



Driving Equitable and Accessible 15 Minute Neighbourhood Transformations

WP3. 15-minute city Decision Support Tool

T3.3. Layer 3: User-optimised 15mC accessibility

Deliverable D 3.2

Report for the evaluation framework Layer 3

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List of abbreviations

Abbreviation	Definition
15mC	15-minute city
DDST	Dreams Decision Support Tool
DREAMS	Driving Equitable and Accessible 15 Minute Cities Neighbourhood Transformations
GP	General Practitioner
IKP	Interactive Knowledge Platform
LL	Living Labs
PT	Public transportation
RQ	Research question
TUM	Technische Universität München (Technical University of Munich)
TX.X	Task (work package number).(task number)
VUB	Vrije Universiteit Brussel
WP	Work Package

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1. EXECUTIVE SUMMARY

This Deliverable summarises the results of Task 3.3 within Work Package 3 of the DREAMS-project. It documents the development, implementation, and outcomes of a qualitative, participatory workshop methodology designed to capture residents' desired accessibility to neighbourhood amenities in suburban and peri-urban Living Labs across Europe.

Building on the adapted "Flowers of Proximity" method, the workshops centred on two rounds. In the first round, participants mapped and discusses what amenities they currently access, how, and how long this takes them. In the second round, this exercise was repeated but with an ideal scenario in mind, in order to inquire after participants' desired accessibility as well as the existing gaps between their actual and desired amenity accessibility. This task complements the other quantitative elements of Work Package 3 that focus on current (actual) accessibility (D3.1) and feasible accessibility (D3.3).

The methodology was tested through workshops conducted in six Living Labs (Brussels, Budapest, Munich, Paris, Utrecht, and Vienna), each following a common workshop script, toolkit, and observation protocol developed by Vrije Universiteit Brussel (VUB). This deliverable addresses three research questions: (1) how desired accessibility can be captured through a qualitative, participatory workshop methodology; (2) what differences emerge between residents' current and desired accessibility patterns; and (3) to what extent the adapted Flowers of Proximity method enables participants to articulate barriers, enablers, and aspirations regarding neighbourhood accessibility and mobility.

The results of the workshops show that proximity and accessibility are not always considered to be equally important to participants. Another finding was that not all amenities were ideally situated nearby. For example, both healthcare and workplaces were discussed often. While access to healthcare services was ideally situated nearby, this was not the case for workplaces, where longer travel times were considered tolerable or even desirable. In some cases, participants found travel time a valuable addition to their day as it gave them time to transition between different locations, and did not wish to necessarily reduce or eliminate it.

The workshops confirmed that the adapted Flowers of Proximity method is intuitive and effective at surfacing the "why" behind accessibility preferences in ways a quantitative survey cannot. The deliverable concludes by recommending diverse participant recruitment, active facilitator involvement in analysis, and allowing sufficient time for participants to articulate desired-scenario amenities during the second workshop round.

2. INTRODUCTION

This deliverable is part of the DREAMS project (Driving Equitable and Accessible 15 Minute Neighbourhood Transformations), which aims at examining how co-created and user-centric transportation services, mobility and flexible activity hubs can contribute to accessible, sustainable and inclusive 15mC neighbourhood in sub- and peri- urban areas in European cities and regions.

The present document is the Deliverable (D3.2) documenting Task 3.3 within Work Package (WP) 3. WP3, led by the Technical University of Munich (TUM), develops and introduces the DREAMS Decision Support Tool (DDST). This is a tool that can help stakeholders by demonstrating how different groups of residents' use of sustainable modes of transportation can be encouraged by different built and social environments and mobility solutions. The Decision Support Tool has 5 layers to transform urban outskirts into 15mC neighbourhoods:

- Layer one (T3.1, part of D3.1), which looks into the current accessibility of amenities in the LL locations;
- Layer two (T3.2, part of D3.1), which considers how LL residents perceive accessibility to amenities in their neighbourhood;
- Layer three, (T3.3, focus of this Deliverable), which focuses on the desired accessibility of the LLs;
- Layer four (T3.4, part of D3.3), which looks into the feasible and constrained 15-minute city accessibility of the LLs;
- Layer five (T3.5, part of D3.3), which considers the strategic objectives and societal impacts of the scenarios developed in WP3.

Deliverable 3.1 is available on the DREAMS website, D3.3 is forthcoming in 2026.

The goal of T3.3 is twofold: to develop a workshop methodology (by VUB) and to test this methodology in the Living Labs (LLs). The goal of the workshops is to discover participants' preferences for neighbourhood amenities. It gives insights into what amenities participants want to have around them, what mode they would like to access these, as well as their ideal travel time. It also provides insights into the differences between their actual current accessibility and their desired one, and what elements pose as barriers or enablers to reach the desired state. In T3.3, this workshop method gets tested in the various LL environments to discover potential points of improvement and gather feedback. As such, the main result of T3.3 is feedback on the workshop methodology; the workshops themselves function as test cases. As the methodology is qualitative in nature, its goal is not to generate output that is representative or generalisable to the entire population of the workshop area.

The outcomes of layer 3 will be integrated within the Dreams Decision Support Tool (DDST) as a part of the Interactive Knowledge Platform (IKP). The outcome of this task is the workshop kit, as well as the summary of the workshop facilitation held in each Living Lab (LL). It builds on, and complements the results of Layers 1 and 2, as presented in D3.1.

This deliverable addresses three research questions:

- RQ1: How can desired accessibility to neighbourhood amenities be captured through a qualitative, participatory workshop methodology in suburban and peri-urban contexts?
- RQ2: What differences emerge between residents' current accessibility patterns and their desired accessibility patterns?
- RQ3: To what extent does the adapted Flowers of Proximity method enable participants to articulate barriers, enablers and aspirations regarding neighbourhood accessibility and mobility?

The focus on desired accessibility complements existing accessibility measurements in DREAMS. While previous tasks primarily assess current accessibility conditions and travel behaviour in the form of a large-scale quantitative survey (T3.2) this task seeks to understand how residents would prefer to organise their daily activities and access neighbourhood amenities. By comparing current and desired accessibility, the workshops provide insights into potential accessibility improvements and reveal the motivations that underlie participants' preferences. In particular, this task builds directly on T3.2's survey reported in Deliverable 3.1, which establishes residents' current accessibility and, in part,

already probes their desired accessibility; the workshops reported here complement that survey by exploring the reasoning behind those patterns in qualitative depth.

The outcomes of T3.3 should therefore be understood as complementary to the quantitative outputs generated in other WP3 tasks. Whereas other layers focus on measuring and modelling accessibility patterns, Layer 3 contributes qualitative insights into the experiences, motivations and contextual factors that shape residents' accessibility needs and preferences.

The report is structured as follows: Section 2 is a literature review outlining the main concepts used in T3.3; section 3 outlines the methodology, including the workshop method, the method development and the description of all materials. Section 4 summarises the results of the workshops for each Living Lab. Finally, Section 5 presents the conclusions drawn from the analysis.

3. LITERATURE REVIEW

This literature review gives an overview of the main concepts used in Task 3.3. Specifically, it discusses three interrelated themes. First, it shortly examines the concept of the 15-minute city and its application within suburban and peri-urban contexts. Second, it explores definitions of accessibility and the distinction between current, perceived and desired accessibility in existing research. Third, it reviews the role of qualitative and participatory approaches in understanding neighbourhood accessibility and residents' preferences. Together, these concepts provide the theoretical basis for the development and testing of the workshop methodology used in T3.3.

3.1. The 15-minute city and its application in suburban and peri-urban contexts

The concept of the 15-minute city was coined by Moreno and popularised internationally in the context of post-pandemic urban recovery (Moreno et al., 2021). It envisions urban environments in which essential facilities, such as schools, grocery stores and health facilities, can be reached by residents within roughly 15 minutes by foot or by bike (Arslan & Laporte, 2025; Moreno et al., 2021). Conceptually, the model is often described through four interlinked principles: density, proximity, diversity and digitalisation, which together aim to re-establish a "human scale" relationship between residents and their everyday environment (Pozoukidou & Chatziyiannaki, 2021; Pozoukidou & Angelidou, 2022). The overarching aim is to improve liveability, reduce dependence on private cars and promote more sustainable and equitable patterns of urban development (Arslan & Laporte, 2025; Khavarian-Garmsir et al., 2023).

However, the 15-minute city concept focuses heavily on urban cores, thus limiting the implementation of these projects in urban outskirts and peripheries (Arias-Molinares et al., 2025). In this case, urban outskirts are understood as "mid dense neighbourhoods in the near context of an urban area" (Arias-Molinares et al., 2025, p.2). Because of this limited focus, such areas tend to remain both car-dependent and economically dependent on nearby city centres. The lack of attention to urban outskirts also limits the interconnection between different areas within the urban periphery. The 15-minute city model therefore risks generalising the spatial, demographic and infrastructural preconditions of dense urban cores, and fails to account for how these conditions differ substantially in lower-density, car-oriented outskirts (Arslan & Laporte, 2025). This critique echoes a broader debate in the literature: proximity-based planning concepts are rarely "one-size-fits-all", and their translation to different urban morphologies (suburban, peri-urban, rural) requires context-specific adaptation rather than the direct transposition of thresholds developed for dense, mixed-use city centres.

3.2. Defining 'amenities'

Although "amenities" is a core concept in the 15-minute city literature, there is no single, universally accepted definition of what should be considered an amenity. Existing studies use the term inconsistently. Some apply a narrower, functional reading, following Moreno's original formulation of the model, which centres on a limited set of essential urban functions (living, working, commerce, healthcare, education and leisure) (Moreno et al., 2021; Arias-Molinares et al., 2025). Others adopt a

considerably broader understanding, incorporating green space, social infrastructure and informal gathering places alongside conventional services (Pozoukidou & Chatziyiannaki, 2021; Geurs & van Wee, 2004).

Within this deliverable, amenities are defined as facilities, services and destinations that support residents' daily lives and wellbeing. These include, but are not limited to, healthcare facilities, educational institutions, retail services, leisure facilities, cultural venues, workplaces, green spaces and locations for social interaction. This broad understanding follows accessibility literature more generally, which defines accessibility in relation to the opportunities that people can reach and in which they can participate, rather than restricting it to a fixed and predetermined list of destination types (Geurs & van Wee, 2004).

3.3. Different types of accessibility: objective, perceived and desired

Accessibility is most commonly measured through "objective" or calculated indicators, such as travel time, distance or spatial proximity to a set of predefined destinations. Geurs and van Wee (2004) provide a framework for this type of measurement, distinguishing four components of accessibility: the land-use component (the distribution of activities in space), the transport component (the effort required to travel between locations), the temporal component (time constraints on availability and travel) and the individual component (people's needs, abilities and opportunities). However, these calculated indicators do not necessarily reflect how residents actually experience or evaluate their own accessibility (Pot et al., 2021). Accessibility research has therefore increasingly distinguished between objective accessibility, perceived accessibility and desired accessibility.

Perceived accessibility refers to an individual's subjective assessment of how easily they can reach activities that are meaningful to them, commonly defined as "how easy it is to live a satisfactory life with the help of the transport system" (Lättman et al., 2018, p. 501). Perceived accessibility complements calculated accessibility because purely spatial measures such as travel time and distance often fail to capture how people actually experience travel, opportunities and barriers in daily life; Pot et al. (2021) argue that calculated measures should be understood as an imperfect proxy for perceived accessibility, rather than as an objective benchmark against which perceptions are compared.

Desired accessibility, as defined in this study, refers to the accessibility situation residents would ideally like to experience. It therefore focuses not on current opportunities or current perceptions, but on residents' aspirations, preferences and desired future conditions. Desired accessibility can involve shorter travel times, different transport modes, the presence of new amenities, or changes in the quality and attractiveness of existing amenities. Compared to perceived accessibility, desired accessibility remains a comparatively underdeveloped concept in the literature; related notions appear in residential-preference research, where scholars examine the "pull factors" that draw households toward particular neighbourhoods (Coulter & Scott, 2015; Saghapour & Moridpour, 2019), and in work on "residential dissonance", which describes the gap that can arise between a household's actual level of accessibility and the level it would prefer, often as a result of housing-supply constraints (Lee et al., 2020).

This focus on desired accessibility is particularly relevant within the context of the 15-minute city. While many studies evaluate whether amenities are located within predefined travel thresholds, fewer studies examine whether these thresholds correspond to residents' own preferences or everyday realities. Exploring desired accessibility therefore allows researchers to move beyond normative, top-down assumptions about what constitutes a liveable neighbourhood, and to better understand how residents themselves envision liveability in the specific context of their own neighbourhood.

3.4. Qualitative and participatory approaches to studying accessibility

Various qualitative and participatory approaches have been used to study accessibility and 15-minute city principles. Common methods include focus groups, participatory workshops, co-design sessions, participatory mapping exercises, walking interviews, mobility biographies and Living Lab approaches (Belfield, 2025; Oetken, 2025). The value of such approaches for planning research more broadly has

long been argued in the literature: Gaber (1993) contends that an over-reliance on quantitative, indicator-based research risks overlooking dimensions of urban experience that are only accessible through direct field engagement with residents. These methods are typically used alongside quantitative accessibility analyses, providing complementary insight into residents' lived experiences, everyday mobility practices and neighbourhood aspirations, rather than replacing quantitative measures altogether. Within the specific context of the 15-minute city, Mahmoudpour and Shirazi (2025) similarly use a qualitative, content-analytic review of the literature to surface debates that quantitative threshold-based studies tend to overlook. However, studies on the difference between actual and desired accessibility of amenities in urban outskirts has so far not been conducted.

Several authors argue for participatory, context-specific planning approaches that engage directly with local urban realities (Arias-Molinares et al., 2025; Oetken, 2025). This call is consistent with a longer-standing tradition in planning scholarship that stresses the value of qualitative, field-based research for capturing dimensions of urban life that quantitative indicators alone cannot reveal (Gaber, 1993). To fully understand the concerns of residents within a given urban environment, a space that encourages collaboration between researchers and residents is considered essential, and qualitative workshops are seen as a particularly suitable format for creating such a space (Belfield, 2025). In the specific context of 15-minute city research, several authors similarly advocate for public meetings and bottom-up methodologies (Arslan & Laporte, 2025; Oetken, 2025). Such qualitative approaches are argued to generate new knowledge and perspectives and, importantly, to include and legitimise participants' subjective experiences alongside more conventional, indicator-based assessments of accessibility.

4. METHODOLOGY

4.1. The adapted "Flowers of Proximity" method

The following section of the document describes the methodology that was adopted, its goal and aim, and its fit within WP3. Then, a detailed guideline and toolkit for the workshops will be introduced to ensure a successful implementation; this section includes recruitment guidelines and workshop practicalities. Finally, data processing guidelines are outlined for the post-workshop process.

The workshop methodology applied in T3.3 is based on the Flowers of Proximity method developed by Technische Universität München (TUM) (Büttner et al., 2025). The original purpose of the method is to facilitate discussions regarding accessibility preferences and neighbourhood amenities in suburban contexts. It enables participants to visually represent the amenities they access, the transport modes they use and the travel times involved. Within DREAMS, the method was adapted to better align with the objectives of the Decision Support Tool and the research focus on desired accessibility. The most important modification was the introduction of a second workshop round focused on participants' desired accessibility situation. This adaptation allows a direct comparison between current and desired accessibility patterns.

The methodology consists of four main components. First, participants map their current accessibility situation. Second, participants discuss and reflect upon the accessibility patterns represented on the template. Third, participants create a template representing their desired accessibility situation. Finally, a facilitated group discussion explores the barriers, enablers and contextual factors explaining differences between current and desired situations. The purpose of this methodological design is not to generate statistically representative findings, but rather to obtain rich qualitative insights into how residents perceive, experience and envision accessibility within their neighbourhoods.

The method relies on a template organised into 6 amenity categories, arranged like flower petals across 3 concentric rings that indicate time thresholds, with the outside rings being the furthest away (see Figure 1). Participants position the amenities they visit on a regular basis within the corresponding petal and ring, and can also note down the transport mode they typically rely on.

Figure 1 provides an example of the template applied in this study. All other workshop elements can be found in the Annexes.

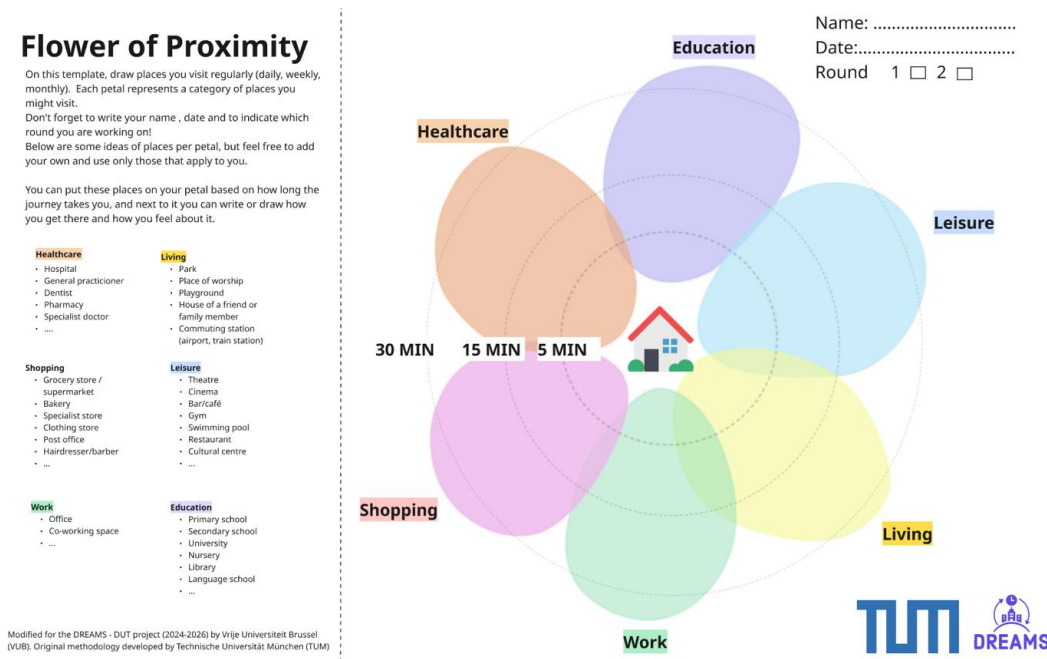


Figure 1. Template used during the workshops (source: DREAMS project, original template by TUM)

For the purposes of this study, we define 'regular' as any journey that an individual undertakes repeatedly and that holds some degree of importance to them. Such a trip may occur daily, weekly, or merely once or twice per year. What matters is that it recurs and carries significance for the person involved. Participants were given this same explanation of the term, since it was not clearly defined within the original methodology.

We further extended the original method by adding a second template. This version mirrored the first, but here participants were instead asked to depict their preferred, ideal scenario. This could involve a range of adjustments: a shift in timing (e.g., reaching an amenity within 10 minutes rather than 25), a switch in mobility mode (e.g., reaching an amenity on foot rather than by car), the addition of an amenity not currently accessible, or some combination of these changes.

The sessions followed this structure: following an introductory round and personal introductions, participants completed the first template, representing their current situation. Here, they indicated through drawing or writing the amenities they access regularly, together with the transport modes used and the time required. Multiple modes could be listed for a single amenity (for instance, if someone sometimes cycles and sometimes takes public transport to the same place), and multiple instances of the same amenity type could also be included (for example, if a person regularly visits more than one grocery store). Participants subsequently elaborated on their entries during a discussion round, which also touched on trip chaining and travelling in company. Participants were free to pose follow-up questions to one another as well. Afterwards, the template was completed a second time, now reflecting participants' ideal situation. A further discussion round followed, concluding with a group-wide discussion. During this closing discussion, the facilitator posed several follow-up questions to the group as a whole, primarily aimed at exploring what other factors might influence their choice for a destination or mode, such as time of year or day and weather conditions.

4.2. The workshop toolkit

The DDST workshop toolkit was developed by VUB, based on the original 'Flowers of Proximity' method by Technische Universität München (TUM) (Büttner et al., 2025). The toolkit contains all elements necessary for conducting a workshop and will be publicly available on the IKP website. The kit contains the workshop template for participants, the instructions and script for the workshop facilitator and notetaker (two separate instructions).

Additional items necessary for the workshops are discussed in section 3.3.2 , “ Materials for the workshop sessions”.

4.2.1. Target and sample size

The workshop methodology has been designed with the target population of LL inhabitants in mind (people living in the urban outskirts). However, it is possible to ‘zoom in’ on specific target groups within the LL area: this can be inhabitants of a very specific section of the location (i.e., residents on 1 street) or on their societal role (i.e., a focus on caretaking tasks, as done in the Brussels LL). As the aim of this task is to test this methodology in the context of the DREAMS-project, the method should be tested with people of different socio-demographics to gather various perspectives. A mix in gender, age, and educational background is strongly recommended (although we acknowledge that this might not always be fully possible to achieve this, based on the chosen sampling strategy).

The target sample size for T3.3 is to have at least 10 participants per LL (more is possible but optional). This can be achieved in one or multiple workshops, depending on the preference and availabilities of the facilitator and the participants. We recommend hosting 2 groups of 5 participants, as this allows for more room for discussion and reflection within the sessions. Another benefit is that it makes the first session function as a test, which leaves room to slightly change certain elements in your second session if you feel that this is appropriate. We do recommend that you oversample (i.e., recruit more people than strictly necessary as it is common that some participants cancel).

4.2.2. Sampling and recruitment

The sampling and recruitment for the workshop is a responsibility of the LL leader and can be done in various ways. Here, we give a short overview of the most common approaches used for qualitative workshop sampling.

4.2.2.1. Convenience sampling

When using convenience sampling, you invite the people that are the easiest to reach. Depending on your target population, this can mean inviting people through local contacts, community centres or social media. Convenience sampling is relatively easy (once you have established channels through which you can communicate your workshop) and cheap; and can work quite effectively. However, drawbacks include that this can lead to a lack of representativity of the sample due to only sampling from specific sources, and a chance of bias through reaching only those that are active community members.

4.2.2.2. Purposive sampling

Sampling method in which you sample based on specific characteristics. This method works best when you need to sample from one or multiple background traits, such as migration background or age, but works less well to target a broad range of people. It requires more preparation to find the right target groups, but can yield more targeted results than convenience sampling.

4.2.2.3. Snowball sampling

Another form of sampling in which you ask participants to essentially refer you to other possible participants. This requires less sampling work, but also leaves you less control over your sample characteristics, and there are no guarantees that your respondents can recommend you other potential respondents. This method works best in combination with either convenience or purposive sampling as a first step to gather respondents. This does require to have at least two sessions of workshops due to the two-step sampling design.

4.2.2.4. Cluster sampling

Essentially a form of purposive sampling where you target people from a specific area, i.e., a specific street, neighbourhood or apartment block. This works best when your target population is area-specific, and can be more or less labour intensive based on this area's size, as recruitment is often done door-to-door.

Other common forms of sampling, such as stratified or random sampling (see Ritchie et al., 2013 for an explanation) are also possible, but most likely too labour intensive for the required sample size. Oftentimes, a mix of multiple sampling strategies is used, for example using convenience sampling as a first method and then adding snowball sampling on top of this.

Most of these forms of sampling will work better if participants are somehow rewarded for their participation (especially snowball sampling). This can be done in various ways, such as giving vouchers to shops or money.

4.2.3. Recruitment strategies

There are many ways in which participants can be recruited to partake in a workshop. Here, we list some of the most commonly used techniques, as well as their (dis)advantages and the context in which they work best. We also include some tips regarding these specific methods.

4.2.3.1. Recruitment through (personal) networks

This method is mostly used in convenience or snowball sampling, but can be used in almost all sampling contexts. Outreach is done through local networks, which can help identify what would work best in terms of target group and recruitment spots. Here, the main element is the quality (and extent) of your local network: the better it is, the better this method will work.

Arranging participants through local contacts in the area (i.e., through a community centre or local service provider)

4.2.3.2. Posters & flyers

Putting up posters or flyers in the area: this can be done by either targeting specific locations, such as libraries, community centres, supermarkets, or schools in order to increase visibility. On these posters, you outline the goal of the workshop, your target population, and a way for people to express interest in joining. This can be done in two ways, depending on the access to smartphones of your target population as well as on your choice of the number of workshop sessions:

4.2.3.3. For people with access to a smartphone / when you are arranging multiple sessions:

Provide a QR-code that leads to a sign-up survey. Here, you can already gather some information about the respondents if you want, making it easier to arrange diverse groups. You can also ask respondents to indicate their availabilities so that you can arrange your sessions accordingly.

4.2.3.4. For people with no access to a smartphone / when you are arranging only one session at a time:

Provide the exact time, date and address on your poster, and indicate that people are welcome to drop in at that moment. A drawback for this method is that you will have very little indicating of how many people will actually show up at the workshop moment.

A good poster should look attractive, not have too much text and provide a basic overview.

Door-to-door flyering can either be done to reach a wide range of potential participants, or to target a very specific area. In the case of the first, you need to make sure that you leave flyers in various neighbourhood areas (so not only social housing or villa's) so that you reach a wide range of inhabitants. In case of the latter, you can target a specific (couple of) streets and leave flyers in mailboxes there.

However, door-to-door flyering is a time-consuming sampling strategy that oftentimes yields relatively low response rates.

Online recruitment can also be an effective way of gaining visibility, but its usefulness will depend strongly on your local context and the contacts you have in the neighbourhood. Apps such as Hopplr, in which inhabitants of a certain area or neighbourhood can interact about local events, can be a useful way to recruit local participants, but such apps or networks do not exist or function well across all contexts. Additionally, recruitment can be done through channels of local stakeholders or contacts, if they are willing to do so. This can be done through, for example, social media posts or newsletters. The table below (Table 1) summarises the (dis)advantages, target and recruitment method per sampling strategy discussed in the two sections above.

Name	Advantages	Disadvantages	Target group	Recruitment
Convenience sampling	Easy, quick, cheap and easy to execute	Not representative; chance of bias due to chosen location(s)	Active residents, people frequenting the chosen location(s)	Flyers or posters in stores or community centres, online recruitment through local platforms, local events
Purposive sampling	Aimed to recruit relevant profiles	Requires a good understanding of the area, less generalisable	Specific target group(s) such as elderly people or migrants	Cooperation with local organisations and contacts
Snowball sampling	Can help reach hard-to-reach groups, more trust from prospective participants	Less control and difficult to know which people will be recruited beforehand; risk of homogeneity	Hard-to-reach groups (closed or vulnerable groups)	Asking participants to invite from their personal network
Cluster sampling	Efficient in larger populations	Chance for under- or overrepresentation of certain groups	Residents of specific areas (street cluster, street, building)	Targeting a specific location through flyers, posters, or door-to-door recruitment

Table 1. Overview of common sampling and recruitment strategies

Of course, there are many more ways to recruit participants. The overview above lists the most commonly used methodologies, but if there are other strategies that seem useful to your context, feel free to use those.

4.3. Workshops

4.3.1. Organising the workshop: practicalities

When organising the workshops it is important to take the following things into account (Ritchie et al., 2013):

- **Timing:** what day and what time do you offer to people? This can be dependent on the season as well. When hosting multiple sessions, also consider how many workshops you are planning to host within one day or week.
- **Venue:** at what type of establishment do the sessions take place? Do people feel comfortable there? Is your venue easy to access (both in terms of transport and in terms of accessibility within the building)? What is the size of the room, is it big enough for everyone to sit and do the exercises? How do you arrange the seating (in a row, circle, etc)? Does the room have enough amenities to host the workshop, i.e., tables, outlets, a screen?
- **Hosting the session:** do you offer people some food and drinks, and if so, where in the room? Do you offer incentives? Will the room be easy to find for your participants or do you need to put up extra indications?
- **The role of facilitator and note-taker:** who sits where? Do you sit among your participants, or separately? Who takes what role?
- **Recording the session:** did you fill out the observation sheet? Did you order the maps so that they can be analysed? Have you uploaded and emailed these to Unishare and the Task Leader (VUB)?
- **Language:** are all the materials provided translated into the target language?

These are some of the most common practical questions to account for when organising your session(s). While some of these can be arranged after the recruitment stage, it should be clear that some elements, like the venue and room, should be known to participants ideally before they express interest. In terms of venues, select a venue that is convenient for your target group (for example, a neighbourhood venue in your LL), that different groups feel welcome in, and that is easy to access. For more in-depth information on the organisation of such workshop sessions, we refer to Ritchie et al., (2013, chapter 8).

While it is difficult to give recommendations that hold true across all contexts, we can say from our experience hosting similar workshops in Brussels that the timeslots on weekday evenings (from around 17h or 18h on) are popular with students and working people, while the weekend timeslots (either during the day or in the evening) are more favoured by people that need to travel further or that would need to make other arrangements to be there (such as finding childcare). We did notice that weekend timeslots only work well if either communicated far in advance, or come with an incentive good enough for people to spend their free day on a workshop.

Specifically for the language aspect: all workshop materials have been created in English. (Some of) these would surely be best to translate into your local target language(s), such as the templates and the presentation. The scripts, guidelines and the observation sheet are only meant for the researchers, so can stay in English. We also ask you to provide your observations and summaries in English, as the participant templates themselves will most likely not be interpretable by VUB without English translations. The templates are available on a Miro board, on which a space has been allocated for each LL to create a version in their language(s). You can simply edit the text in there and then export this canvas as a document that can be printed on A3 format. If you need more languages, copy the canvas multiple times within the Miro and make your translations directly in there.

4.3.2. Materials for the workshop sessions

The materials needed to conduct the workshops are part of the ‘workshop kit’, developed by VUB. Additionally, you will need the following materials (to be provided by the parties organising the workshops in the LL):

- Writing and drawing materials: pens, pencils, markers
- Screen to present the presentation (optional: only if this seems helpful in your case)
- Glue and scissors: to cut and glue the modes and emojis
- Food and drinks
- Incentives (if applicable)

4.3.3. Roles during the workshop

During the workshop sessions, there will be two separate roles that will need to be filled by organisers: the facilitator and the notetaker. The **facilitator** is the person leading the workshop. This entails the introduction of the topic to the participants, hosting the introduction round, explaining the workshop methodology and facilitating the discussion. For this, the facilitator is guided by a script (found in document X) that covers the main actions to perform and questions to ask. The script should be seen as a semi-structured guide, meaning that facilitators following the themes and questions central to the methodology, but have room to sometimes change the order or add/remove questions if they see this as necessary in the moment.

The **notetaker** on the other hand has an observant role. Their role is to take notes of the discussion (both during and after), as these notes are what will be used to analyse the sessions. For this, the notetaker will also get the observation sheet (document Y) that has pre-set questions to fill out. A main task of the notetaker is to match the right participant to their template(s), and to provide a quick but comprehensive description of them as they introduce themselves (this can be elaborated on in the rest of the session, of course). The notetaker's role is also described in the script in document X. The notetaker can also assist the facilitator where necessary, by checking if all important questions have been covered, if all participants had time to speak, and by keeping the time.

There is a presentation available that can be edited and translated to fit your local context. This might function as a visual aid and a guide through the session, but it is optional to use.

4.3.4. Explanation of the session

The drawing session takes place in 2 parts: first, we ask people to draw their current accessibility (meaning the places that they visit usually). We then have a break before we continue with part 2, which is about what they would ideally want to access. This means that every participant will get 2 templates to fill out.

Template 1:

- Explain the template: what do the different petals mean, what do the walking/cycling distances mean, and what we mean by neighbourhood and amenities. Stress that these categories are just examples: they can add more things if this makes sense for them. It's important here to explain that the template is there to help, not to constrict: if an amenity falls in-between 2 categories in the eyes of the participant, they are free to put it wherever they feel it fits. The template is a suggestion.

The first round of drawing is centred on people's current access to amenities. On this template, we ask them to fill out the different places they currently visit often / on a regular basis. This can mean that they go every day, week, or month (for example most people do not visit a hospital daily but for some a monthly visit is still very much a routine), ensure here that they understand that different time intervals are ok. This also includes regular amenities that are currently further than 15-30 minutes. It would be good if they write these next to the amenity, or if they say it in their discussion.

Then, people can write or draw the amenity in the right place for them, and they can add a transport mode and an emoji. The mode is to show how they go to that place now, and the emoji can be added to show how people feel about that place. The emojis do not have a singular interpretation; when participants ask about these, tell them that they are free to interpret them however they want. Do make sure to ask about their meanings in the discussion.

If there are no other questions: set a timer (15 minutes) and put the goal somewhere where the participants can see it (on a board or on the slides). Then, let them draw and provide some food and drinks.

Then, after 15 minutes an optional break can be held (10min). There can be food and drinks and people can go to the bathroom or just relax a little bit. If people want to continue drawing, that is also ok.

4.4. Data processing post-workshops

During and after the workshop session, the notetaker fills out the observation sheet. After the session, the notetaker and facilitator can have a look at the sheet together to see if anything needs to be added. As stated above, each observation sheet includes a table in which each template can be matched with the right participant. If translations are necessary, please provide these as well (note: if the observation sheet has been filled out thoroughly and in English, this should not be necessary).

5. ANALYSIS OF THE WORKSHOPS AND TEMPLATES

To respond to the research question RQ2 concerning the differences between perceived and desired accessibility, the workshop results were analysed using a combined thematic and visual analysis approach, broadly following the principles of qualitative thematic analysis set out in Ritchie et al. (2013), adapted here to also incorporate a structured visual comparison of the flower templates. The analysis consisted of four consecutive stages.

The analysis was carried out by two researchers from VUB. These researchers were not present as a facilitator or notetaker at every workshop session, which limits how much of the workshop context could be brought to the interpretation of the templates; this limitation is revisited in the Conclusions.

The workshop sessions took place in the first half of 2026 in all LLs. Once all LLs had completed their sessions and digitised their materials, these were uploaded on a Miro board by VUB. There, workshops were organised per LL, creating a table for each LL with each participants' anonymised templates for round 1 and 2. From here, we started the analysis process. First, each participant's current accessibility template (round 1) was compared with their desired accessibility template (round 2). This comparison focused on changes in amenity type, travel time, travel mode and desired additions or removals of amenities. Second, these observations were triangulated with the workshop discussions and observation sheets completed by the facilitators and notetakers. This allowed visual findings to be interpreted within the context of participants' explanations and experiences.

Third, findings were analysed at the workshop level. Individual responses were compared within each Living Lab to identify recurring themes, points of agreement and differences between participants.

Fourth, a cross-Living Lab comparison was conducted. Emerging themes were compared across all workshops in order to identify common accessibility challenges, recurring aspirations and contextual differences between Living Labs.

Thematic coding focused on barriers and enablers related to accessibility, mobility options, safety, comfort, travel time, service provision and social participation. Particular attention was paid to understanding why participants preferred certain accessibility scenarios and how these preferences differed across demographic groups and local contexts.

Wherever emojis were used (Budapest, Paris, Vienna), these were also analysed by considering the changes between the emoji used for the same amenity or trip on the two templates. The emojis were optional: they were mainly intended to help with facilitation (as a prompt to help the individual discussions about the templates) for those who were not used to workshop facilitation. Wherever they were not used (Brussels, Munich, Utrecht), the analysis relied on the observation sheets for information on participants' opinions regarding their trips and amenities.

To understand the effectiveness of the methodology, we focused on two questions that were asked in the observation sheets for each LL (questions 3- "Did the activity lead to the identification of peoples "desired" amenities? Why/Why not?"- and 7 - "Did the drawing of the flowers of proximity help the participants express their needs in terms of neighbourhood amenities? Why/Why not?") and used those to formulate an answer to research questions RQ1 and RQ3.

6. RESULTS OF THE WORKSHOPS

The following sections present the results of the workshops in the six LL's. Table 2 gives an overview about the workshops organised in the living labs

Workshop location	Number of workshop sessions	Number of participants (total)	Remark
Budapest	2	12	
Brussels	1	4	
Munich	1	5	
Paris	2	10	Online sessions
Utrecht	2	10	Focus: older people. Used adapted workshop format
Vienna	2	8	

Table 2 Summary table of the workshops at the ULLs

6.1. Brussels

The workshop in Brussels was held on 18/05/2026 at GC Wabo at Watermael-Boitsfort. The workshop was held in English and comprised of a group of 4 people, ranging from late 20s to 39 years of age. The participants lived in different areas of Brussels, some more central than others. In round 1, most participants mentioned that they use mostly public transport to reach any amenity. Furthermore, participants mentioned that the transitions from home to work or sports through public transport was enjoyed as it was experienced as a transition period. If the trip was enjoyable, participants did not mind a longer travel time. In the second petal, participants all expressed the desire to be walking distance from a green area (park or forest). Most of the Phase 2 templates were focused on increasing walking and proximity. Female participants mentioned how safety affected their mode of travel. Especially at night, women did not feel safe to take public transport or walk in certain neighbourhoods. Social interactions were not mentioned frequently in Phase 1, however participants mentioned that they usually incorporate seeing friends with other activities. In round 2 participants mentioned that they would want their friends living closer by. Being an international city, language was also a topic of discussion in both rounds, especially when talking about healthcare (GP and therapy specifically).

6.2. Budapest

The workshop in Budapest was held on 17/02/26 in the office of the local municipality of Rákossente. The workshop was held in Hungarian with two groups of 6 people, with ages ranging from 18 to 80 and living in different areas of Rákossente. both suburban and urban core. In the first phase of the workshop, most participants showed to mostly rely on public transportation or car to travel to work, leisure and health facilities, although they express the desire to cycle and walk more. When talking about an imagined future in phase two, the idea of moving to an area that is more cycle friendly and has accessible amenities was a very strong feature. The expansion and improvement of the cycling network was therefore a major topic in the discussion, as well as the improvement in accessibility to healthcare services. Interestingly, participants repeatedly mentioned weak cross district connection, with public transport being limited, resulting in more frequent use of cars. The drawing of the flowers helped the participants to organise their thoughts and express their opinions. The emojis were also seen as helpful in stimulating participants to formulate thoughts and engage in discussions.

6.3. Munich

The workshop in the Munich LL (Geretsried) was held on 25/02/26 in Quartierstreff am Johannisplatz. The workshop was in German and was with one group of 5 people, with the age ranging from 25 to 70

who live in suburban and urban core of the LL area. In the first phase of the workshop, most participants mention their dissatisfaction with the railway system which forces them to use the car to travel to different amenities. The participants appreciate the nature surrounding them and criticised recent urban developments as they lack sufficient green infrastructure. Safe mobility was a very important topic within the group, as cycling roads are unsafe and unprotected, thus an improvement would incentivise people to cycle more. The same was said about public transport, as it is unreliable it often leads to people living in peripheric areas to use the car to commute to work or travel to other amenities. The drawing of the flowers of proximity did help participants express their needs, however the emojis used during the workshop sparked some confusion as to their meaning and how to interpret them.

6.4. Paris

The workshop in Paris was held on the 09/06 and the 10/06 2026, the workshops were held online through zoom, hence the resulting flowers were written digitally and not by hand. The workshop was held in French and comprised of two groups, the first with ages between 39 and 53, and the second between 42 and 60. Not all participants live in the same neighbourhood. In Phase 1, all participants mentioned their dissatisfaction with the accessibility to healthcare services, specifically hospitals and doctors. The reason for this was twofold: first, there is a shortage of doctors and hospitals in the outskirts of Évry-Courcouronnes; second, public transport connections to the healthcare is very poor. In the work petal, very long travel times were due to the unreliable public transport. Overall, the petal that showed the most dissatisfaction was healthcare. Here, most participants indicated that their public transport connection was weak and unreliable, making the travel time much longer than it would be by car (which not all participants had access to). In the desired scenario in round 2, a lot of participants mentioned wanting healthcare to be more accessible for them. Interestingly, some participants did not mind the long travel to work, as long as it was direct and simple. One participant mentioned that a trip which exceeds 30 minutes is only acceptable for cultural and leisure activities, but not for daily mobility. Another topic that was mentioned numerous times was the desire to cycle more, but due to unsafe, poor and discontinued cycling infrastructure, participants do not feel safe doing it.

6.5. Utrecht

The workshop in Utrecht was held on the 22/04/26 outside the Municipal building IJsselstein. The workshop was held in Dutch and with two groups of 4 and 6, all the participants live in the IJsselstein neighbourhood and the age range was 75+. The participants mainly use car or electric (mobility) scooter for transportation, with some participants criticising the limited mobility options they have. Interestingly, this was a point of tension between the participants, as others urged them to be grateful for the mobility options they have now. Furthermore, differently from other cities, the participants mentioned the feeling of pride and independence in still being able to drive a car, preferring taking the car than any other modes of transportation. The limited accessibility of public transportation for people with wheelchairs and disabilities plays a big part in this decision. The same was said about the public green areas. Furthermore, participants added that the unevenness of the sidewalk and the long walking distances inhibits them from walking more.

Due to the old age of the participants, only two participants were able to write, the rest had trouble reading and writing. The workshop was modified into interviews, with the facilitators filling in the forms for the participants.. Furthermore, the workshop was shortened and held outside due to accessibility issues. Because of lack of motoric skills, the emojis and the modes of transport were not used.

6.6. Vienna

The workshop in Vienna was held on the 19/03/26 in a community room in the LL area of the Wiener Flur neighbourhood. The workshops were held in German and was with two groups of 4, comprising mainly of retirees (75+). The group therefore focused more on comfort than efficiency. For example, the participants mentioned the lack of benches and seating areas along travel routes, which makes it more tiring to walk and take the public transport to the supermarket. Furthermore, the lack of cafes and

neighbourhood meeting places was mentioned by numerous participants, highlighting the social aspect of the neighbourhood. Similarly to Budapest, the participants mentioned very poor and inconvenient internal cross connections within the district. However, interestingly, the participants could not think of amenities that were missing or were too far away from them. The lack of awareness of what is missing therefore limits peoples' notion of desired amenities. The drawing of the flowers of proximity was quickly understood and intuitive, however, a question arose as to whether a flower is the right tool to determine what is missing. Because the participants in Vienna lacked awareness of what they are missing, it was advised to structure the format of the workshop in a way that enabled participants to think first of possible activities and only afterwards on how far away these are.

6.7. General results

6.7.1. Main changes in amenities/petals

Based on the analysis of the differences between the current (phase 1) and desired (phase 2) accessibility the following overall patterns have been identified.

Across all sessions, healthcare access emerges as the single most consistent 'petal' that requires change in the desired scenario. Most participants, irrespective of location, identified having (better) access to a general practitioner, specialist, or hospital as a desired change. This dissatisfaction is most acute in Paris, where healthcare access was flagged as inadequate by nearly all participants, who reported travel times exceeding 30 minutes to reach a doctor or hospital.

Work-related travel is the domain with the longest typical journey times in almost every city, although participants' reactions to this diverge. Some express a clear desire for shorter commutes, while others report indifference to duration provided the trip itself is pleasant or reliable.

Green space and parks recur as a desired addition in Brussels and Munich, generally framed as wanting provision "closer" or within walking distance, though the underlying sentiment differs by city: Brussels participants describe a shortage of nearby green space, whereas Munich participants were more often satisfied with existing provision but wanted these to be better accessible.

Social and leisure infrastructure was also a recurring theme: participants across cities express wishes for a local café or informal meeting point, restaurants within closer reach, and friends and family within walking distance. Lower-frequency but notable requests include closer access to specific shops (a Munich participant wanted the supermarket closer), education (a Paris parent wanted her children's school closer), and personal services such as a hairdresser (Munich).

The 'shopping' petal was overall the least featured in the desired scenario, which hints at shopping infrastructure (access to malls, supermarkets, clothing shops/high streets etc.) already being accessible in most urban settings.

When talking about what people do not want nearby, participants expressed that they would not want every facility to be within 15 minutes from their home. In their desired petals, apart from healthcare, participants said that having leisure and shopping activities outside their neighbourhood - with travelling times also exceeding 30 minutes - makes it calm and gives an incentive to explore other areas of the city. For work, rather than having it within 15 minutes from their home, participants focused on the improvement of the connection to work via public transport.

6.7.2. Time thresholds

A fairly consistent pattern of desired travel-time thresholds emerges across the sessions, summarised in Table 2:

Domain	Current (typical)	Desired
Healthcare	30+ min (often car/bus)	5–15 min (walk/bike/public transport)

Work	Highly variable, often 30–60 min	~15–20 min if by bike or reliable public transport
Friends / family	Variable	~10 min walking (longer trips tolerated if enjoyable)
Leisure / culture (cinema, theatre)	30 min+	Mixed: some want 10 min; others accept 30 min if the travel time is enjoyable
Daily shopping	Varies per person	~15 min walk

Table 3. Current and desired travel-time thresholds by amenity domain, across Brussels, Budapest, Munich, Paris, Utrecht and Vienna

The clearest exception to this pattern concerns leisure and culture destinations (cinemas, theatres), where several participants explicitly stated that not everything needs to be nearby: some regarded the distance to such venues positively, as it provided a reason to visit other parts of the city.

For healthcare, closer proximity is universally desired. One participant explicitly wished to retain a minimum 30-minute commute to work, valuing the travel time itself as a period of mental preparation and wind-down, an instance of travel time having a dual function, a theme that surfaced only in passing in the other five cities' workshops (notably in Budapest, where commute time on public transport was similarly described as useful decompression time).

The healthcare access problems described above are compounded by a broader pattern of unequal amenity distribution. This brings back the topic of quality of transportation and connection to different neighbourhoods, but also introduces the apparent difference between the lack of doctors in urban outskirts. Most participants mentioned they do not have the option of a closer doctor or hospital because of the shortage of doctors in the area where they live, stating that they are all in the centre of the city. There is, therefore, an apparent difference between proximity and accessibility to healthcare between urban cores and outskirts. In the case of Budapest, this was mentioned as historical, where certain areas systematically receive more or better provision than others.

An important finding of this study is that the aim of participants was not always to minimise travel time as such. Interestingly, long travel times were not always perceived as negative. For instance, in Brussels participants mentioned that they did not mind a longer travel time as long as it was direct and with a beautiful view. The same was said in Utrecht, where they mentioned the dual functionality of public transport as a wind down after work, or a warmup before sports. Public transport also serves a positive “transition” function. Several participants in the Budapest workshop described commute time on public transport as useful mental preparation or decompression, a reason some did not want their commute shortened, only made more reliable.

6.7.3. Changes in travel mode

In most of the LL's, participants mentioned their dissatisfaction with the quality, connections and reliability of public transportation, both within and to other neighbourhoods. Poor connection towards the centre of the city was also mentioned, as well as the clear difference in quality of transportation between the urban core and outskirts. Public transport reliability, rather than distance, appears to be the principal driver of car dependence. This pattern recurs across the Budapest, Paris and Munich workshops: unreliable trains and buses, together with poor cross-district connections, push participants toward car use even over short distances. The lack of quality transportation heavily affects travel time to work, healthcare facilities and education.

The same can be said about cycling and safe mobility. In most LL's, participants mentioned their desire to cycle more and to not be dependent on cars and public transport. However, they are inhibited to do so because of the lack of safe cycling infrastructure. In Munich and Budapest, participants mentioned

having to cycle on unprotected cycle paths close to cars, with bad lighting and exposed to wind and cars. In Paris, participants mentioned that bike paths are discontinued, leading them to cycle on the side of main roads. These issues have a large impact on the choice between using a car or cycling. Because of unsafe cycling infrastructure, people are disincentivised to cycle, making them reliant on car travel, as it is perceived as the only reliable and safe alternative.

6.7.4. Differences between workshop groups

This fourth theme brings together the ways in which participants' answers were shaped by who they were and how each group was composed, rather than by the city they lived in as such.

In groups of older people, such as Utrecht and Vienna, there was a notion of pride and independence in being able to drive a car, rather than feeling dependent on it. Interestingly, participants in the workshops showed path dependence that inhibited them from imagining a desired future, as they lacked awareness of what they did not have. This was most apparent in elderly groups, where people voiced that they are happy with what they have and that they should be grateful for the mobility options they have at the moment.

In groups of older people, the topic of accessibility for people with motoric issues and disabilities was one of the drivers for not using public transport. In Utrecht, participants mentioned the lack of accessible public transport (e.g. ramps for wheelchairs to enter buses, chairs and benches to sit at the bus stops), which contributed to not being able to use public transport regularly. Furthermore, green spaces were also mentioned as not being accessible for all, with the infrastructure being built without taking persons with limited mobility into consideration.

Another important finding is that safety, rather than distance or reliability alone, independently shapes route and mode choice for some participants. Safety and its impact on choices in travel routes were also mentioned by female participants in both Brussels and Paris. In Paris, when travelling, women consider taking longer routes if it avoids certain areas and passengers, which extends their trips but makes them feel safe. In Brussels, women expressed that they do not feel safe walking and taking public transport at night, which affects their choice of mode of transport.

6.7.5. Methodological reflections

All sessions reported in the observation sheet (see Annex 3) that the method was intuitive and understandable by the majority of the participants and helped them organise and express their thoughts and experiences regarding local services. The workshop setup provided in depth and personal answers that were very case specific, which could not have been made with a quantitative survey. The workshops answered the "why" questions that are not often unearthed through quantitative approaches. For example, understanding the different reasons as to why people do not cycle, the reasons why people are unhappy with the accessibility to healthcare. These findings would not have been made in a quantitative model.

However, some issues emerged. One of these was the difficulty in recruiting the minimum of 10 participants, despite some of the LLs offering compensation for participants. However, there were also LLs that had less issues recruiting participants, and these appeared to be the LLs with the most interaction between the research team and the LL area throughout the project (i.e., Munich, Vienna). This indicates that a strong local connection or stakeholder can be beneficial in securing enough participants.

Some issues also occurred in the Utrecht groups, where elderly participants with motoric problems were not able to cut or draw, which brings up the fact that the workshops need to be tailored to the needs of the participants. With elderly participants, the flowers did not help as they could not use them, the examples of amenities gave inspiration though.

Furthermore, some LL's advised that there should be "something more" to identify what is missing before going into what they would want to have. The format is not entirely suitable for this. Fundamental questions arose as to whether the 'flower' is the right tool to determine what is missing. Because the task involves reflecting on one's daily routes, participants may already be biased in their thinking and

are less likely to consider what else might be possible or what they might do if certain things were closer. It might be useful to structure the format so that participants first think about possible activities and only afterwards consider how far away these are.

Furthermore, workshops should be organised with either a diverse group of participants, to have a more varied set of answers and an exchange of experiences, or be targeted at a specific group (i.e., older people, caregivers, residents of a certain area) to focus on their specific needs and experiences. Finally, one workshop is not enough to "generalise" the findings to a whole area of a city, therefore there should be more than one workshop held at each LL. For example, physical accessibility is a barrier category that was only explicitly mentioned in Utrecht and barely in the other LLs, because their participants were not predominantly mobility-aid users. Having a more diverse group per location (in terms of age, gender, occupation and physical abilities) would probably lead to the identification of new challenges in accessibility that now went unmentioned.

7. CONCLUSIONS

Overall, the method helped identify common themes in the different LL's. Healthcare access and public-transport reliability are the two most universal problems identified, raised more consistently than any other domain across all six workshop sessions. Latent demand for cycling exists in almost every city studied but is suppressed by unsafe or poorly maintained infrastructure rather than by a lack of interest. Desired travel-time thresholds cluster tightly per petal: approximately 5–15 minutes for healthcare and daily needs, approximately 15–20 minutes for work when travelling by bike or reliable public transport, with greater flexibility tolerated for leisure and culture.

In conclusion, using the 2-step 'Flowers of Proximity' methodology can help to understand the desired accessibility of neighbourhood amenities, and can be easily adapted to be used in different settings (in-person and online workshops, with or without emojis and stickers). We recommend some conditions that need to be taken into consideration to ensure that the results of the workshops are of good quality based on the experiences detailed in this Deliverable. First, recruiting a diverse group of residents is advised when organising one session. When organising several sessions it can be beneficial to focus on a specific group in each session, that can then be compared. Second, it is important that the facilitators also aid in the analysis process. In this Deliverable, this was not always done, leading to less in-depth analyses. Lastly, we recommend taking the time to discuss the desired scenario with participants during the second round, as it proved to be difficult for participants to think of new amenities or categories in a short time.

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ANNEX 1 – WORKSHOP TEMPLATE

Flower of Proximity

On this template, draw places you visit regularly (daily, weekly, monthly). Each petal represents a category of places you might visit.

Don't forget to write your name, date and to indicate which round you are working on!

Below are some ideas of places per petal, but feel free to add your own and use only those that apply to you.

You can put these places on your petal based on how long the journey takes you, and next to it you can write or draw how you get there and how you feel about it.

Healthcare

- Hospital
- General practitioner
- Dentist
- Pharmacy
- Specialist doctor
-

Shopping

- Grocery store / supermarket
- Bakery
- Specialist store
- Clothing store
- Post office
- Hairdresser/barber
- ...

Work

- Office
- Co-working space
- ...

Living

- Park
- Place of worship
- Playground
- House of a friend or family member
- Commuting station (airport, train station)

Leisure

- Theatre
- Cinema
- Bar/café
- Gym
- Swimming pool
- Restaurant
- Cultural centre
- ...

Education

- Primary school
- Secondary school
- University
- Nursery
- Library
- Language school
- ...

Name:
 Date:.....
 Round 1 ☐ 2 ☐

Modified for the DREAMS - DUT project (2024-2026) by Vrije Universiteit Brussel (VUB). Original methodology developed by Technische Universität München (TUM)

Figure 2. Blank workshop template (Flower of Proximity)

ANNEX 2 – WORKSHOP SCRIPT

WORKSHOP SCRIPT

Total time: 70 minutes

Number of groups: 1 or more

Number of participants per group: maximum 10

Workshop set-up (to do's before the workshop starts)

- Ensure that the room is all set-up: are there enough chairs, space to draw, is it possible to sit in a circle for the discussion session so that everyone can participate equally (i.e., no one sitting in the back)?
- Put all materials in place. You will need:
 - 2 maps per participant
 - Sheet of the emoji template
 - Sheet of the mode template
 - Drawing materials (pens, markers)
 - Scissors
 - Glue
- Make space to put out the drinks and the food somewhere
- Create an attendance sheet and check that you have your informed consent sheets (if applicable)
- Ensure that you can properly record the session (if applicable)

Part I: introduction of the session (10 minutes)

- Introduce the goal of the session: what will we do today, how long will it take?

We start off with an introduction of ourselves (the workshop leader and the notetaker, as well as any other researchers present) and briefly explain our goals in the DREAMS project and with the workshop. The goal here is to try to get the participants comfortable with us and the workshop format. We explain the workshop in more detail: it has 3 parts, it will take around 70 minutes, there will be drinks and food in the meantime and we are there to answer any questions. We also explain how the workshop will help us in the project, and that the participation in this workshop is voluntary. People can stop or withdraw their participation at any time without negative consequences. If you give out incentives for workshop participation, you can also mention that here.

- Informed consent sheets
- Ask if people have any questions before we start
- Continue with an introduction to the workshop and the outline of the session
- If applicable: explain explicit focus on target group

Part II: introduction of the participants

Participants introduce themselves to provide a bit of background knowledge so that it will be easier to understand people's flowers later on in the discussion. This is also an important moment for the notetaker, as a lot of background information will be given in this section that will need to be used to analyse the flowers later on. As an icebreaker, you can ask a light question to make people feel more at ease and acquainted with each other. An example could be:

What is the one thing activity or experience for which you do not mind travelling as much as it takes?

But feel free to change this to another question to your liking.

We ask participants to introduce themselves with the following elements:

- Their name

- Age
- Neighbourhood they live in (and for how long)
- What they do (work/caretaking)
- What mode(s) of transport they use most often

As an icebreaker and a first set of question to get started, you can ask the participants questions such as:

- How do the participants move around usually? What modes do they use?
- Why did they come to the workshop today?
- Any other question you think is interesting or relevant

The notetaker's work starts during this introduction round, as here a first overview or short sketch or the different participants can be made.

Finally, check a last time if there are any questions so far. If not, you continue to Part III.

Part III: Flowers of Proximity (drawing, 2x) (30 minutes)

This is the actual workshop part, in which participants will draw two templates: their current 'Flower of Proximity' and their desired version. For more information about the exact goals of each session element, please consult the guidelines.

Clarify session goals:

Restate the project and the purpose of the session

Explain what participants will do and how much time each part will take

Explain the structure:

Inform participants that the drawing session has two parts:

Current Accessibility: this entails places they usually visit

Ideal Accessibility: the amenities they would like to access ideally

Give each participant two templates (one for each part)

“While you're drawing, you can also think about whether some of the places you go are linked to other people — for example things you do for others, or moments where you coordinate with someone — but only if that feels relevant to you.”

Introduce Template 1 (current accessibility)

Explain the template elements:

What the petals represent

The time thresholds mean (drawn as dotted lines)

What we mean by “neighbourhood” and “amenities” and “regularly”

Emphasise:

That the categories of amenities are examples; participants can add their own and do not have to use all the ones written on the template

The template is a guide, not a restriction. Participants can place amenities where they feel they fit

Give instructions for drawing (Part 1).

Ask participants to:

Fill in places they visit regularly

Tell them to include amenities even if they are farther than 15–30 minutes away

Encourage them to:

Write the frequency next to the amenity or mention it during discussion

Add transport mode (how they get there)

Add emoji's to indicate how they feel about the place or the journey

Clarify:

Emojis have no fixed meaning; participants interpret freely.

Ask about emoji meanings during discussion.

Start the drawing activite

Set a 15-minute timer

Display the goal clearly (on a board or slide): this can be the research question

Provide food and drinks while participants draw (optional)

Facilitator and notetaker:

Check the script for alignment with planned questions/tasks

Quickly sync if needed

Offer an optional break.

After 15 minutes, you can offer a 10-minute break, but this is optional.

After the break, it is time for part 2 of the drawing exercise. Here, the goal for participants is to draw their 'desired' accessibility to amenities. The central question here is : "What are the places that they wished they had nearby (in their neighbourhood), why, and how would they ideally access these?" . This can include places that they already wrote down on the 1st template, but that they'd ideally like to have more nearby, or in a different way (i.e., because of better service/opening hours/lower prices...) Additionally, this can include places currently not present or not accessible. The drawing element is the same as in part 1, and takes 15 minutes.

Part IV: discussion of the flowers (20 minutes)

After the drawing sessions are done, it is time to move to the discussion. Here, we ask people to walk us through their maps. Both maps should be discussed in order by each participant, so that the differences can be highlighted. Participants take turns to describe their maps. The facilitator should make sure that there is enough time for each participant to talk. In this discussion, we focus on getting people to narrate both their map and their thought process. To do this, you can ask them about the following elements in particular:

- Ask about modes
- Ask about emojis
- Ask about the specific reasons they have for needing that amenity

Examples of such questions could be:

"You just told us you visit the swimming pool around 2 times per week. How do you usually go there?"

"I see you wrote down multiple supermarkets, one is close by, but you put a negative emoji. Why is that?"

"On your template with current behaviour, I see a lot of public transport and car use. In your ideal neighbourhood, I see you mostly put cycling. Why is that not possible for you now, and what would need to change to make that a reality?"

- “Do you go there mainly for yourself, or sometimes for someone else as well?”
- “Is this something you organise together with someone?”
- “Is your schedule mostly your own, or does it depend on others?”

Ideal map:

- “Would your ideal situation change if you didn’t have to coordinate with anyone?”
- “Are there things that would still be important because of people around you?”

Group discussion / if nothing relational comes up

- “I’m also curious — do any of you feel like your daily movements are shaped by other people, even in small ways?”

It can also happen that other participants have a question or comment about someone else’s map. That is normal, so leave space for those interactions in the discussion here as the facilitator. For the notetaker, this is an important part of the session, as a lot of the data is being collected in this discussion section. The facilitator should check in with the notetaker here to see if they can keep up with the discussion, or if they would need participants to repeat some statements.

At the end of the discussion, you can check if common themes emerged from the different maps. Are there some amenities that are mentioned by multiple participants, or are there similar barriers mentioned? This is the final part of the workshop discussion.

Part V: wrap-up (10 minutes)

Here, it is mostly important to check if the participants have any questions left or if there is anything else they want to share. Then, conclude the workshop by thanking them for their time and participation, and explain them the next steps: that this data will be analysed across all 6 Living Labs, and that the report of the methodology will be published on the DREAMS website in case they would like to read it later.

If you have incentives, you can hand these out now.

Workshop script: summary

Part of the session	Time (in min)	Discussion topics	Actions facilitator	Actions notetaker
Before the session	-	-	Set up the room	Fill out part 1 of the observation sheet
Introduction of the session	10	Introduce the researchers, the project and the goal of this session Duration, format Informed consent	Check if everyone signed the informed consent sheet / presence sheet	

Introduction of the participants	10	Round of introduction Icebreaker		Take note of participant introductions
Flower drawing I (current accessibility)	15	Give materials to participants	Place materials Place food & drinks Put guiding questions somewhere on a board or screen Put a timer	Time to fill out / enhance participant observations
Break	5	Ensure that there is something to eat and drink		Extra time to enhance observations
Flower drawing II (desired accessibility)	15	Give materials to participants	Put guiding questions somewhere on a board or screen Put a timer	
Flower discussion	30	Discussion of the individual flowers & differences; common themes		Match participants to their drawings
Wrap-up	10	Thank participants for joining Check if they have questions or comments	Sign informed consent sheet if not yet done Sign presence sheet if not yet done Give participation gift (if applicable)	

Table 4. Workshop script summary

ANNEX 3 – OBSERVATION SHEET

DREAMS NEIGHBOURHOOD AMENITIES WORKSHOP – OBSERVATION SHEET

To be used for each individual workshop- to be filled out in English

General information

- Select your Living Lab:
 - Brussels
 - Budapest
 - Munich
 - Paris
 - Utrecht
 - Vienna
 - Date of the workshop (DD/MM/YYYY):
 - Starting time of the workshop:
 - End time:
 - No. of participants:
 - Location of the workshop:
 - Language of the workshop:
 - (If applicable) Target group of the workshop:
 - Other remarks:
-
- Name of the workshop facilitator (leading the workshop):
 - Professional background:
 - Name of the notetaker:
 - Professional background:

Workshop and participants

To be filled out during the workshop by the notetaker.

- Description of the participants (age, gender, neighbourhood they live in, profession, ownership of vehicles, etc). Also provide a numbered identifier for each participant with you description (i.e., 'participant 1', 'participant 2').
-
- During the discussion of the flowers, you can take notes below. Try to note down the reasons people give for travelling further than 30 minutes, their mode choices and connected emotions,

and what changes between flower 1 and 2. If anything else that you consider noteworthy comes up, feel free to describe that as well.

Workshop and interaction

To be filled out after the session. This can be done by both the facilitator and the notetaker together.

- Did any participants appear to be uncomfortable answering questions or participating in the activity? If yes, did they say why?
- Did the activity lead to the identification of people's 'desired' amenities? Why (not)?
- Did the activity lead to the identification of common themes (i.e., need for a specific amenity, similar barriers) between different participants?
- What was the group dynamic like? Did participants interact with each other, did they know each other before, did they have (dis)agreements? If so, how did these arise?
- Was the group dynamic balanced in terms of speaking time? Did all participants speak equally (or have the chance to do so)?
- Did the drawing of the flower of proximity help the participants express their needs in terms of neighbourhood amenities? Why (not)?
- Were the task and the goal clear for the participants? Why (not)?

- Was there enough time for all participants to express their opinions and do the activity?
- Were there language barriers (can also be scientific jargon)? If so, how did you overcome these?
- Did participants understand the use of the templates (flower, modes, emojis)? Why (not)?
- Were participants satisfied with the outcome of the workshop? Why (not)?
- Did you make any changes to the workshop in terms of format, order or additional questions? If so, please describe how you did this and the reason(s) why.
- Are there any other comments you would like to address?

Participant – Flower matching sheet

For the analysis, it is important that we can match the participant to their drawings, especially as every participant draws 2 separate flowers. Mark the drawings on the back with the group number and date (for all of them), and an individual marker for each participant. Indicate the marker in the table below:

Participant	Marker used on the maps	Comment
1	1A (current) and 1B (desired)	

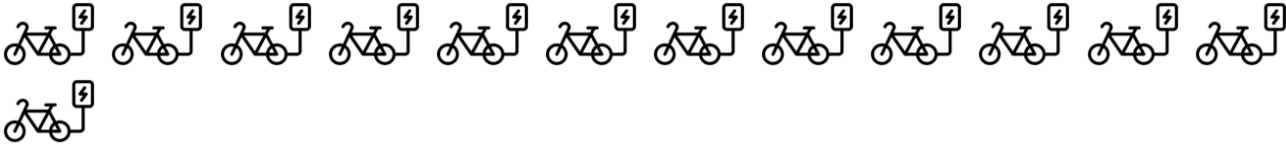
Table 5. Participant – flower matching sheet

ANNEX 4 – MODE TEMPLATE

Bike (below)



Electric bike



Cargo bike



Car



Taxi



Bus



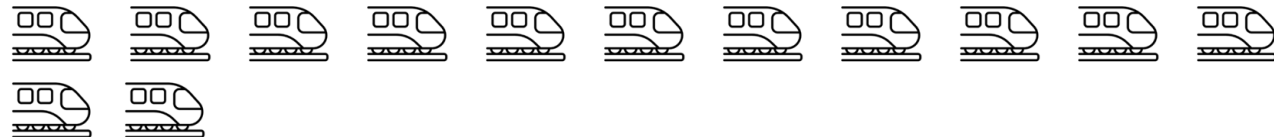
Tram



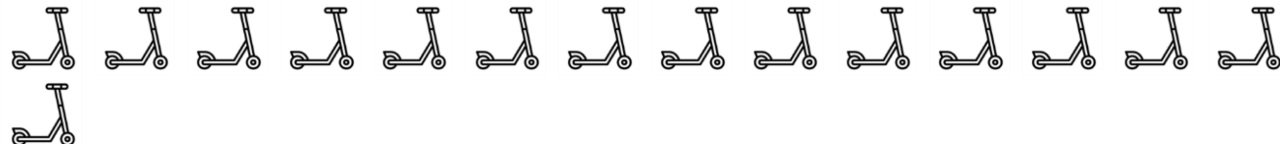
Metro



Train



Scooter



By foot



ANNEX 5 – EMOJI TEMPLATE

