Good practices on co-development noted by SMALL partners

- **Bring concrete ideas:** Present tangible examples (e.g., software, app models, shared vehicles) to spark interest and engagement.
- **Understand motivations:** Focus on what intrinsically motivates participants to create a positive atmosphere and stimulate dialogue.
- **Negotiable vs. non-negotiable:** Determine what can be and what is not open for discussion in order to maintain focus.
- **Select and plan co-creation activities:** Identify which co-creation activity is appropriate for your stakeholders. Establish a clear plan of activities to be implemented to ensure alignment and progress.
- **Use planning tools:** Templates (e.g., user engagement templates) provide a clear overview of challenges and processes.

3.1.3 Co-implementation

Detailed planning and design are currently taking place. The aim of this stage is to involve Innovators/designers, policymakers, practice partners (including NGOs, private institutions, operators, etc.) and social actors in a joint and complementary manner, generally on a non-commercial basis. It also refers to the joint implementation of measures/solutions selected in the previous stage. The co-implementation plan must be practical and only include measures that enable the active involvement of social actors. Furthermore, this plan must be needs-based and mutually beneficial for those who contribute their resources. This stage may only be continued if all parties involved are convinced of its benefits and not because something is trendy on the market (Rupprecht Consult & Koucky & Partners, 2021). Below are some steps that can be taken in this stage (SUNRISE, 2020c).

3.1.3.1 Considerations for Co-implementation

a. Detailed implementation plan: List out all the major activities/sub-activities and the timeline to execute the final solution derived from the former stage.

b. Expectations management: It is important to keep the expectations regarding the solution(s) realistic. Often actors can expect more from the solution than what is feasible. So it's important to facilitate and manage the co-implementation phase by jointly discussing and drawing realistic goals and boundaries, and at the same time leaving room for adjustments (where possible).

c. Share distribution of power: Both the city (authorities/officials) and civic actors maintain a shared distribution of power and responsibilities. For instance, if the decision was made to jointly implement a pedestrian bus for students to walk to school, this stage would involve agreeing on the specific route, selecting the leader of the group, deciding whether to put up signs along the way, determining who would create the signs, and addressing other relevant aspects of the implementation process.

d. Green-light from all: Further steps can only be taken once all parties involved have agreed.

e. Iterative process: It is important to note that co-implementation is an iterative action-oriented process that requires space for (re)adjustments and improvements. If there is disagreement about the implementation of the co-developed solution, go back to the previous stage, make the necessary adjustments and then continue. If the implementation process goes smoothly, it's beneficial to follow-up and follow-through to keep track of the longer-term outcomes.

3.1.3.2 Good practices on co-implementation noted by SMALL partners

- **Buffer time:** Always include extra time in project timelines to account for delays.
- **Maintain backup lists:** Have a list of potential stakeholders to quickly replace dropouts.
- **Use visualisation tools:** Keep stakeholders engaged with maps, pictures, and prototypes during implementation.
- **Build relationship with early adopters:** It is important to create a relationship with early adopters of the solution to gather continuous feedback on how the solution fares across time and space.

3.1.4 Co-evaluation

This stage focuses on examining both the effects (the nature and extent of the changes) and the processes (such as the factors leading to these changes, the measures taken, and the barriers and driving forces influencing the process) resulting from the implementation of a pilot project. The co-evaluation stage provides insight into the mechanisms behind these changes. Co-evaluation is carried out jointly with the end users and stakeholders involved in the co-creation process. Depending on the focus of the evaluation, end users and other stakeholders who were not previously part of the co-creation process may also be involved.

3.1.4.1 Considerations for Co-evaluation

a. Monitoring: Involves observing both the impacts and processes of a project or an initiative throughout the co-creation process using forms and formats to record it.

b. Assessment: Entails analysing and presenting quantitative (e.g., Microsoft Excel) and qualitative (e.g., interviews) data collected through monitoring in a structured manner.

c. Evaluation: Focuses on assessing the significance of the outcomes and informs whether the outcome was beneficial, insightful and helps to formulate recommendations for future co-creation actions.

In addition, there are two approaches to co-evaluation. The first approach is the evaluation of sustainable mobility actions undertaken to address specific problems during the co-identification and co-implementation stages. The second approach is the evaluation of co-creation actions in all four stages. Where collecting the information at an early stage provides early warning, thus allowing to make adjustments to the process as and when required. It also helps in gathering learnings from the success and failures of the measures applied, thus contributing to more successful co-creation actions in future endeavours. Furthermore, there are two components in the co-evaluation actions that are as follows:

I. Co-creation process evaluation: The prime objective is to recognize the factors that promote or hinder the co-creation process. The monitoring of co-creation processes is qualitative and involves conducting surveys and interviews with various stakeholders, including project partners, co-creation forum members, city administration representatives, and other engages in the co-creation process. This process helps in addressing the query such as “How did something happen?”

II. Co-creation impact evaluation: The purpose of this evaluation is to assess the effects or the outcomes of the co-creation approach. It primarily focuses on changes in institutional and policy decisions at the neighbourhood or city level influenced by co-creation activities. It also involves studying the attitudes, perception, skills, mobility behaviour, and their consequences for the individuals engaged in the co-creation process. Both qualitative and quantitative methods are utilized to collect and analyse the data. The primary focus is on determining a quantifiable result and answer the question “What has changed?” (SUNRISE, 2020d).

3.1.4.2 Good practices on co-evaluation noted by SMALL partners

- **Contact person:** Co-evaluation process can be multifaceted involving diverse stakeholders. Hence, it is important to streamline the communication and coordination of activities within this phase. Appoint a dedicated point of contact to ensure consistent communication and follow-up throughout the pilot phases.
- **Quantifiable metrics:** Identify stakeholders and facilitate brainstorming sessions using data-driven metrics to address key challenges and solutions, such as stakeholders' engagement, high service demand, work pressure, business models, and availability and maintenance of shared vehicles.
- **Workshops:** Organise workshops with end users to gather direct feedback and validate service effectiveness.
- **Outsourcing:** Outsource evaluation tasks to engage stakeholders more deeply, leading to strengthened ownership and shared responsibility.
- **Early engagement:** The Co-evaluation process can take considerable time and resources. Hence, it's important to engage stakeholders from an early stage and gradually expand involvement to a broader group to ensure more inclusive input. Prepare in advance for potential pitfalls within the project, such as resistance or fear among participants.
- **Evaluation tools:** Leverage multiple tools, including user surveys, focus groups, and embedded app feedback for continuous evaluation.
- **Real-life data:** Analyse real-life usage data before dissemination to refine what works and identify areas for improvement.

3.1.5 Co-dissemination

Sharing information, mobility solutions, and key learnings through a communication platform and a well-structured dissemination strategy is essential for scaling impact. For example, outcomes such as shared mobility pilots (e.g., the tricycle) should be actively promoted within the stakeholder network and project teams. Drawing on the SMALL pilot experience, co-dissemination is understood as a collaborative process in which knowledge, results, tools, and real-world experiences are shared not only by the project team but also and more in specific by end users, local stakeholders, and partners. This approach goes beyond traditional, top-down dissemination by emphasizing shared ownership of both the message and the medium. Through this joint effort, dissemination becomes more relevant, inclusive, and grounded in practical experience—thereby increasing the chances that the proposed mobility solutions are impactful, scalable, and replicable in other contexts.

3.1.5.1 Considerations for Co-dissemination

a. Stakeholder mapping and inclusion:

Identify your intended audience and define each stakeholder's role in the dissemination process. Ensure different stakeholders who can take-up and/or apply the knowledge generated in the innovation project are in the room. This could include policy makers, civil society organizations, non-governmental organizations, other innovators/designers, etc. Additionally, it would be of value to also include stakeholders who may not have been included in the original project, but the knowledge generated from the project could be of help to build or support the innovation ecosystem (e.g. shared mobility).

b. Event planning: Organize thematic events for dissemination by inviting relevant speakers, developing engaging format and content of the event, securing accessible and apt venue that ensures inclusive participation of diverse stakeholders, and confirming the date in advance for smooth execution. It is important to ensure that the main stakeholders (who have played central role in the co-creation process) – including representatives of the end-users – are given the platform and space to voice their insights, inputs and experiences.

c. Facilitation: Appoint a skilled facilitator or presenter to effectively deliver and communicate the content.

d. Communication strategy: Select the most suitable communication platforms and tailor your strategy to reach and engage your target audience.

3.1.5.2 Good practices on co-dissemination noted by SMALL partners

- **Knowledge capture:** Gather and document lessons learned to inform future action and continuous improvement.
- **Multi-format outreach:** Use diverse formats (webinars, newsletters, testimonials) to add context to data, broaden reach, and deepen engagement. Plan dissemination efforts strategically, aligning with data readiness.
- **Tool co-development:** Co-create practical tools with local initiatives to ensure their relevance and adaptability across various contexts.
- **Wider reach:** Utilize co-creation events and flyers to expand accessibility and support ongoing knowledge sharing.
- **Stakeholder alignment:** Clarify the differing needs of stakeholders—some (e.g., cities) may require formal reports, while others benefit from clear roles and shared ownership.
- **Early engagement:** Involve key partners such as municipalities, hospitals, and schools early in the process to ensure meaningful adoption and long-term impact.
- **Resource efficiency:** Tackle resource constraints by planning dissemination efficiently and actively incorporating feedback to refine messaging.
- **Educational involvement:** Engage schools and teachers in co-dissemination efforts to scale emerging models and prepare for future demand, such as increased bicycle usage.

4. Co-creation in practice: Designing inclusive and impactful engagement

The success of co-creation relies heavily on choosing the right type of activity for the specific stage and target audience. Whether engaging families, older adults, people with disabilities, or institutional partners, activities must be thoughtfully adapted to ensure they are accessible, engaging, and meaningful. By creating safe and inclusive spaces for collaboration, co-creation leads to more sustainable, accepted, and impactful outcomes.

4.1 Selecting appropriate co-creation activities

Once you start thinking about your co-creation process, you will start planning several co-creation activities. A co-creation activity is a collaborative process where different stakeholders work together to co-identify, co-develop, co-implement, co-evaluate or co-disseminate. These activities emphasise inclusivity, engagement, and shared decision-making, ensuring that the end result reflects the real experiences and preferences of users, resulting in shared ownership. **Co-creation activities can take many forms, but it is important that an activity is tailored to the unique needs, preferences, and challenges of a target group, to the co-creation stage, to the available resources, and to the information you want to obtain.** A very complex design thinking workshop is, for example, not suitable for families and children, nor as a co-dissemination activity, or if you want to collect quantitative data, a role-play is not the right activity.

Co-creation activities designed for families and children should be safe, convenient, fun (e.g., offering ice creams in reward for a short interview), and interactive, while also offering educational value by turning shared mobility into a learning experience. These activities should address the needs of multiple generations and be inclusive of diverse family structures. Methods such as Lego serious play, simulation exercises, drawing, and storytelling are particularly effective in engaging

families and children in meaningful and imaginative ways. Co-creation activities for elderly participants should be flexible and inclusive, accommodating a wide range of mobility levels—from active seniors to those using walking aids. Creating a safe, comfortable environment and ensuring practical relevance are key to meaningful engagement. Moreover, communication should be tailored to different levels of digital literacy and organising co-creation workshops at nearby and easily accessible locations, rather than in a meeting room on the other side of town, can also lead to greater engagement (e.g., organise a workshop where the people are). Effective formats include interviews, accessibility audits, roundtables, and field trips, which often align with activities designed for people with physical impairments.

Co-creation activities involving this last group should respect diverse needs and perspectives, while fostering participation and valuing independence. These activities should allow for practical testing to ensure real-world relevance and usability (e.g., testing adapted vehicles). Common approaches include design thinking workshops, surveys, field trips, user diaries, and focus groups. You can of course also co-create with other people than your end users, e.g. municipalities, transport organisations, mobility agencies or volunteers. A wide range of activities can be used to co-create with these target groups as well, e.g. a survey, a roundtable, a design thinking workshop, an interview, user-friendliness testing or an accessibility audit.

Within SMALL, we developed an inclusive user engagement plan that provides guidance to anyone looking to incorporate the co-creation framework into their project. The user engagement plan structures the questions related “why, what, who, when and how” to create a clear and meaningful co-creation approach. It defines the decision-making power of the different stakeholders and provides an overview of potential co-creation activities and a timeline to structure your co-creation process. It is useful to plan the co-creation activities for the different stages of co-creation from the beginning. By doing so, you ensure that they are aligned with each other which will result in useful insights

leading to a successful co-creation process. The user engagement plan is composed of two materials that you can freely access:

- **A PowerPoint template** that will guide you in the strategizing of your co-creation process.
- **A Miro Board** to plan your co-creation timeline and get inspired with co-creation formats.

You can find more information, including testimonials, examples from SMALL partners, and the user engagement template, via this link:

<https://sharedmobilityforall.eu/co-creation-workshops/>

4.2 Key considerations when organizing a co-creation activity

Each co-creation activity is different and requires its own approach, but the main flow is very similar: you need to plan and arrange the activity beforehand, the activity itself needs to be moderated, and afterwards the insights need to be processed. Resources are therefore needed to support this process, not only financial resources, but also people who can organise, supervise, and implement the entire co-creation process.

4.2.1 Key steps in preparing a co-creation activity

4.2.1.1 Practicalities

Co-creation often takes more time than you would expect. On the one hand, you have all the practicalities that need to be taken care of, and, on the other hand, you need to prepare the content of the activity. Although the practical preparations vary from one activity to another, there are a number of elements that consistently come up: where will the activity take place? Who needs to be contacted? What is a suitable date for the activity? How many participants do you need and how will you reach them? These are just some of the elements that need to be taken into account. Table 1 provides a more comprehensive overview of the practicalities to be considered when developing a co-creation activity.



Table 1: Overview of key practicalities when organizing a co-creation activity.

Practical Aspect	Questions to Consider
Location	<ul style="list-style-type: none"> • Where will the activity take place? • Do you need to reserve a room? • Is the location accessible for everyone (wheelchair accessible, reachable by public transport)? • Is the location close to the target group? • Is there clear signage and easy navigation? • Is it a familiar or safe space for participants?
Date and Time	<ul style="list-style-type: none"> • When is a suitable moment for the target group (e.g. not during school hours, religious holidays, or meal times)? • Is there flexibility in case of delays or overrun? • Does the activity need to be a formal meeting, or could it simply be a “stop-by”?
Participants	<ul style="list-style-type: none"> • Who should be invited (target group, stakeholders)? • How many participants are needed? • Are there any language or cultural considerations? • What additional information do you need from the participants?
Communication & Invitation	<ul style="list-style-type: none"> • How will participants be contacted (email, letter, phone call, through networks)? • Do invitations clearly explain the purpose and format of the session? • Is the language tailored to the audience? • Are reminders sent in advance?
Facilitator(s)	<ul style="list-style-type: none"> • Who will guide the session? • Do they have experience with co-creation and with the target group? • Are they trained to manage group dynamics and power imbalances? • Do they speak the participants' language(s)?
Materials & Tools	<ul style="list-style-type: none"> • What materials are needed (post-its, markers, visual aids, audio recording)? • Will interpretation or translation be needed? • Are the materials age-appropriate and inclusive?
Catering & Breaks	<ul style="list-style-type: none"> • Will food/drinks be provided? • Are dietary restrictions or allergies considered? • Is there time for breaks and informal social interaction? • Can we provide games or activities for children to engage in while their parents participate in the co-creation process, or during breaks?

Practical Aspect

Questions to Consider

Scheduling

- What is the timeline for the session?
- How long does each part take?
- Is there a clear beginning, middle, and end?

Accessibility

- Are there accessible toilets and nearby transport links?
- Is assistive technology available (e.g. microphones, hearing loops)?
- Is information presented in simple, easy-to-read language?

Follow-up

- How will feedback be collected after the session?
- How will participants stay informed about what happens next?
- Is there a plan for continued involvement?
- Who is responsible for documenting and sharing results?

Cost & Budget

- What is the total budget for the activity?
- Are costs for location, catering, materials, and facilitation accounted for?
- Will participants be reimbursed for travel or receive a stipend?
- Is there a contingency budget for unexpected expenses?

In SMALL, a template was created to systematically collect this information in preparation for a co-creation activity.

This template can be downloaded here: [Template user engagement event](#)

4.2.1.2 Preparing the workshop's content

In addition to the practical arrangements, the content of the activity also needs to be carefully prepared. At this stage, you need to have a clear idea of what exactly you want to achieve with the activity. The information you gather during a workshop—both in terms of content and data type—must be usable afterwards. If you do not think this through in advance, the co-creation activity may not deliver the desired results. This would be a waste of time and resources. Therefore, take a step back and zoom out to gain a better overview of the entire project. Which phase of the co-creation process is this activity part of, and what are the next steps? What kind of information needs to come out of this activity, and what form

should it take? A focus group, for instance, can yield in-depth insights from a small group of participants, resulting in qualitative data, whereas a survey allows for a broader reach but generates less detailed, more quantitative information. How the data needs to be processed—and what the next steps in the co-creation process are—will be decisive here. That's why we stress that a well-considered choice of co-creation activity is crucial.

Next, sufficient time will also need to be allocated to preparing the content: formulating questions for interviews or focus groups, developing a questionnaire for a survey, or drafting a guide for a workshop. This is often not a straightforward task, so it can be helpful to check your approach with others, whether or not they are directly involved in the project. In addition to planning the core of the workshop, it's also important to consider the broader content and framing of the activity. In many cases, a session begins with a general introduction to the project and how the activity fits

within it. This is also a good moment to manage participants' expectations: what can they (not) expect from the session/pilot project, and what is the added value for them? Depending on the number of participants, it may also be helpful to let them briefly introduce themselves (e.g. through a targeted question). This can serve as an icebreaker and help lower potential barriers. Once the group feels more at ease, the core part of the activity takes place. It is essential to document this phase thoroughly, as it provides the key information that will need to be processed later. The session concludes with a closing segment, which is just as important. The final part ensures that everyone is aligned, understands what has been achieved, and knows what the next steps will be. However, it is common for sessions to run out of time, causing this wrap-up phase to be rushed or skipped altogether. This is unfortunate, as the conclusion is a valuable moment to revisit the activity's objectives, to acknowledge the importance of the participants' contributions, and to clarify how contact can be maintained (e.g., for future activities or sharing of results). This is a crucial aspect of building a contact network.

4.2.1.3 Processing the insights

After the co-creation activity, all the gathered information still needs to be processed. Depending on the type of activity, the documentation – and therefore how it is processed – will vary (e.g. notes from a focus group, responses to a survey, creative outputs from a design thinking workshop, a mobility diary, etc.). However, it is important that this step is not overlooked. Each activity will generate valuable insights, so it is essential to document them systematically. This can, for example, be done using a template in which photos, key insights, and identified needs are collected after the session. These materials are not only useful for the progress of the project but also for communicating outcomes to the participants and any other stakeholders who may benefit from this information.

4.2.2 Managing a co-creation activity: Key skills and core values

Designing and facilitating a co-creation activity requires a specific set of skills and values. It is therefore important to take a moment to consider these. 'Skills' refer to abilities, expertise and competencies, while 'values' relate to beliefs, principles, and priorities. Through in-depth discussions, the SMALL partners identified a set of essential skills and key values that are particularly important for a co-creation manager during the co-creation process. Table 2 gives an overview of this set of essential skills and key values.



Skills

Storytelling and charisma

The ability to emotionally connect with stakeholders by clearly communicating the project's purpose in a compelling and relatable way, making the case both heard and appealing.

Giving and receiving feedback

The skill to recognise when and where feedback is needed, to offer constructive input, and to integrate feedback from others effectively – always with an eye on the long-term goals of the project.

Proactiveness

The capacity to sustain momentum and take initiative, even when others slow down.

Active listening

A genuine curiosity and openness to others' ideas, demonstrated through thoughtful questions and attentive engagement that values every contribution.

Flexibility and adaptability

The readiness to adjust your approach in response to disagreement, changing group dynamics, or unexpected developments in the process.

Evaluation and analytical thinking

The ability to assess, interpret, and build upon ideas from the outset, ensuring that insights are meaningfully processed and contribute to the project's success.

Marketing, communication, and promotion

The skill to clearly articulate the project's goals, progress, and achievements to diverse audiences, helping to raise awareness, foster engagement, and celebrate outcomes.

Values

Creating a safe-space

Fostering an inclusive and respectful environment where all participants feel comfortable to share their thoughts, ideas, and experiences without fear of judgement.

Responsibility and courage

Taking ownership of decisions while also having the courage to step back, listen, and adjust when necessary for the benefit of the group.

Service oriented

Placing the needs and well-being of the community and end users at the heart of every decision and action.

Open-mindedness

Embracing diverse perspectives and actively building strong, respectful relationships across different backgrounds and experiences.

Inspiration and vision

Inspiring and taking inspiration from other cities/ organizations to replicate successful pilots.

Reliability

Ensuring that proposed services are dependable, practical, and deliver on their promises.

Autonomy and freedom

Supporting a balance between individual freedom and shared responsibility, creating space for creativity and innovation within a co-creation process.

Teamwork

Collaborating with care, dedication, and mutual respect – both within the team and with the target group.

Integrity

Building trust through honesty, transparency, and sincerity, with no hidden agendas and a clear commitment to shared goals.

Compassion and empathy

Engaging in meaningful dialogue, showing genuine interest in others' stories, and asking thoughtful follow-up questions to deepen understanding.

Boldness and humility

Having the courage to think big and push boundaries, while also recognising the value of small, incremental steps.

This is a very extensive list, which makes it unrealistic to expect that one person will possess all these skills and values. One SMALL pilot partner rightly expressed this concern by stating: “Only together with the team one can reach the goal, one person won’t have all skills”. These skills and values can be collectively embodied by a complementary team. Moreover, it is not necessary for a team to possess every single quality listed. What is important, however, is to act in accordance with the strengths of the team. If no one in the team is able to lead a storytelling workshop in a charismatic way, then it is best to choose a different activity. If needed, support can also be sought externally by hiring people with specific expertise. In that case, it is important to factor this into the budget. Consider, for example, knowledge institutions such as universities, when advice is needed on research-related matters (e.g. conducting a survey or other forms of data collection).

All of this ties in with another important element of the co-creation process, namely co-learning – or group-based learning. In a co-learning process, individuals learn from one another by sharing knowledge, experiences, and perspectives. This can take place within a team (within an organisation), but it is also one of the defining features of the SMALL project. Within SMALL, we learn from and with each other. The knowledge that partners gain during these learning moments is taken back into their own work contexts, but they also bring valuable knowledge, experiences, and perspectives into SMALL. This exchange is truly enriching and adds significant value.

Now the key information on planning and organising co-creation activities has been covered. The next and final chapter provides practical insights in SMALL’s co-creation framework. It offers a valuable overview of the challenges, good practices adopted, and lessons learned by the SMALL pilot partners.

Reflection questions

- What specific skills are needed to achieve your shared mobility goals?
- How can you ensure that your team’s skills align with your project’s core values?
- What steps can you take to address potential conflicts between skills and values?
- Have you assessed which skills your team already has, and which ones need to be developed?
- Is your co-creation process guided by your values?
- What steps have you taken to balance skills and values for a successful co-creation outcome?



5. Practical insights in SMALL's co-creation framework

This chapter provides valuable insights into the practical experiences of SMALL pilot partners who have implemented the SMALL co-creation framework. Their stories and lessons form a rich source of knowledge that extends beyond theoretical concepts.

This experience-based learning approach has been deliberately chosen because it offers multiple benefits:

1. Developing deeper understanding of how the co-creation framework functions in practice

2. Demonstrating transparency about both the good practices and challenges that partners have encountered when applying the framework

3. Sharing practical lessons that can enrich future implementations.

Stories and concrete examples make abstract concepts accessible and recognizable. They show not only what works, but also where challenges lie and how these can be addressed.

Through these shared experiences, you as a reader are better equipped to:

- **Set realistic expectations for your own co-creation process**
- **Recognize and avoid potential pitfalls**
- **Apply proven strategies and best practice**
- **Make informed decisions about how to adapt the framework to your specific context**

5.1 Developing a deeper understanding of SMALL's co-creation framework

Non-linear nature of co-creation

Co-creation unfolds organically rather than following a rigid step-by-step sequence. The process naturally moves forward, backward, and in circles, reflecting the dynamic nature of real-world collaboration and allowing ideas to evolve through genuine stakeholder interaction.

"I find it very helpful to look at the process of co-creation – because it shows where we started and how far we have come. I also like that the process is not linear but rather has its natural flow – goes up and down and comes around – and this is how the real process unfolds."

Inger Mellberg
Municipality of Varberg

Flexible entry points

Co-creation can begin at any stage of the process—there's no requirement to start from "step 1." What matters most is engaging stakeholders when and where their input will be most valuable and impactful to the project's success.

Targeted and adaptive participation

Not all stakeholders need to participate in every stage of the process. Instead, participation should be strategically tailored to match the specific needs and objectives of each phase, ensuring that the right voices contribute at the right moments.

Effective input through iterative discussion

Successful co-creation hinges on meaningfully integrating stakeholders' perspectives throughout the process. While stakeholders do not need to be constantly involved, their input should continuously guide progress and inform decision-making.

"I am very happy to see a realistic and practical representation of co-creation process within this project. I wrongly thought that co-creation process should always start with step 1, but now I understand that in the process of innovation co-creation can start from any point – what is important is that we are able to engage stakeholders when and where needed. I also like the idea that for co-creation you do not need to have all stakeholders always from start to finish. You can instead decide on where they are needed. And I guess it's important to have the stakeholders' inputs as a driving force always even though they are not always present in each and every stage of co-creation process."

Kia Madsen
Capital Region of Denmark

5.2 SMALL partners' experiences: Good practices and challenges in applying the co-creation framework

The practical implementation of the co-creation framework revealed significant gaps between the theoretical framework and real-world application for SMALL pilot partners. This section examines the challenges they faced and identifies best practices that emerged from their experiences.

"As we move across the axes – from left (ideation) to right (implementation) or from the bottom (engagement of project team) to the top (engagement of broader stakeholders) – the complexity increases. From left to right the complexity increases in terms of resources, logistics, personnel, and making the ideas come to life. From the bottom to the top – the complexity increases for engagement; it becomes very difficult to engage more and more people as we move up the axis."

Jacqueline Scheidweiler
Brest Métropole

Managing growing complexity

The framework acknowledges that complexity increases significantly as projects progress from initial ideas to implementation. This escalation demands greater resources, more detailed planning, and increased effort. Additionally, as more stakeholders join the process, maintaining engagement and alignment becomes increasingly challenging, requiring careful coordination and clear communication strategies.



Time constraints

Challenges:

- **Coordination and co-creation processes often take longer than planned.**
- **Balancing timeslots for specific end users is difficult.**
- **Contractual issues with solution developers can delay pilot activities.**
- **Qualitative data collection (e.g., FGDs, interviews) often exceeds expected timelines.**

Good Practices:

- **Prepare in advance:** Understand user group dynamics, identify their needs, and prepare solutions to stimulate focused discussions.
- **Leverage existing systems:** Use municipal research tools to save time and build team expertise.
- **Buffer time:** Always include extra time in project timelines to account for delays.

Stakeholder engagement

Challenges:

- **Difficulty finding and reaching relevant stakeholders and end user representatives.**
- **Low responsiveness from participants, causing delays.**
- **Limited end user involvement reduces their influence on outcomes.**
- **Stakeholders work at different paces, leading to misaligned understanding.**
- **Dropouts (e.g., Capital Region of Denmark) require re-engagement, causing topic divergence and loss of interest.**
- **Diverse stakeholder needs make consensus challenging.**
- **Make it a fun and attractive process to work on.**

Good Practices:

- **Use visualisation tools:** Maps, pictures, and prototypes boost interaction and engagement.
- **Understand motivations:** Focus on what intrinsically motivates participants to create a positive atmosphere and stimulate dialogue.
- **Bring concrete ideas:** Present tangible examples (e.g., software, app models, shared vehicles) to spark interest, rather than discussing abstract concepts.
- **Maintain backup lists:** Have a list of potential stakeholders to quickly replace dropouts.

Feasibility issues

Challenges:

- **Not all locations are accessible for all user groups (e.g., wheelchair users).**
- **The objective and/or planning of co-creation activities are not clear.**
- **End users or stakeholders wish to negotiate things that cannot be changed.**

Good Practices:

- **Clarify co-creation activities:** Define which activities to implement to stay on track.
- **Use planning tools:** Templates (e.g., user engagement templates) provide a clear overview of challenges and processes, aiding better planning.
- **Know negotiable vs. non-negotiable:** Identify what can be compromised and what cannot to maintain focus.
- **Conduct field trips:** Assess barriers faced by people with reduced mobility to better understand needs and pilot environments.



5.3 Key learnings of SMALL pilots for co-creation

This experience-based chapter concludes with a number of key learnings that can enrich future implementations of the co-creation framework:

I. Engagement through storytelling and dialogue: Initial approaches to engage target groups were passive and ineffective. Inspiration from a film-making sector (using storytelling and dialogue to engage children) led to an “Aha!” Moment.

Practical takeaways: Incorporate storytelling, gamification, dialogue, and visualization to stimulate active participation and expand product reach.

II. Early co-creation framework is crucial: Lack of a co-creation framework from the start limited the pilot’s direction and reach. Missing elements like early bicycle try-outs and storytelling approaches hindered user engagement.

Practical takeaways: Establish a co-creation framework early to guide the pilot, identify gaps, and involve the right stakeholders.

III. Reflect and learn from unsuccessful pilots: Co-creation helps analyse why certain aspects failed, identify missing stakeholders, and align goals. Unsuccessful co-creation often results from misaligned team goals and lack of shared vision.

Practical takeaways: Regularly reflect on pilot outcomes, ensure all stakeholders are aligned, and address gaps in collaboration.

IV. Not only end users should be involved in the co-creation process: Although end users are one of the most important target groups, other stakeholders, such as the municipality, housing associations, volunteers, schools or – a group that is sometimes overlooked – shared mobility operators, should also be involved. Otherwise, there is a risk that the co-creation process will result in unrealistic plans that have no change of success. That would be a waste of time, money, and energy.

Practical takeaways: A thorough stakeholder mapping at the start of the pilot, but also during the co-creation stages, is crucial to ensure that all relevant stakeholders are involved (at the right time).

I. Strategic planning and resource allocation:

Allocate sufficient time for stakeholder coordination and strategic planning. Plan timelines for co-creation stages and ensure adequate budget for events, resources, and scaling.

Practical takeaways: Designate roles (e.g., research, data analysis) and allocate sufficient budget for different stages of co-creation (e.g.: resources for co-creation/ user engagement events, scaling-up the services). Strategic planning within the team to create a detailed implementation work-plan for co-creation process and different pilot phases

II. Strong facilitation skills matter: A skilled facilitator with probing techniques can enhance engagement and collaboration.

Practical takeaways: Invest in facilitators who can guide discussions, foster dialogue, and keep stakeholders aligned.

These learnings have provided clear pathways to the “Shared Mobility for All” project to create more impactful and inclusive mobility solutions.

Tips for successful co-creation and user engagement:

- Use storytelling, gamification, and dialogue to engage users.
- Start with a clear co-creation framework and involve stakeholders early.
- Reflect on failures, align team goals, and allocate resources strategically.
- Prioritize skilled facilitation and role clarity within the team.

6. Conclusion

The added value of this guide is reflected in three main components.

First, it introduces the SMALL co-creation framework, which departs from a static and linear interpretation of co-creation. Instead, it emphasizes the dynamic and iterative nature of the process. As several SMALL partners note, a project can enter the co-creation process at different stages, meaning that the steps do not need to follow a fixed sequence. In one of the pilot projects, for example, an initial co-creation cycle was conducted with end users, volunteers, and other stakeholders directly involved in the shared mobility service. In a second cycle, which focused on the long-term viability of the pilot, entirely different stakeholders—such as private sector representatives—were engaged. This highlights the flexibility and versatility of the framework. Moreover, pilot partners report that this dynamic character positively contributes to how the co-creation process is experienced and implemented.

Second, the SMALL project centers on people with reduced mobility and explores how society can build a truly inclusive mobility system. This focus is examined in greater detail in the SMALL Insights paper (see Köse et al., 2023). Consequently, our co-creation activities and pilot partner experiences are designed with these end users as the primary focus. Co-creation proves both valuable and necessary in this context because understanding the diverse needs within any cluster of people with reduced mobility presents significant challenges. Consider, for instance, the wide spectrum of needs among elderly people alone (e.g., from active elderly people to those who can no longer move around independently). Recognizing this complexity from the outset underscores why co-creation is essential to our approach. We hope this guide will inspire others seeking to incorporate inclusive and participatory design processes in their own (pilot) projects.

Third, the guide aims to prepare you, the reader, for launching your own co-creation process by offering a behind-the-scenes view of the SMALL project. This serves

three key purposes: (1) to foster a deeper understanding of how the co-creation framework operates in practice; (2) to provide transparency regarding both the best practices and challenges encountered by partners; and (3) to share practical lessons that can enrich future implementations of the framework. Real-life stories and concrete examples help translate abstract concepts into relatable, tangible insights. They show not only what works but also where challenges may arise and how they can be addressed.

Importantly, the guide does not aim solely to disseminate the co-creation framework developed in SMALL. At its core, it advocates for embedding co-creation as a structural component of projects and organisations—not only in research on inclusive shared mobility, but across all relevant fields. It is vital to acknowledge that all of us will experience some form of reduced mobility at some point in life—whether due to injury, carrying heavy luggage, pushing a stroller, living with a permanent disability, or experiencing age-related limitations. In light of global population aging, the importance of this perspective cannot be overstated. Additionally, many mobility limitations are not visible, making the case for inclusive systems all the more urgent. To truly address this need, co-creation must become a foundational element of governance and policy-making. As Sandra Witzel powerfully puts it in an interview with POLIS: “True co-creation is not a workshop or a pilot – it is a governance principle” (Inserra & Mecatti, 2025). This requires a shift from designing for people with reduced mobility to co-creating public space together. Witzel summarizes this shift as follows: “When involvement is built into systems, not bolted on, we move from tokenism to transformation and lift our communities as a whole.

Inclusive mobility is not a side project. It is a measure of whether our cities work for everyone. That requires systemic change, not just good intentions” (Inserra & Mecatti, 2025). With the development of this guide, as well as the Inclusive Shared Mobility (ISM) Planning Guide, the SMALL project actively contributes to the creation of a more inclusive mobility system. By widely sharing this message, we hope to help spark the systemic change that is urgently needed.

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