Designing Cities Where Elders Thrive

Exploring How Service Design Methods Can Be Used In Urban Planning

MASTER'S THESIS BY

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ABSTRACT

An ageing population, combined with urbanisation, has become one of the biggest issues of the 21st century. Urban planning, therefore, needs a new approach to maintaining social equity when planning cities in changing and uncertain times. Service design in urban planning is largely uninvestigated but has promising opportunities to solve this challenge with its focus on human-centred design and mapping the sequentiality of citizens' experiences. This thesis, therefore, explores how service design methods can be used in urban planning to design cities that accommodate the needs of the elderly. The thesis uses a research by design methodological approach, with data collected through 9 semi-structured interviews, a survey with 36 respondents, two co-creation sessions, and two validation sessions. To answer the research question, a toolkit was co-developed with urban planners and related experts, comprising three tools (Urban Journey Map, Urban Experience Walkthrough, Urban Planning Blueprint) that originate from service design methods adapted to the urban planning context to include the needs of elders in urban decision-making processes. The toolkit is a first step to exploring how service design methods can be used to address this challenge, however, recommendations for future work are outlined to improve the toolkit and to investigate the research question further.

Keywords: Service Design, Urban Planning, Participatory Design, Ageing Societies, Research-by-Design, User Journey Map, Service Blueprint, Desktop Walkthrough

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INTRODUCTION

This chapter aims to introduce the context and purpose of the thesis, and outline the official and personal learning objectives of the thesis. Furthermore, the introduction gives the reader an insight into who we are as designers, our project management approach and a guide on how to read the thesis.

The chapter consists of the following sections:

- 1.1 Project Context
- 1.2 Learning Objectives
- 1.3 Us As Designers
- 1.4 Project Management
- 1.5 How To Read The Thesis

1.1 PROJECT CONTEXT

"*Cities, like dreams, are made of desires and fears.*" (Italo Calvino)

Today, cities are becoming more complex: Populations are ageing, and urbanisation is rising, creating two of the largest issues of the 21st century (United Nations, n.d.b; World Health Organisation, n.d.a). It is expected that 70% of the world's population will live in cities by 2050, and cities are not prepared for this rapid change (United Nations, n.d.b). Furthermore, countries like Japan are now entering the state of super-aged societies with 29% of the population aged 65 and older (Cabinet Office Japan, 2024), and Denmark is no exception, with 21% of the population aged 65 and above (PopulationPyramids, n.d.). The rise of ageing societies is transforming cities, creating new challenges such as loneliness, and requiring the creation of inclusive urban spaces and the maintenance of social equity (Ministeriet for By, Bolig og Landdistrikter, 2014; Cheshmehzangi, 2025; United Nations, n.d.b). Urban planning is therefore faced with challenges that require new approaches centred on social sustainability and citizen participation (Cheshmehzangi, 2025; Srinivasan, 2024).

This transformation therefore calls for a change to the way cities are planned and designed. The United Nations acknowledges this challenge in Sustainable Development Goal 11 "Make cities inclusive, safe, resilient and sustainable", where they highlight that sustainability, resilience, and the inclusion of the elderly and other underrepresented groups are key components for a successful future city (United Nations, n.d.b). This thesis is therefore seen as a contribution to the UN's SDG 11.

As service designers, we wonder whether service design, with its focus on, e.g., human-centred design, mapping the sequentiality of users' experiences, and the holistic inclusion of all stakeholders (Stickdorn et al., 2018), could be part of the solution to solving this challenge. A preliminary literature review found limited research on how service design can be used in urban planning, especially in the context of ageing societies. This sparked curiosity about whether a service design approach could be a part of the solution to this societal challenge. This thesis is therefore built on this curiosity and thereby anchored in the understanding that cities, more precisely public spaces, are a sum of services with which citizens[1] can interact, similar to any other digital or physical services (Meroni & Selloni, 2022).

The purpose of this thesis is therefore to explore how service design can be used in urban planning to contribute to solving the challenges of ageing societies. This thesis is seen as a contribution to the fields of service design and urban planning, both academically and in practice.

[1] When writing "citizen" in this thesis, we refer to all people that use the public spaces, this includes residents, tourists, pedestrians and others.

1.2 LEARNING OBJECTIVES

Official Learning Objectives

This Master's thesis aims to fulfil the learning objectives defined by Aalborg University, covering knowledge, skills and competences in the field of service design. A summary of the objectives stand as follows (see full description of the Learning Objectives in Appendix II):

- Gain knowledge about mastering appropriate methodological approaches, design theories and methods, and addressing the scientific problem, as well as the state of the art of the given research.
- Develop skills in order to work independently, identify problem areas and address major organisational issues in the design of a product-service system, design an innovative solution, produce a quality project report, and critically evaluate results in relation to the scientific context and the project's potential.
- Develop competencies to assume professional responsibility, master design work on complex problems, and foster interdisciplinary collaboration. (Aalborg University, 2023)

Personal Learning Objectives

Apart from the learning objectives set by our university specifically for the course, we agreed on our own set of goals to meet, which we deemed important to base our work on:

- Explore how service design, as a relatively new field, can be used in other contexts and contribute to older, more established fields such as urban planning.
- Involve non-Western perspectives in Western research, and therefore challenge how research in the field of service design is generated, while being aware of our own backgrounds and preconceptions that affect the way we design.
- Use our knowledge, time and capabilities for a greater purpose and contribute to solving emerging environmental and societal challenges.
- Actively focus on practising an inclusive design approach by involving diverse stakeholder groups in the process and creating an inclusive space in which no one is left behind (to the maximum level possible).
- Not only research for the sake of researching, but also creating practical outputs that can be used to enhance the fields we are exploring within the thesis.
- Create new connections with various groups and professionals, and support interdisciplinarity to broaden our knowledge and perspectives that shape our design practice.
- Aim to write the report in a clear voice to make sure our message is understandable, while being transparent about the things we know and do not know.

1.3 US AS DESIGNERS

The purpose of this section is to show that we, as academics and designers, are not objective and neutral. We have a cultural and educational background that shapes how we position ourselves in the world and how we approach problems. This section is more personal, but with the purpose of being transparent about our backgrounds and how that affects the process and design solution. We took inspiration for this chapter from the paper "Problematizing Replicable Design to Practice Respectful, Reciprocal, and Relational Co-designing with Indigenous People" (Akama et al., 2019).

Adéla

My story as a designer starts very far from it. Growing up in the Czech Republic, in a rather strict education system, where any mistake is seen as negative and therefore stigmatised, left its mark on how I work. Moreover, for most of my life, I saw design only as something technical, something you cannot do without knowing how to make things graphically pretty or being skilled in software that takes years to master. However, after tapping into and learning from various fields, I stumbled upon service design, which has taught me the opposite of what I have known so far. Being ready to make many mistakes and later build on them, being open to uncertainty, and not always having a clear direction for where the process is heading, without getting lost in the process.

Nevertheless, what I have realised is that, especially in fields such as service design, there is rarely one clear solution or one right answer, and bringing experience from other fields can uncover new perspectives. And that is what I try to include in my practice design – being open to new approaches, not putting myself in the centre as someone who knows best, but rather listening to the voices of many others and being inclusive in my work, and thinking of things in a wider context, holistically with various interconnections and dependencies.

Lucas

Growing up in Denmark and being educated through the Danish educational system means my knowledge of the world and design is primarily grounded in a Western perspective. Through my university education in UX and service design, I have been introduced to literature and design projects outside a Western context, but I have rarely had the opportunity to work with them. This means that the design methods I use, the aesthetics of my designs, and the underlying cultural norms, on which the solutions I create are built are grounded in a Western context. I try to be transparent about the biases that I possess; however, this can be difficult to be aware of, since biases are often unknown to oneself. The values I strive to follow as a designer are: involving users as much as possible in the design process; designing for a better future, for humans or non-humans (animals, nature, the planet),

1.4 PROJECT MANAGEMENT

In relation to our chosen methodology, we divided our research into three main phases: Pre-design, Design and Post-design (Roggema, 2016), details of which will be further explained in Section 3.1 “Methodological approach”. This approach allowed us to structure our work systematically and ensure each phase built upon the insights from the previous one.

Because of our chosen non-Western focus, the majority of the Pre-design phase was carried out physically in Japan. This positioning offered flexibility in tasks that needed to be done, as we could immerse ourselves in the Japanese context and culture, gaining a first-hand understanding of the topic in a non-Western setting, while diving deep into the literature review and additionally executing some of our research remotely, such as distributing our survey and conducting interviews with Danish urban planners. The remaining part of our research was then positioned to focus on the Danish context, primarily in Copenhagen, given our location and accessibility to participants and resources.

Our project management activities were primarily organised in a FigJam file, which is an ideal software platform to collaborate and work with design-related projects due to its visual tools (Figma, n.d.). In the FigJam file, we tracked our tasks, created a calendar plan, and collected the majority of our data, allowing us to easily revisit our previous actions, add notes, and plan ahead in a single file. Additionally, we used both Google Drive to store non-sensitive documents and the Teams channel, which was primarily used for interviews, as it is more secure in relation to GDPR. Lastly, for a broader overview, we created a Gantt chart (Holtsnider & Jaffe, 2012) to visualise and track our tasks and research from a helicopter perspective, thereby setting realistic deadlines for each phase and task, ensuring we maintained momentum throughout the project.

1.5 HOW TO READ THE THESIS

The thesis is divided into seven chapters. Each chapter has a brief introduction and multiple sub-sections, with some chapters having a short summary. It is suggested to read the whole thesis from beginning to end; however, if you are a practitioner who is more interested in the design process and outcome, we suggest that you read the following chapters: Introduction, Design Process and Conclusion.

This thesis is first and foremost targeted at an academic audience, but it is also intended for urban planners, urban designers, architects, urban developers, service designers, and other practitioners interested in the intersection of service design and urban planning.

The writing style is a mix of academic and more casual language. This upholds academic requirements while ensuring that as many people as possible can read the thesis. The reference style is APA (American Psychological Association, n.d.), meaning that references in text will have the following structure: Author(s), year. The full citation can then be found in the reference list in alphabetical order.

Overview of Chapters

Chapter 1 – Introduction
The introduction starts by outlining the purpose and context of the thesis, explaining the overall problem area. It is then followed by official and personal learning objectives, a personal reflection of the authors' background and design practices, and the project management approach.

Chapter 2 – Literature review
The literature review outlines relevant existing literature and gaps that the thesis seeks to explore. It consists of three sub-sections: Ageing Society, Urban Planning, and Service Design in Urban Planning. The chapter concludes by summarising key points and gaps from the literature review that inform the development of the research question.

Chapter 3 – Methodology
This chapter is divided into three sub-sections: Methodological Approach, Methods and Tools and Non-Western Perspective. The chapter starts by outlining how research by design is used as a methodological approach and what framework the thesis follows. The chapter also outlines the core methods used in each phase of the design process. Lastly, the chapter finishes with an explanation of how we strive to include non-Western perspectives in the thesis.

Chapter 4 – The (Design) Process
In this chapter, the entire design process is outlined, grouped into three sub-sections: Pre-design, Design and Post-design. In the Pre-design phase, a description of research activities and analysis is outlined to gain a deep understanding of the problem area and the relevant users and stakeholders. The Design phase outlines how participatory design sessions and other design activities are used to explore the research question. Lastly, in the Post-design phase, the final design solution is presented, and an implementation plan is outlined.

Chapter 5 – Discussion

The discussion starts by answering the research question through a reflection on how the thesis addresses it and what is missing. This is then followed by sub-sections discussing data saturation, toolkit limitations, methodological reflections and reflections on non-Western perspectives. Lastly, the official and personal learning goals are reflected upon, and recommendations for future work are outlined.

Chapter 6 – Conclusion

The final chapter concludes the whole thesis by summarising key points. After the conclusion, the reader can find the full reference list and appendices.

2

LITERATURE REVIEW

This chapter aims to lay the theoretical foundation of the research, outlining the relevant current literature and identifying the gaps. It explores the phenomenon of an ageing society and its implications on cities, the position of urban planning as a practice and its potential synergy with service design. The review of these topics then leads to the identification of the main research question, which sets the direction for the rest of the thesis.

The chapter consists of the following sections:

- 2.1 Ageing Society
- 2.2 Urban Planning
- 2.3 Service Design in Urban Planning

2.1 AGEING SOCIETY

The truth is, our society is ageing. Declining birth rates and increasing life expectancies have gradually led societies in most so-called developed countries to increase the elderly population ratio. An ageing population, together with urbanisation, has therefore become one of the biggest issues of the 21st century (United Nations, n.d.b; World Health Organization, n.d.a). The scale of this demographic shift is significant. As the World Health Organisation expects, by 2030, one in six individuals will be 60 years of age or older, and the number of those aged 80 or older is estimated to triple between 2020 and 2050, with the majority of the elderly in this period living in low- and middle-income countries (World Health Organization, n.d.a).

Denmark, with a population of 6 million, is no exception, having more than 1 million citizens aged 65 or older, a number that increases each year (Ministry of Senior Citizens, n.d). Some other countries have already reached the state of super-aged societies, defined as having at least 21% of the population aged 65 or older (Sakamoto, 2025). The most rapidly ageing societies in Asia (Statista, 2025) are reaching this state. Japan, which in 2023 reached 29,1% of the population aged 65 and older (Cabinet Office Japan, 2024) and is estimated to have 38% of the 65-year-olds and older by 2100 (Sakamoto, 2025), is leading this list. The country with the most rapid change is then Singapore, which is expected to become a super-aged society within the year 2026 (Ministry of Health, Singapore, 2026). Also, Denmark has surpassed this threshold, with 21,1% of the population aged 65 years or older in 2025 (PopulationPyramids, n.d.).

This demographic shift creates new realities in which the fertility rates are declining, workforce is shrinking, an increasing number of people suffer from dementia and other illnesses that create a higher burden on the healthcare system, and with the modernising society, the family structures change as well, leading to more and more people, oftentimes elders, living alone, away from their families (F. B. Alves & Mendes, 2012; Guo et al., 2024; Khoo et al., 2021; Sakamoto, 2025). Governments and countries need to prepare for this reality to effectively address the topic and benefit from it (Apolitical, 2020). However, as the number of elderly people grows, so does their political power, and we can therefore see more and more countries addressing the issue of ageing, as for example Singapore with its Successful Ageing Framework (Khoo et al., 2021).

Due to its growing relevance, addressing the ageing society has also become integrated into the United Nations Sustainable Development Goals, more concretely, Goal 11: Make cities inclusive, safe, resilient and sustainable and its two targets 11.3 and 11.7 that describe the importance of focusing on providing inclusive and accessible space for elderly and other underrepresented groups, as well as incorporating more participatory and sustainable urban planning (United Nations, n.d.b).

2.1.1 Ageing as a Phenomenon

"*Ageing is not about growing old, it is about living well.*" (Tan Kwang Cheak in Khoo et al., 2021)

An elderly person is, in the majority of cases, defined as someone aged 60 or 65 and older (Ministry of Senior Citizens, n.d; The UN Refugee Agency, 2025; United Nations, n.d.a). Nevertheless, the elderly group is very diverse and cannot be defined as one homogenous group with the same needs and lifestyles (Ministeriet for By, Bolig og Landdistrikter, 2014; World Health Organization, n.d.a). In most cases, ageing is, however, seen through a stigmatising lens rather than as a natural part of life. It is often seen as a disease (Ministeriet for By, Bolig og Landdistrikter, 2014) or an obstacle in everyday life or in the job market.

Thus, for many older people, battling ageism causes bigger problems than the ageing process itself (Khoo et al., 2021).

There are many papers that therefore propose a paradigm shift changing the way ageing is viewed, in which ageing is not seen as the end of life with limited capabilities and opportunities, but rather as a phenomenon framed around being active and healthy, in which the elderly person actively participates in society (F. B. Alves & Mendes, 2012; Grahame, 2016; Khoo et al., 2021; Li & Woolrych, 2021; World Health Organization, 2002). An important aspect of this change is the concept of inclusion, which prioritises ageing as a positive process (Li & Woolrych, 2021). Components for such framing involve avoiding words that immediately connect ageing with disability or impairment, and instead focusing on describing it in positive terms (F. B. Alves & Mendes, 2012). This way, the focus shifts from what the elderly cannot do to what they can be, allowing them to identify with the space and society rather than just avoiding social isolation (Li & Woolrych, 2021).

Moreover, to allow this, cities need to be designed so that the elderly population can still actively contribute to society rather than feel isolated, reflecting the changing needs that come with age, whether related to housing, transport, or social needs (Grahame, 2016). In this regard, Li and Woolrych (2021) highlight the importance of creating meaningful roles for the elderly, enabling them to feel like a valuable part of society.

2.1.2 Designing Cities for Elders

The urban environment shapes the choices we are presented with, deciding who feels welcome and who does not, and, as a consequence, shaping our well-being (Low, 2023). This is even more evident for vulnerable groups that depend more heavily on the design of the space, such as elders who are closely affected by the state of the surrounding environment and are much more dependent on it than their younger counterparts, as their physical and psychological health declines (Guo et al., 2024; Yi et al., 2022). This heightened dependency proves that whether or not urban spaces are age-friendly has a strong impact on the elderly's well-being (Yi et al., 2022).

Also, cities are beginning to realise the urgency of addressing ageing populations. As their populations age, many cities begin to face population shrinkage, becoming far less dense and unable to sustain facilities and services that support their citizens' daily lives (Koohsari et al., 2018). They also need to account for various age-related diseases, with dementia being one of the most prominent (Grahame, 2016; Khoo et al., 2021), and consider the relationships of citizens with the public space, both through physical aspects and the social connections it enables (F. B. Alves & Mendes, 2012). Some cities, such as Singapore, are therefore changing their mindset from seeing ageing as a problem to be managed to focusing on the opportunities it creates (Khoo et al., 2021).

Clear patterns emerge when researching the concrete realities of the elderly's daily lives. The literature shows that this demographic group prefers to move around by walking or using public transport, and points out supermarkets and parks as crucial in the lives of the elderly, affecting their health conditions, social connections and ability to take care of themselves (Grahame, 2016; Guo et al., 2024; Yi et al., 2022). This points towards a more holistic approach to designing age-friendly spaces, extending beyond physical attributes to consider the social realm, enabling social participation, fostering social networks, and supporting a deep connection to the place where the elderly live (Alves & Mendes, 2012; Guo et al., 2024; Khoo et al., 2021; Li & Woolrych, 2021; Yi et al., 2022). This can be significantly strengthened by involving the elderly in the design process, thereby helping them fight loneliness and feel useful (Ministeriet for By, Bolig og Landdistrikter, 2014).

This also ensures the designs meet the needs of the diverse users, while raising awareness about the proposed changes (Li & Woolrych, 2021).

When considering the physical aspects, Koohsari et al. (2018) highlight the growing recognition of conditioning people's behaviour by focusing on built environment attributes (such as an increasing number of parks, accessibility of public transport or a thought-through street system) that may affect how they behave in the space, without directly targeting their motivation. The immediate surroundings may be crucial to supporting active ageing and combating the fact that physical inactivity is one of the leading causes of most chronic diseases (Koohsari et al., 2018). The authors of this research also bring out the importance of considering temporal factors that affect how people move in space by adopting time-specific measures (Koohsari et al., 2018). Moreover, when considering concrete urban experiences, Guo et al. (2024) show that research gaps exist regarding how citizens perceive their surroundings and how objectively those are created and measured, highlighting the importance of researching the subjective attachments citizens create to the spaces in which they live and how they behave in them (Yi et al., 2022).

In the Danish context, we see a similar shift toward considering age-friendly design and acknowledging the need to adapt the urban spaces to the changing needs of the population (Ministeriet for By, Bolig og Landdistrikter, 2014; Social- og Boligstyrelsen, 2023). Until 2014, there were only a few initiatives focused on elders' involvement, as attention was directed towards families and kids through the design of spaces for play and physical activity, rather than ways to motivate elders to spend time in public spaces (Ministeriet for By, Bolig og Landdistrikter, 2014). In recent years, however, there has been a growing focus on applying senior-friendly design, also supported by the government.

Social- og Boligstyrelsen[2] has in 2023 distributed over 22 million DKK to 12 municipal projects to support senior-friendly design of urban spaces by involving the elderly in urban development, targeting well-being, health, and loneliness among the elderly. The projects started in 2024 and run till the end of 2026 (Social- og Boligstyrelsen, 2023, 2024, n.d.). One of the awarded municipalities has been Hvidovre Kommune, which received the largest share of the grant. With their project "Senior-friendly city – good for all generations", they aim to create spaces that fit everyone, putting a strong focus on the local community (Andresen, 2024).

Moreover, Sundhedsstyrelsen has published several materials targeted at municipalities and others working with public spaces, addressing the needs of elders in urban spaces and suggesting methods and tools to involve the elderly in the urban processes (Sundhedsstyrelsen, 2026). The methods proposed include interviews, observations, and co-creation activities; however, they lack considering a service design approach, which is further discussed in Section 2.3. This thesis, therefore, aims to contribute to the topic by considering the perspectives of the elderly and by supporting those who contribute to designing public spaces, helping them do so effectively and meaningfully.

Public spaces are spaces in the city that are available for everyone, for example, streets, parks and playgrounds (Kuta, 2025). Public spaces are central in cities and therefore in urban planning, since they offer opportunities for citizens to, e.g. move around the city, relax, walk outside, socialise and in general affect the well-being of citizens (Kuta, 2025). In this thesis, there is therefore predominantly a focus on public spaces in relation to urban planning.

[2] English translation: Danish Social Affairs and Housing Agency

2.2 URBAN PLANNING

Urban planning has existed ever since humans planned and built the first urban cities. Urban plans have been found in ancient cities in e.g. China, India and the Mediterranean, consisting of e.g. plans on how to divide a city and water supply systems (Fainstein, 2026). Urban planning has had different focuses through time: Ancient Roman and Greek cities were predominantly designed for the elite, cities during the Renaissance were focused on military defence and worshipping the ruler and/or the state, and the industrialisation changed cities to focus on efficient infrastructure (Donati, 2014; Fainstein, 2026; Brockerhoff, 2000; Cheshmehzangi, 2025).

Urban planning as an established field arose at the beginning of the 20th century (Fainstein, 2026) and until the 1960s mainly focused on the physical components of planning cities (Taylor, 1998). However, between the 1960s and 1990s, urban planning saw a new movement: from predominantly working with urban planning as a technical and spatial domain to exploring how the urban planning process can be democratised and also focus on the social dynamics and behaviour of the citizens in the cities (Katsavounidou, 2024; Gehl, 1987; Whyte, 1980; Arnstein, 1969). Jan Gehl, in his iconic book "Life Between Buildings", first published in 1971, introduced how urban planning should adopt a human-centred approach, by the use of, e.g. observing citizens in urban spaces to design cities with the citizens at the core (Gehl, 1987, as cited in Katsavounidou, 2024). Furthermore, Arnstein (1969) created the framework "A Ladder of Citizen Participation" to understand how citizens can be involved in urban planning projects, on a spectrum from no participation to the citizens having control over the process (Arnstein, 1969). From the 1990s to today, 2026, the urban planning field is still influenced by the combination of the movement in the 1960s-1990s and the traditional physical and spatial aspects, which can be seen in the many definitions of urban planning.

2.2.1 Defining Urban Planning and Related Fields

How is urban planning defined in recent literature, and how do we define it in this thesis? Like many other fields, urban planning has a multitude of definitions. A broad definition that captures the essence of urban planning is from The Cambridge Dictionary that defines urban planning as: "*The process of planning how towns and cities are built in order to make them pleasant and easy to live in*" (Cambridge Dictionary, n.d.). Other definitions describe urban planning as a top-down physical and technical practice, such as: "*Urban planning is the process of guiding and directing the use and development of land, urban environment, urban infrastructure, and related ecosystem and human services*" (Bibri & Krogstie, 2017, p. 190). Lastly there are also definitions, inspired by scholars like Gehl (1987) and Whyte (1980), that highlight that urban planning is not only physical planning, but rather a more interdisciplinary field that also actively involves citizens in decision making, such as: "[urban planning] *refers to the linking of technical knowledge to social transformation processes that rely on bottom-up actions. Here, planning is not considered an exclusive function of the state*" (Friedmann, 1987, as cited in Wong, 2023, p. 4).

In our thesis, we define and understand urban planning as a combination of these definitions:

Urban planning is a process of guiding the planning of urban spaces, ranging from technical, spatial and physical planning to social transformation, using a combination of top-down policies and bottom-up citizen involvement.

This definition acknowledges the broad nature of the field, ranging from spatial and physical city planning to social transformation and participatory citizen involvement, but still acknowledges that urban planners often have the power to change cities. Lastly, urban planners use a wide range of methods, such as methods to explore the physical dimension of an area (e.g. zoning, site analysis, special analysis (GIS)), methods to engage and include citizens (e.g. public local hearings, workshops, interviews) and strategic and future-oriented methods (e.g. simulations, scenarios, master planning) (Klosterman, 2015; Fisher, 2025; University of the Built Environment, 2024).

It is also important to define the difference between urban planning and related fields. The closest field to urban planning is urban design, which still lacks a clear agreement on its definition in academia (Abd Elrahman & Asaad, 2021). However, it is often defined as an interdisciplinary design field using knowledge from urban planning and architecture, but with a stronger focus on the sociological and behavioural aspects of citizens in urban spaces (Ghosh, 2019; Bibri & Krogstie, 2017). Urban planning and urban design are in practice very closely related; however, the difference often lies in the fact that urban planners have the decision-making power in a municipality or government, and urban designers do not (Abd Elrahman & Asaad, 2021). Lastly, there is also architecture, which is seen as the mother of the two other fields and is often defined as a discipline that designs aesthetically pleasing and purposeful buildings, structures and surroundings, using knowledge from areas like maths, physics and art (Janetius, 2020). Through these definitions, it is clear that all these fields have overlapping competencies and work closely together to design the best cities possible. It is therefore important to mention that even though this thesis is focusing on urban planning, it is also relevant to potentially include perspectives and practitioners from these closely related fields in our research.

2.2.2 Current Challenges in Urban Planning

Urban planners are currently faced with many urban challenges, such as urbanisation and population growth, climate change, political constraints and achieving social equity (Cheshmehzangi, 2025). Firstly, urbanisation, people moving from rural to urban areas, is a key challenge in urban planning, and it is expected that 70% of the world's population will live in cities in 2050 (United Nations, n.d.b). Population growth in cities can have positive effects like economic growth, but it can also lead to consequences like urban sprawl, where the city expands uncontrollably, causing, e.g. wasteful land usage (Yaping & Min, 2009; Cheshmehzangi, 2025), and impacts on the environment, such as air pollution (Michaud, 2020).

Secondly, climate change is both a pressing matter that cities need to adapt to, but cities are also a big part of the cause of climate change, with cities accounting for 70% of carbon emissions in the world (Cheshmehzangi, 2025). Climate change also means that urban planners have to plan climate-resilient cities that can survive floods and other climate disasters (Cheshmehzangi, 2025; Prasad et al., 2009; Jha et al., 2011).

Thirdly, political considerations and constraints affect how urban planning is practised, since political motivations and policies can determine the agenda of the urban area and therefore stand in the way of, e.g. including and implementing citizens' ideas (Bai et al., 2010; Holemans, 2016; Khoo et al., 2021; Meroni & Selloni, 2022). When citizens have ideas for how to change the city, a political motivation and approval from the government and/or municipality are often needed for a successful implementation, no matter the quantity and quality of the citizen involvement (Bai et al., 2010; Holemans, 2016; Khoo et al., 2021). This then creates a power difference between the government/municipalities and the citizens, which can create many barriers for implementing an initiative (Bai et al., 2010).

Lastly, and most relevant for this thesis, is the challenge of creating social equity in urban spaces. Social equity in urban planning, which entails ensuring that all citizens have equal access to the city, is one of the most important challenges that urban planners are tasked to solve (Cheshmehzangi, 2025). Social equity includes, e.g. accessible spaces for all, affordable urban services, and including as many demographics in the planning process as possible. Social equity is therefore connected to addressing the challenge of ageing societies by creating cities that accommodate the needs of the elderly. Actively involving citizens' experiences and thoughts in the decision-making, especially marginalised groups, can improve social equity, which in turn creates urban areas that foster social justice and a space where everyone has equal access (Srinivasan, 2024). Nevertheless, improving social equity is getting harder and more important due to the current rapid urbanisation and uneven distribution of wealth in some parts of cities (McNutt & Hoefer, 2020, as cited in Cheshmehzangi, 2025).

2.2.3 The Gap in Urban Planning Literature

Current innovation trends in urban planning are mainly focusing on the use of technology and quantitative data in planning processes, such as smart cities, predictive models and green technology (Cheshmehzangi, 2025). However, several scholars argue that there needs to be more focus on interdisciplinarity, citizen involvement, flexibility and social sustainability in urban planning. Several scholars explain that urban planning and designing cities in general need a more interdisciplinary and citizen-focused approach to solve the current urban challenges (Giseke et al., 2021; Neuhoff et al., 2023; Webb et al., 2018). Giseke et al. (2021) argue that urban design and planning need a more interdisciplinary approach, especially focusing on using knowledge from different fields in the process. Neuhoff et al. (2023) write about how participatory futuring should be a part of planning the future of cities, which allows, in the context of urban planning, citizens to co-create the future of an urban area that they are living in or will live in. Furthermore, they argue that there is a gap in urban planning in relation to opportunities for citizens to actually influence the future of their city, especially lacking how to include underrepresented demographics (Neuhoff et al., 2023).

Some scholars mention that flexibility is one of the most important parts of current urban planning, since urban planners are often working with uncertain futures (Cheshmehzangi, 2025; Giseke et al., 2021; Ljubenovic et al., 2014). A difficult part of urban planning, by definition, is to make decisions in the present that will first be a reality in the future, sometimes many years in the future. The world, and therefore cities, are becoming more complex and unpredictable, which emphasises the need to create flexible urban plans (Ljubenovic et al., 2014). Cheshmehzangi (2025) highlights that there is a gap in creating new methods in urban planning that can accommodate these uncertain parameters, such as climate change and social inequality. Additionally, Cheshmehzangi further argues that focusing on social sustainability, social equity, and participatory involvement in urban planning is important to tackle the current urban challenges: "*Planning must be inclusive, involving local populations in decision-making procedures. Social sustainability is essential to creating unified communities that offer opportunity to all citizens through fair laws and welcoming public areas*" (Cheshmehzangi, 2025). This quote highlights the need to focus more on social sustainability in urban planning, which is especially relevant in relation to our topic of including elders' needs in urban planning and how a new approach through service design could solve this. There is, therefore, a gap and a need to explore how urban planners can more easily navigate these challenges and new realities.

2.3 SERVICE DESIGN IN URBAN PLANNING

2.3.1 Service Design

What is service design? One could argue that service design has existed for thousands of years. We, as humans, have designed and used services ever since we built civilisations and lived together with other humans (Morelli et al., 2021), e.g. the first priests offering their services to people through advice (Catalanotto, 2018). However, service design as a term was established approximately around the 1980s in marketing (Shostack, 1982; Morelli et al., 2021) and began to get traction in the literature around the introduction of Service Dominant Logic (Vargo & Lusch, 2004). Vargo & Lusch (2004) argue that in the Service Dominant Logic, the value is co-created with the user, whereas in the traditional Goods Dominant Logic, the value is decided by the maker and services were defined as the opposite of products, ergo services are what a product is not (Vargo & Lusch, 2004). They therefore created a theoretical foundation to define service design as co-value production instead of the traditional "services are not products" definition.

In recent literature, there are many definitions of what service design is. Our understanding and use of service design, in this thesis, aligns the most with *the new principles of service design* introduced by Stickdorn et al. (2018), which contain six principles:

1. **Human-centred** (designing for users)
2. **Collaborative** (involving stakeholders)
3. **Iterative** (experimenting and adapting)
4. **Sequential** (visualising the sequence of connected activities)
5. **Real** (exploring the real world)
6. **Holistic** (designing services that accommodate users and stakeholders across the full service journey) (Stickdorn et al., 2018).

We do not only see this as a solid definition of service design, but also as principles to follow when working with services and defining the value of service design. Furthermore, what we understand as core service design methods are methods that define the service design field and are most valuable when working with services. Examples of core service design methods and tools are therefore the service blueprint and the user journey map (see Section 4.2.1 for a full list that is created based on *the basic service design tools* proposed in Stickdorn et al. (2018)).

Service design is now becoming more and more common in academia and in organisations. In the past 10 years, the service design field has expanded beyond "just" the design of digital and physical services to now also being used in other domains. Scholars are exploring how service design can contribute to other areas such as sustainability, transition design, artificial intelligence, circular economy and policy making, all showing interesting results (Irwin, 2015; Blomkvist et al., 2023; Kimbell & Bailey, 2017; Rjsé et al., 2023; Apostolova et al., 2025; Villari, 2022). It is, therefore, intriguing to explore how the value of service design can be used within the field of urban planning to help solve the wicked problems the field is facing.

2.3.2 Existing Research: Service Design in Urban Planning

Based on our literature review, research on how service design can be used in urban planning is largely uninvestigated. There exists a multitude of papers exploring how neighbouring fields to service design, such as participatory design, anthropology

and foresight, can be used in urban planning (Tewdwr-Jones & Wilson, 2022; Webb et al., 2018; Aoki et al., 2020; Neuhoff et al., 2023; Raynor et al., 2017; Martini, 2017; Cihanger, 2018; Yi et al., 2022; Sundhedsstyrelsen, 2026). Participatory approaches have seen promising results in the literature due to their goal of including citizens in urban planning projects, through, e.g. using Lego in a workshop setting to help stakeholders work together in city planning (Tewdwr-Jones & Wilson, 2022). Furthermore, anthropological methods have been explored to include the everyday lives of citizens in urban places, using, e.g. walk-along methods with citizens (Martini, 2017). There are, however, a limited number of papers exploring traditional service design in an urban context.

In our literature review, we found three research papers/books that explore the usage of service design in an urban context to some degree (Pomeroy-Stevens et al., 2020; Wallin & Horelli, 2010; Meroni & Selloni, 2022). Pomeroy-Stevens et al. (2020) explore how journey maps can be used to document the experience of a neighbourhood in relation to urban health. They did this by creating a journey mapping tool for city officials to track urban health issues over two years within a neighbourhood. The journey map (which includes, e.g., visual storytelling, quotes, and the citizen perspective) was well received by city officials, especially as a discussion tool for identifying the most prominent health problems in the investigated neighbourhood and to gain empathy towards the citizens (Pomeroy-Stevens et al., 2020). Even though this shows a promising opportunity to use journey maps in an urban context, they outline several gaps in their paper, such as: no testing of their proposed way of using journey mapping in an urban context, and how to make sure that the tool will actually be used by citizens and city leadership instead of being "just" a conceptual idea (Pomeroy-Stevens et al., 2020). Furthermore, their journey map does not include the classic components, such as emotions, pains and opportunities (Gibbons, 2018), but is more of a visual timeline. Nevertheless, the way they adapted the journey map to the specific context of their project, and the value it created, shows the potential of adapting journey maps to different fields. The classic components of journey maps in an urban context, however, still remain largely uninvestigated. Additionally, in the context of this sub-section, the journey map is not focused on urban planning but on urban health. Even though the two fields have overlapping areas, the main difference is that urban planning is focused on guiding the planning of urban spaces, as defined in Section 2.2.1, whereas urban health focuses more on limiting diseases in cities and improving the health of the citizens (World Health Organization, n.d.). Nevertheless, their paper shows that there is value in using journey maps to visualise the urban health of a neighbourhood, and therefore highlights the opportunity to explore journey maps in other urban fields, like urban planning.

Wallin & Horelli (2010) propose a "user-sensitive service design approach" within urban planning, with the focus on digital services in Helsinki. Their research is based on the notion that urban planning needs to change to address the complex living environment for citizens in this neighbourhood of Helsinki. They develop a methodology called "user-sensitive service design approach", which consists of three components: participatory planning (Lena[3]), personalising services based on citizens' inputs, and using living labs to test and iterate service solutions with relevant stakeholders. The outcome of their approach was therefore to link urban planning to the local area (Wallin & Horelli, 2010). However, in the context of our definition and understanding of service design, their methodology would more be categorised as using participatory design in a service and urban planning setting, rather than an approach using service design methods in urban planning. Nonetheless, this approach suggests that there is value in understanding an area from a service perspective and involving urban planners and citizens in the process. This then indicates that

[3] Learning-based network approach to planning and development (Wallin & Horelli, 2010).

further research where the service design parts of the approach are zoomed in on, through concrete service design methods, might bring further value.

Lastly, a book titled "Service Design for Urban Commons" explores how cities can be seen from a service perspective (Meroni & Selloni, 2022). The book is based on research done to reimagine the Ducal Palace and Park in Italy, where they explore the concept of urban commons from a co-design and service design perspective. Urban commons are most easily defined as urban spaces (parks, streets, etc.) and services (public transport, water services, etc.) that a community shares and cares for together (Meroni & Selloni, 2022; Foster, 2012; O'Brien, 2012; Foster & Iaione, 2016; Kassa, 2008; Harvey, 2012; Hess, 2008). Meroni & Selloni (2022) argue that public spaces, or urban commons, can be understood similarly to regular services since spaces also afford specific interactions that a user can perform, which is also the premise on which our thesis is built. The outcome of their research was a process "Service Master Planning" and a product "Service Master Plan"[4]. Service Master Planning is, in its essence, an extension of the Double Diamond, with more iterations to accommodate the complexity of master planning, focusing on co-creating the Service Master Plan (Meroni & Selloni, 2022). The Service Master Plan is the outcome of the Service Master Planning. It entails three sections: the future scenario(s) of an urban area, specifications (a written list of all services in the area with a service offering map) and recommendations for future decisions about the area in relation to spatial and service considerations (Meroni & Selloni, 2022). The book is a central contribution to the field of service design in an urban context and, in many ways, lays the foundation for our thesis. It shows that working with urban spaces from a service design perspective is valuable. However, the process or the outcome of their research does not explore the use of classic service design methods (user journey map, service blueprint, etc.) in urban planning. Exploring service design methods deeper to amplify the value of service design in urban planning could therefore potentially bring even more value. Furthermore, their framework is not embedded into how urban planners currently work, but is a new process. Their framework builds on the foundation of the Double Diamond, which is not necessarily familiar to an urban planner or policymaker. This gap highlights the need for further research that includes urban planners' current working processes in the design process, and explores how to design a solution that accommodates their way of working.

Therefore, even though these papers investigate service design in urban planning and they each have different gaps, what they have in common is that they do not explore how core service design methods can be used in urban planning. Furthermore, none of the three papers/books explicitly focuses on the elder demographic. What they also have in common is that they show that a service design perspective in an urban context has promising opportunities. This gap is therefore interesting academically as it has value to explore deeper what service design methods can contribute to in urban planning, with its focus on e.g. user-centred design and visualising sequentiality. Therefore, based on these gaps, the goal of our thesis is to explore further the value of service design in urban planning, with a special focus on how service design methods can contribute to urban planning to design cities that accommodate the needs of elders.

[4] Master plans are plans that urban planners create to guide the vision of an area.

2.4 SUMMARY

A summary of the literature review with identified gaps is outlined in the following:

- **Ageing populations** and urbanisation are increasing worldwide, especially in developed countries. This creates a multitude of challenges, such as a shrinking workforce and changing family structures that result in e.g. more elders living alone. Creating age-friendly urban environments has therefore become more important, as urban spaces often reflect who is welcome and who is not, thereby affecting citizens' well-being. In recent years, there has been growing interest in selected Danish cities in creating age-friendly cities, indicating the need for further exploration, especially using a service design approach.

- **Urban planning** and cities in general are facing multiple challenges, such as climate change and achieving social equity. Current innovations and trends in urban planning are, however, more focused on technology and quantitative data, missing the focus on social sustainability and flexibility in planning that are essential to tackling these uncertain and complex urban challenges, such as planning and designing inclusive urban spaces.

- The use of **service design in an urban context** is largely uninvestigated. The limited research available indicates that adopting a service design approach in urban contexts has great potential. Furthermore, based on our research, there is no academic literature that has explored how classic service design methods and tools can be used in urban planning.

The identified insights and gaps in the literature review led to the following research question:

How can service design methods be used in urban planning to design cities that accommodate the needs of elders?

This thesis, therefore, seeks to answer this research question through a research by design approach, accompanied by academic reflections and discussions.

3

METHODOLOGY

This chapter addresses our research process and our positioning towards it. It introduces research by design as our guiding methodological approach, with a structured framework inspired by Roggema's research (Roggema, 2016), and the methods chosen to execute the research. This section also includes our considerations of non-Western perspectives and methodological perspectives of human-centred and participatory design, which became a crucial standpoint guiding our research.

The chapter consists of the following sections:

- 3.1 Methodological Approach
- 3.2 Methods
- 3.3 Non-Western Perspectives

3.1 METHODOLOGICAL APPROACH

To address the research question, we structure our methodology into four layers (visualised in Figure 1):

1. Methodological approach: research by design
2. Framework: by Roggema (2016) divided into Pre-design, Design, Post-design
3. Methodological perspective: human-centred design and participatory design
4. Specific methods and tools

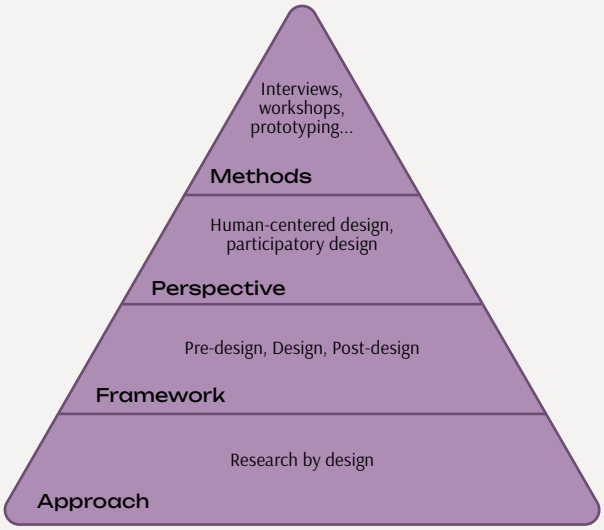


Figure 1: A visualisation of our methodology, which includes four layers: Approach, Framework, Perspective, Methods.

This thesis uses a research by design approach. Research by design is often used interchangeably with research through design, with few scholars distinguishing between the two (Roggema, 2016). Research through design has different definitions and is being used differently in practice and in research; however, it is often defined as "making of an artefact with the intended goal of societal change" (Zimmerman et al., 2010, p. 311). The many definitions of research through design and research by design make it difficult to distinguish between the two approaches. However, we use the term research by design in this thesis, as most definitions fit our approach best. For clarity, we understand research by design as: Using design (methods) as a mode of knowledge inquiry, in which the design knowledge and research insights are interconnected (Barbosa et al., 2014; Roggema, 2016; Hauberg, 2011). Research by design is therefore an approach in which the researcher gains knowledge about the problem area and potential solutions by designing, using methods such as sketching and mapping (Roggema, 2016). The research by design approach is especially suitable for research questions that encompass wicked problems, which are defined as, e.g. not having one answer, cannot be fully solved, are unique and are complex with numerous stakeholders with different needs (Rittel & Webber, 1973; Buchanan, 1992; Roggema, 2016). The characteristics of a wicked problem fit our research area, since the challenges of ageing societies do not have a simple answer and cannot be solved solely through a scientific approach; they therefore require a design approach.

To structure the research by design approach, we use a methodological framework, introduced by Roggema (2016), that divides the process into three phases: Pre-design, Design and Post-design:

- **Pre-design:** In this phase, the researcher explores and defines the research question through a deep understanding of the problem area and key users and stakeholders, which also contributes to future design possibilities.
- **Design:** The design phase is the main phase, where research and design feed into each other. The researcher engages in iterations of design activities, such as sketching, ideation, and testing with key users, to work practically and in context with the research question.
- **Post-design:** In the last phase, communication and presenting the work and results are essential. Here, it is important to communicate what the potential future could look like, both through the proposed design solution and the academic insights and considerations that follow.

Furthermore, our methodological perspective is combining human-centred design with participatory design. Participatory design, often used interchangeably with co-creation or co-design, is defined as: designing with users, through a process of understanding, creating and nourishing mutual learning between the designer and the user to achieve new knowledge (Robertson & Simonsen, 2013; Wacnik et al., 2025). In this thesis, we therefore strive to involve relevant users and stakeholders in decision-making as much as possible throughout the design process. Co-creation sessions enable us to achieve this mutual learning through the use of the Tell-Make-Enact Framework, where participants have the opportunity to *tell* their needs and perspectives, *make* tangible outputs and *enact* possible futures (Brandt et al., 2012).

Human-centred design is defined as a problem-solving approach in which users' needs are central throughout the design process (Landry, 2020). This is often structured through the use of design thinking, where six key steps are typically followed: Emphasise, define, ideate, prototype, test and implement (Gibbons, 2016). We do not use these steps directly, but they are closely connected to the research by design methodological framework phases, described earlier, and serve as the underlying thinking of our process. By adopting both a human-centred design and participatory design perspective, we are designing *for* and *with* our users.

3.2 METHODS AND TOOLS

The following visualisation (which can be seen to the right) creates an overview of the methods and tools used throughout the research process, which will be introduced in more detail in the following chapters. It is also important to mention at this stage that, in design practise, the terms methods (systematic processes aiming to achieve certain aims and results) and tools (practical instruments used to accomplish a task and support the procedure) (Alves & Jardim Nunes, 2013) typically blur, one supporting the other and vice versa. For the sake of thesis readability, we therefore use the umbrella term "methods," which, in our case, encompasses both dimensions. In specific cases, where distinction is necessary, we refer to the terms explicitly.

The Pre-design phase, focused on understanding the topic and empathising with users and various stakeholders, was achieved through literature research, interviews, and a survey. In the Design phase, the collected insights and findings were then synthesised and used in a co-exploratory workshop with urban planners, from which preliminary prototypes were created, which went through an additional round of co-creation before being finally validated. The Post-design phase focuses on communicating our solution and addressing its implementation. Here, three new tools are created based on service design methods identified throughout the project and explored in greater depth in the context of urban planning: Urban Journey Map, Urban Experience Walkthrough, and Urban Planning Blueprint.

Pre-design:

- Literature research
- Stakeholder map
- Interviews: Japan
- Survey
- Interviews: Denmark
- Data clustering

Design:

- Co-exploratory workshop with urban planners
- User journey map
- Desktop walkthrough
- Service blueprint
- Sketching and prototyping of a preliminary solution
- Asynchronous co-creation session
- Validation sessions

Post-design:

- Urban Journey Map
- Urban Experience Walkthrough
- Urban Planning Blueprint

3.3 NON-WESTERN PERSPECTIVES

When we learn and write about design thinking, service design, UX, and so many other similar fields, we often only hear a single story. The Western story. Chimamanda Ngozi Adichie explains how we can all be affected by the danger of a single story: hearing one perspective and believing that it is THE perspective (Ngozi Adichie, 2009). How can we avoid or minimise this? By listening to more stories. We live in a design culture shaped by the contexts of the so-called developed world and its economic and socio-cultural settings. A culture built around Eurocentricity that produces numerous methods and "best practices," believing they can be replicated anywhere in the world, often with a designer persona in the middle, speaking for others and solving their problems (Akama et al., 2019). As Akama et al. (2019) point out in their paper, this can, however, reinforce colonialism and therefore calls for a change in approach. An approach that abandons universality and replicability of a "best practice" model, and instead aims to be respectful, gain deeper situational awareness, and practise relational co-designing, which starts with reflecting on how we account for ourselves as designers, and what shapes the way we practise design.

Furthermore, to fully understand the problem of ageing cities, it is important that perspectives from non-Western super-ageing countries, which are mostly affected by this issue (Apolitical, 2020), should be included. In this thesis, we therefore strive to include academic papers, experts, and users from not only Denmark but also non-Western countries, especially Japan and Southeast Asian countries, which are often overlooked in studies that rather focus on anglophone societies (Koohsari et al., 2018). Japan, therefore, became the central focus in the first part of our research, as it is the most super-aged country in the world (Sakamoto, 2025). This helped us set a clear direction and build a strong foundation for the next steps in our project, which aimed to focus on Denmark and create a solution for its context. Nonetheless, it is important to note that we were not aiming to become experts in the Japanese culture, nor to speak on behalf of the Japanese, but to include their views and perspectives, and do our part in challenging our (design) background, instead of positioning ourselves in the centre of the world.

4

THE (DESIGN) PROCESS

This chapter describes the design process used to explore the research question, which follows the research by design structure and is therefore divided into three phases. The Pre-design phase builds understanding of the problem by consulting users and experts in the field; the Design phase applies the gained knowledge in order to create the intended solution; and, lastly, the Post-design phase communicates the solution and considers its implementation.

The chapter consists of the following sections:

- 4.1 Pre-Design
- 4.2. Design
- 4.3 Post-Design

PRE-DESIGN

PRE-DESIGN DESIGN POST-DESIGN

1. Stakeholder Mapping
2. Interviews: Japan
3. Survey
4. Interviews: Denmark

4.1.1 STAKEHOLDER MAPPING

Before diving into our research by design process, we saw it as important to identify the different stakeholders involved in the urban planning process and which could be relevant to consider in relation to our research question. Stakeholders were identified through an internal brainstorming on all actors that are relevant in relation to our research question, and the purpose of the map was not to map out the relationship between the actors, but to identify which actors to include in the research and design activities, and grouping them into three degrees of importance. Therefore, we divided them into three separate categories inspired by Stickdorn et al. (2018) (see Figure 2):

- **Essential:** those essential for our research and therefore our main target group, the urban planners and elders;
- **Important:** those valuable for the process due to their proximity to the topic or experience, such as experts from related fields of urban design or architecture, municipalities responsible for the urban planning processes, or actors advocating for the rights and needs of the elderly;
- **Interesting:** and lastly, those that are not essential to the process but who might bring interesting viewpoints to the topic, such as, the families of the elders, public health authorities or various non-profit organisations.

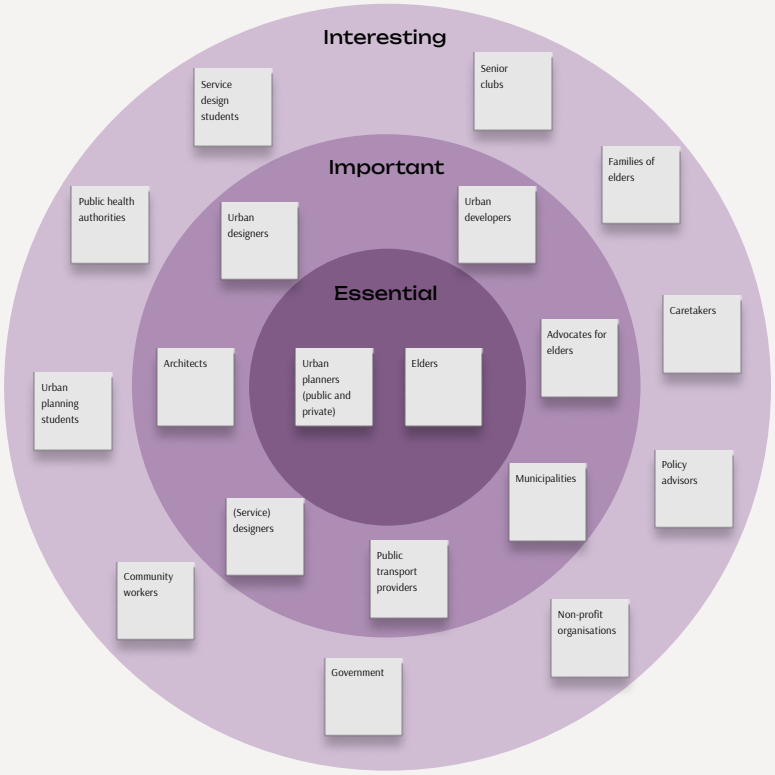


Figure 2: Stakeholder map identifying key stakeholders relevant for the thesis

4.1.2 INTERVIEWS: JAPAN

Parallel to our literature review, we conducted research in Japan, aiming to collect initial data and build a base for further research. Not being experts in the Japanese context, we aimed to immerse ourselves in Japanese culture and build closer connections with experts and stakeholders working in urban contexts, thereby better understanding the issues of super-aged societies. To reach this goal, we chose to conduct a series of interviews in Japan.

These interviews served as a spyglass through which we could look into the future and see a society in which an ageing population was a very present issue, and we could take this knowledge back into the Danish context to prevent problems that Denmark might face in the future.

By conducting these interviews, we therefore aimed to fulfil several purposes:

- Taking inspiration from a country where an ageing population is a prominent issue, and observing how they address the topic, what mistakes they've made, and what they've learned so far.
- Narrowing down our focus and setting a clear direction for the next phases of our thesis.
- Challenging Western views by engaging experts from other contexts.
- Identifying opportunities and challenges for including elders and service design in urban planning.

4.1.2.1 Practicalities

We conducted five different interviews with experts and organisations, purposely chosen based on the stakeholder map (Figure 2) and covering various areas to understand the Japanese context from multiple perspectives (see textbox to the right):

1. Yokohama City Hall, Urban Planning Department
Focus: city-level urban planning, approach to sustainability, citizen involvement, ageing society

2. Toyama City Hall, Environmental Policy Division and Urban Planning Department
Focus: city-level urban planning, approach to sustainability, citizen involvement, compact city development, ageing society

3. Urban designer, Japanese private company
Focus: current state, challenges, and trends of urban design/planning

4. Re:Public, Japanese private company
Focus: concrete approaches in citizen involvement and urban projects, everyday experiences of citizens, ageing society

5. Japanese governmental institution
Focus: inclusivity, governmental perspective, service design in the Japanese context

The interviews primarily took place in person (see Figure 3), apart from one, which was conducted online, and all were recorded and transcribed via Microsoft Teams. Two of the interviews also required a Japanese-English translator, and we spent additional time translating them based on the recordings to ensure we did not miss any crucial information. This language barrier, in the end, proved to be the biggest obstacle when planning our interviews in Japan, as we were otherwise very positively surprised by the openness of the Japanese experts to meet with us and discuss our research topic. The interviews followed a semi-structured format (Bryman, 2012), and we therefore prepared a set of questions which were adapted to each interviewee's context and focus.

Figure 3: Photos from some of the interviews with Japanese experts

The interviews generally included: an introduction; their experience and the methods they used; the obstacles they face in their work; specifics of the Japanese context and culture; and experience with citizen involvement. This way, we focused on collecting concrete approaches to how Japanese cities address an ageing population, what current urban planning/design practices look like, how we can meaningfully involve citizens in the process, and how service design is perceived in a non-Western context.

When polishing transcriptions generated in Microsoft Teams, we used the intelligent verbatim approach, meaning we removed disfluencies (filler words and repetitions) to make them easier to analyse (McMullin, 2023). Rather than traditional coding, which would have been challenging given the varied interview structures, we chose an exploratory approach focused on distilling key points and interesting insights, enabling us to identify overall themes and gaps. The analysis was then conducted in two phases of data clustering, the first based on the obvious categories emerging from the interviews. In the second round, we then aimed to uncover underlying patterns and connections across the categories.

Naturally, there are also considerations regarding the reliability and validity of the collected data and insights. It is important to note that the interviews were exploratory and were affected by the timing of our research. Since the interviews took place at the same time as the literature review, our focus and structure developed over time. This meant that some topics had a stronger presence in the first interviews, even though they did not become our primary focus. Moreover, as the structure was not strictly consistent, it made it harder to identify common patterns in the traditional sense of qualitative research. Nevertheless, this approach helped us explore various directions and possibilities, which was especially crucial since we did not have a given brief from a client and instead helped us settle on a direction for our research.

Not having a fixed structure also directly reflected our aim to interview actors with diverse perspectives to build a more complex picture of the state of urban planning, design and ageing in Japan, rather than sticking to a single viewpoint or stakeholder type. Nevertheless, conducting the interviews in Japan did not come without its limitations. The stakeholders we were able to reach were part of a bubble we could

access through our limited knowledge of the Japanese context and the data we encountered while searching in English, leaving many other stakeholders who communicated solely in Japanese outside our reach. Additionally, the language barrier and cultural differences may have led to minor misinterpretations, as interpretations were naturally filtered through our own cultural backgrounds and assumptions. Lastly, reflecting on the interview analysis, we benefited from both of us being present for all interviews and from agreeing on a coding and analysis approach, which helped us reduce individual bias and enhance the reliability of our findings (Bjørner, 2015).

4.1.2.2 Key Insights

The main insights from the interviews revolved around four overarching topics: ageing population, urban planning/design, citizen involvement and designer's approach.

Topic 1 – Ageing Population

One of the main topics of interest in the Japanese context was the ageing society, which is a present reality in Japan. Among specific challenges, mobility and transportation emerged as the most prominent, recognising that mobility is foundational to elders' independence and social connection, presenting both challenges and opportunities for solutions. The mobility problems are caused both by the decreasing number of people of working age who can operate the public transport, leaving many of those living outside of city hotspots isolated, as well as by distances between key services. Some cities, therefore, turn towards implementing compact city measures.

"*Ultimately, we work to improve citizens' welfare, and ensuring mobility is one aspect of that. But the destination, well, it's about individual happiness, so that's what I want to aim for next.*" (Urban planner, Toyama City Hall)

Additionally, the interviewees highlighted that the ageing population in Japan is leading to an increase in the number of elderly, thereby giving them greater power through numbers, which also confirmed our notions from the literature review. This was a pressing issue among the interviewees, the majority of whom noted that, in this reality, young people are often underrepresented in planning processes and political decision-making.

"*Because there are more elders now. I think the underrepresentation really affects younger people, the younger generation, right? Because in voting or elections, they will never get the majority.*" (Urban Designer, Re:Public)

This was the case for various reasons, whether it was because the interviewees struggled in reaching them, the young had less capacity to join, or the number of elderly simply overpowered the voice of youth and dominated public consultations and political priorities. This points towards changing power dynamics that the ageing population brings.

Topic 2 – Urban Planning/Design

When we move our focus towards urban planning, we can see the tendency of Japanese urban planners striving to evolve beyond the physical spaces towards addressing the well-being of citizens. By that, they aim to respond to increasingly complex social issues and prepare for the future. As highlighted by the interviewees, future planning plays a crucial role in urban planning; however, to do it meaningfully and sustain coherence, a clear urban vision is needed to navigate the process. Without this, the cities' actions become disconnected and fragmented without coherent direction.

"*I'm talking about population decline and part-time worker considerations, but when it comes to envisioning the future thirty years from now, Yokohama's biggest weakness is probably that it lacks an urban vision right now.*" (Urban planner, Yokohama City Hall)

There is also an institutional barrier that plays an important role in affecting the practice. There is a gap between city officials and the citizens, often hindering the effective exchange of ideas and needs, either due to the power distance between the two groups, a lack of response to municipal offers, or an unwillingness to reach out to groups beyond those with whom they have close connections. In this context, we have also noticed differences between Japan and the Danish/European context regarding how people relate to the government and other institutions. In the Japanese context, respect and a sense of authority play a much larger role in creating a hierarchical structure with an uneven relationship between the two groups and, therefore, a noticeable power imbalance (Meyer, 2015). Moreover, the city's complex processes and differences significantly slow its transformation. This is ever more evident in Japan, where the sheer size of cities and the number of their inhabitants far exceeds the size of its Danish counterparts, making things more complicated to put into practice.

"*Government organizations tend to operate primarily within their own internal structures, and opportunities for dialogue with citizens are still relatively limited. In Japan, there can also be some hesitation about inviting citizens into governmental discussions, partly because listening to citizens' opinions may create an expectation that the government should respond or take action.*" (Japanese government official, managerial position)

In practice, we found that the urban designer often serves as the facilitator in the process, collaborating with key stakeholders and requiring a different set of skills than the traditional technical fields, such as architecture.

"*Yeah, presentations among the people in a working group, which is one thing, but the facilitation between the working group and local governments also because sometimes local government loses the sense of why they're doing such things. So we always try to reconnect the context with the local government which is why this is important, why this is relevant to the strategy. But also we need to communicate with the external people too, because of course working groups, sometimes we do it in the office, but also we do it outside of the office too. So we need some support from the local park and local restaurants. So in such a situation, we are the ones who explain the whole concept.*" (Urban designer, Japanese private company)

The last important notion to consider is the structural difference between Japan and most European countries. Since urban planning in Japan comes from a different predisposition than that in Europe, instead of the public sector, the private players, such as the train companies, play a much stronger role in developing new cities, which then strongly influences how urban planning is practised, and puts much more emphasis on creating collaborations between both types of stakeholders.

Topic 3 – Citizen Involvement

Another topic, closely connected to urban planning, is citizen involvement. The overall view that emerged from interviews is that urban planners in Japanese municipalities often aim to involve citizens in their processes, for example, through surveys and workshops; however, they lack guidelines and expertise to do so meaningfully, highlighting the opportunity to adopt more effective participatory practices. The same experts identified the issue of people's close-mindedness and hesitancy to accept new practices, and instead, their tendency to stick to what they have been used to throughout their lives.

To address this, the interviews also surfaced strategies that might be beneficial for any project considered. One of those strategies is to find a common language to fully understand each other, which lies at the base of any successful project. Moreover, this goes beyond the literal words; it encompasses finding a common approach to discussing the needs, priorities, and visions of the actors involved.

And we should not just stop at the level of discussions. Interviewees instead emphasised the power of trust and psychological safety: when different stakeholders are trusted and feel safe, transformative power can emerge, with the designer not being the only researcher, but users actively joining as co-researchers. This shift elevates citizens' roles in driving change and creating solutions, and moves the model from a top-down to a more collaborative, democratic approach.

"*We believe in the transformative power of the people, and we try as much as we can to engage in practice, like an actual, you know, action on the ground.*" (Designer, Re:Public)

The last theme to emerge across the interviews was diversity. The interviewees stressed that when designing a city, we cannot focus on just one target group and design for them, but rather consider a broader range of users, to address various perspectives and give voices to those who might often end up overlooked.

"*Well, a city that's easy for the elderly to live in is probably a city where children are also active members of society, a city where everyone can live comfortably.*" (Urban planner, Toyama City Hall)

Topic 4 – Designer's Approach

Lastly, we aimed to explore the position of (service) design in Japanese contexts, examining the differences between what we are bringing into the space and the realities present there. We realised that service design does not have a one-size-fits-all approach that would allow us to apply European approaches to other contexts, since culture and context shape how people communicate, share their needs, respond to authorities, and react to designerly interventions (Meyer, 2015).

"*In workshops held in Denmark, other European countries, or North America, participants often seem to engage more proactively. In Japan, by contrast, there is generally a stronger tendency to first listen carefully to the facilitator or teacher.*"
(Japanese government official, managerial position)

In this sense, we can go as far as the field's actual name, service design, which faces misinterpretations or even resistance when translated or used in some languages, underscoring the need to find the right words for mutual understanding.

"*Within government, the word 'design' can sometimes be difficult to communicate clearly. I found the terminology used in Taiwan easier to understand in a governmental context, as it carries a nuance closer to 'planning' or 'policy planning.*'" (Japanese government official, managerial position)

Overall, these insights, themes and gaps provided a basis for our further research, informing us about the approach to the ageing society in Japan, trends and current practise in urban planning, institutional barriers between officials and citizens, the approach to and experience with citizen involvement, and the approach to service design. The knowledge we gathered, therefore, helped us set direction for exploring the Danish context through a survey and interviews and further support our design process.

4.1.3 SURVEY

We invested considerable time in determining whether and how to reach one of the important stakeholders - the elderly themselves. As our topic and focus developed, the need for direct involvement of elders changed, as we originally expected a much more prominent presence of the elderly in our design. Throughout the literature review and interviews, however, our focus shifted much more towards urban planners, and the perspective of the elderly, therefore, became less essential. Nevertheless, we deemed it important to have the elderly's views on urban life and public spaces for several reasons:

- To understand the elders' needs on a broader scale
- To validate the desk research insights and determine the relevance of the research in the Danish context
- To identify potential directions in the Danish context
- To collect insights, data and contacts that can be further used for later design activities

As the best method to fulfil those objectives, we therefore chose a survey that allowed us to reach a larger number of citizens with a higher number of questions, allowing us to more easily create possible generalisations over researched topics (Treadwell & Davis, 2020) while being easily executed from abroad, unlike the other methods we considered, such as observations and interviews.

This decision, while practical, also had important consequences on our sample population. The decision to conduct the survey digitally, in Danish, and, lastly, the fact that the people we were able to reach were primarily members of different clubs that bring together and organise events for elders in Copenhagen, inevitably limited the diversity of our respondents and may have introduced certain biases into our findings.

> **"*We're an ageing society, and we don't talk that much about what that actually means*."** (Senior consultant at Ældre Sagen)

4.1.3.1 Defining Elders

Additionally, before conducting the survey, we had another important question to reflect on: who are the elders we are talking about? When we think of elders, we tend to imagine those who are at least in their 80s who have significant problems with moving, oftentimes struggling with a number of diseases. However, if we take the official categorisation of elders in Denmark, generally defined as individuals aged 65+, as, for example, stated in the work of the Ministry of Senior Citizens (Ministry of Senior Citizens, n.d), we realise it also covers newly retired individuals who might not have any problems with moving around or navigating urban life.

The need to define the group of elders we are considering in our research became even more apparent during our interview with a Senior consultant at Ældre Sagen, an organisation advocating for a dignified life in old age and improving the conditions of the elderly in Denmark (Ældre Sagen, n.d.). This interview served as an introduction to the lives of the elderly in Denmark and also highlighted the complexity of defining and understanding this demographic. As our interviewee explained: "*What is your definition of a senior? Some people age very differently, so they don't see themselves as seniors or the elderly in many cases. It's not really a question of age; it's more a question of functional ability and how many illnesses are affecting your functional ability.*" (Senior consultant at Ældre Sagen).

This discussion fundamentally changed our approach to this target group, and it therefore became crucial to us not to frame ageing as a homogeneous process tightly linked to disability, but rather as a natural stage of life that takes many different forms. This helped us to avoid biasing the research and ensure an inclusive approach that considers the diverse realities of ageing.

Moreover, our conversation with Ældre Sagen highlighted other important considerations we aimed to keep in mind when preparing the survey and when working with the elderly in our research. As an example, the interviewee pointed out the increasing number of cases of dementia in our ageing society, as well as the gap in mobility with its increasing problems of sustaining the needs of public transport, and stressed that "*having a slower pace needs to be more integrated in urban places. There's a requirement for more benches and ergonomically good benches, not just resting pools, but a bench where they have armrests so you can use your body to come up again.*" The connection to mobility strongly correlated with the findings from Japanese interviews, highlighting the similarities in the challenges ageing societies face.

4.1.3.2 Data Collection

The survey was prepared using SurveyXact to ensure GDPR compliance and data protection, and, since the chosen target group of our research was the Danish elders, it was administered in Danish. To reach the target group, it was primarily shared via e-mail with 26 senior clubs in Copenhagen and nearby municipalities, some of which distributed the survey among their members, and additionally, we also shared the link with our personal networks. The survey consisted of 24 questions (see Appendix III), both open and closed, and mandatory and optional, addressing general demographic data and elders' everyday life considerations, with the main focus on public spaces: how they use them, the challenges and barriers they face, and the opportunities arising in relation to them. To ensure the clarity and comprehensibility of the survey, it was pre-tested with three individuals before distribution, and any ethical or personal issues, such as health status, were optional, ensuring respondents shared only the information they were comfortable with.

When evaluating the reliability and validity of our data, we must, however, also acknowledge certain limitations. Firstly, the people who answered the survey had a relatively high level of social connections, which directly corresponded to our survey outreach through senior clubs and therefore omitted the reach to more isolated or less socially connected elders. Secondly, our reach was limited because the survey was distributed online, which might have excluded elders who are less digitally skilled. Lastly, we received a limited number of responses, 36 in total, restricting our possibility of making broader generalisations about the elderly population.

4.1.3.3 Key Insights

The final number of collected valid answers was 36, of which 25 were women, and 11 were men, with the majority of elders residing in Copenhagen. Despite concerns about the limited reach of a digital survey among older adults, the most represented age group was 76-85, with 18 respondents. All our respondents were already retired, with some currently filling their time by volunteering (7 respondents).

The survey helped us reveal clear patterns in how elders use their time in retirement and engage with public spaces. One key underlying aspect was the shift in habits in retirement, with time spent outside increasing significantly, as expressed by 24 respondents (67%), suggesting that public spaces become even more important during this life stage (see Figure 4).

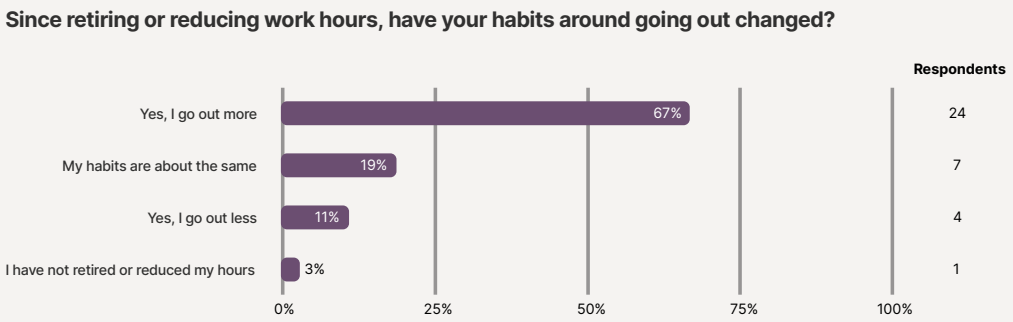


Figure 4: A graph from the survey documenting a shift in habits after retirement

If we go into more detail, the elders mainly leave their homes during the day, with only a few going out after 5 PM or before 9 AM, underscoring the importance of considering temporal factors when designing public spaces, as also proposed by Koohsari et al. (2018) in their research. The main reasons for these ventures were grocery shopping (24 respondents), hobbies (22 respondents), walking and spending time in the fresh air (21 respondents), and lastly meeting with family and/or friends (16 respondents). The most visited and used public spaces among the respondents were streets and pavements (29 respondents), parks (24 respondents), community centres and culture houses (18 respondents) and nature spaces such as forests and beaches (17 respondents), showing the importance of everyday infrastructure as well as the green and blue spaces[6].

In terms of transportation, the results support patterns already highlighted in the literature review: walking was the most common mode (30 respondents), followed by public transport (24 respondents), cycling (20 respondents), and lastly driving one's own car (14 respondents). With many elders staying in their local areas and avoiding more overwhelming spaces, such as the city centre, which, according to some respondents, is affected by tourism and not very age-friendly. This reliance on active modes of transport underscores the importance of pedestrian-friendly infrastructure and shows the need to improve the traffic systems.

[6] Green spaces: parks, grass, etc., Blue spaces: water, ocean, lakes, etc.

The second part of the survey then focused on the value and perception of public spaces. Overall, the elderly feel mostly safe and welcome in public spaces, using them without major obstacles and generally feeling they belong there. However, they also identified room for improvement, specifically in better facilitating social connections, encouraging physical activity, and addressing the specific interests of the elderly. The overall themes emerging from the various questions emphasised the need for convenience, affordability, and enjoyable spaces.

Lastly, an interesting finding emerged regarding civic participation and its influence on public spaces, as only 5% of respondents felt they could influence how their neighbourhood or local area is being designed. However, somewhat paradoxically, only 19% expressed a desire for greater influence, with some respondents explicitly stating the need to be heard by municipal officials, while around half of the surveyed elders were unsure whether they wanted to be more involved. This uncertainty could indicate that the elders are unsure how to influence the design and planning of their local area, or that they lack confidence in their ability to make meaningful contributions to such processes.

Summing up, through the survey, we gained valuable insights into how elders experience public spaces in Denmark, their perceptions, and where they see opportunities for improvement. This important data helped us base our follow-up actions on real insights and numbers, thereby supporting our further design activities.

4.1.4 INTERVIEWS: DENMARK

After investigating how urban planners, policymakers, and consultants work with urban planning and elders in Japan, it was evident to build on the insights from the Japanese interviews and explore the Danish context as well. Our final design solution was intended to be positioned in the Danish context, due to our strong knowledge of the culture and accessibility of resources and connections to explore the context fully in depth.

By conducting these interviews, we therefore aimed to fulfil several purposes:

- To understand the realities, perspectives, and work of Danish urban planners
- To find gaps in which to implement service design approach and methods into urban planning
- To understand the current state of citizen involvement within urban planning in Denmark
- To establish connections with Danish practitioners for further design activities
- To validate and further explore insights collected through previous research

Using the interview method at this step fulfilled the purpose of gaining a deeper understanding of the interviewee's perspectives and experiences within the investigated topic, which is one of the goals of conducting interviews (Brinkmann & Tanggaard, 2020). However, interviews are not neutral, and it is therefore recommended to supplement them with other methods, such as quantitative surveys (Brinkmann & Tanggaard, 2020). Therefore, it could have been beneficial to conduct a complementary survey to these interviews, to collect more quantitative and neutral data (see Section 5.1.3 for further elaboration).

We interviewed four practitioners working in urban planning or related fields. The questions in the interviews revolved around the state of urban planning in Denmark, the role of an urban planner, how they incorporate elders' needs and experiences into their work, as well as gathering initial reactions to working with urban planning through the lens of services. Since urban planning is a broad field, it was important to have representatives from different parts of the field: some more technical and others focusing more on citizen inclusion. However, it was challenging to find urban planners willing to participate, as many were occupied or difficult to reach. We therefore had to expand the scope of participants to also include practitioners from related fields of urban planning, which are the *important* stakeholders identified in the stakeholder map (see Section 4.1.1). Therefore, even with different titles, the interviewees were all working within the broad field of urban planning. Furthermore, as found in the Japanese interviews, age-friendly mobility infrastructure is essential in ageing societies. We therefore strived to also include urban planners who work with transportation and mobility in the interviews.

Among the four practitioners we interviewed were:

1. **Urban planner**, from the Municipality of Copenhagen
2. **Urban planner**, from Copenhagen Metro
3. **Urban developer**, from Høje Taastrup Municipality
4. **Urban sociologist**, from Gehl Architects

Similar to the Japanese interviews, the interviews with Danish urban planners were planned as semi-structured (see Appendix IV for an example of an interview guide). The interviews took place on Microsoft Teams and lasted approximately 1 hour each. We analysed the interviews using thematic

analysis, following an adapted version of the steps proposed by Braun and Clarke (2006):

1. **Transcription and familiarising:** We transcribed each interview using the intelligent verbatim approach, as we did with the Japanese interviews. Thereafter, we familiarised ourselves with the data by skimming the transcriptions and our notes that we took during the interviews to get an initial overview of the interview data.
2. **Creating codes:** To systemise our codes, we used a codebook (see Appendix V), which is a document with all codes and related examples to structure the coding process of qualitative data (Damyanov, 2023). This is a great tool for ensuring consistency in the coding process, especially when two researchers are coding the same data.
3. **Clustering codes and searching for initial themes:** All codes were put into FigJam and clustered based on similarities (see Figure 5). Headings for the clusters slowly emerged after iterations of clustering, though the themes were not created yet.
4. **Creating and naming the final themes:** The final themes were created based on the initial headings from the clustering, which meant combining headings and finding the interesting and unique insights to create the final themes.

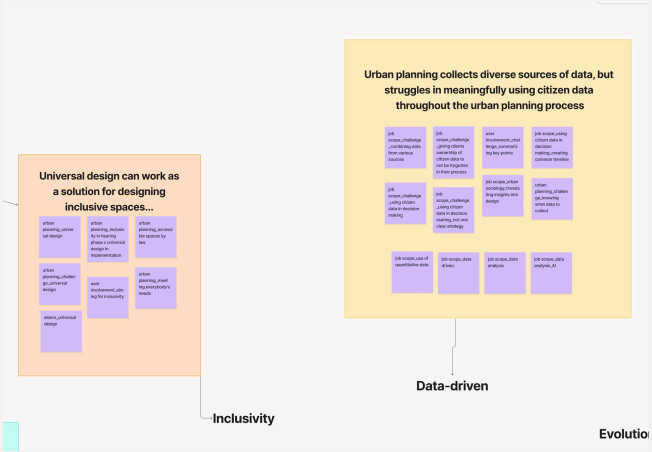


Figure 5: A snippet of the clustering of codes made in FigJam

4.1.4.1 Key Insights

Through this thematic analysis of the interviews, we identified seven overall themes:

1. **Data-driven:** Urban planning collects diverse sources of data, but struggles to meaningfully use citizen data throughout the urban planning process.
2. **Flexibility:** Flexibility is a key component of urban planning.
3. **Facilitation:** Urban planners serve as facilitators both within the urban planning process and between the stakeholders, often at the strategic level.
4. **Involving citizens' needs:** Urban planning deeply benefits from the diverse expertise of local citizens, but struggles to include all demographics.
5. **Evolution of urban planning:** The field of urban planning is evolving beyond "just" physical planning of cities to also consider the well-being of citizens.
6. **Inclusivity:** Universal design can be a solution for designing inclusive urban spaces, also for elders.
7. **Systemic constraints:** Urban planning is affected by top-down systemic constraints, which affect how urban planning is or is not executed, despite the will of urban planners.

Theme 1 - Urban planning collects diverse sources of data, but struggles to meaningfully use citizen data throughout the urban planning process.
Several of the urban planners highlighted this theme as their main challenge. They engage with citizens through participatory workshops, interviews, walk-alongs, etc., which we also expected based on the findings in our literature review, but the interviewees find it challenging to translate the citizen data into insights they can use and will not forget to use.

"*It's often a long road from resident involvement to a finished project - so much can happen along the way. The key is to ensure that what we've heard through citizen engagement actually leaves a mark.*" (Urban developer, Høje Taastrup Municipality).

The Danish urban planners especially mention the challenge of synthesising insights with colleagues, when some have certain insights based on one method, and others have other insights based on other methods.

"*Right now, for example, we have six people. Some are talking to schools, some are talking to social services, some are talking to local residents, and some are talking to civilians. So we are working on how to combine all this data.*" (Urban planner, Copenhagen Municipality)

This theme shows that it is not enough for urban planners to engage with citizens through, e.g., interviews, even though this in itself can be challenging, but they also have to use the insights meaningfully internally and externally.

Theme 2 - Flexibility is a key component of urban planning.

The ability to be flexible was a recurring theme that consisted of three subcategories: working with the uncertainty of planning future cities; the ability to iterate and update insights based on changing stakeholder and citizen needs; and accommodating the diverse needs of different citizen groups in urban planning. One interviewee highlights the challenge of being flexible in urban planning when planning far in the future:

"*A lot of the stuff that I plan is implemented in 2070. So, it's so much in the future. So I think maybe the most important part is to make it [read: urban planning] as flexible as you can because you know there will always be something new.*" (Urban planner, Copenhagen Metro)

Furthermore, interviewees repeatedly mentioned that being able to be flexible when including different citizen groups in decision making and iterate findings based on new citizen insights throughout the urban planning process is important to their work, but challenging to do:

"*I talked to a school and asked what kind of challenges they see. Are there any roadways that their kids are having trouble getting over? And the next day I need to meet with my colleagues in here and build on this.*" (Urban planner, Copenhagen Municipality).

The urban planners, therefore, have a need to be able to change urban plans to adapt to new realities and insights. This corresponds with the literature review, where multiple scholars also highlight flexibility as one of the most important aspects of urban planning, since it often involves planning for uncertain futures (Cheshmehzangi, 2025; Giseke et al., 2021; Ljubenovic et al., 2014). Flexibility is, therefore, an important element that our proposed framework/tool should include.

Theme 3 - Urban planners serve as facilitators both within the urban planning process and between the stakeholders, often at the strategic level.

Most of the interviewees' main task was to be the facilitator between central stakeholders such as citizens, the municipality, private companies, and colleagues. One of the interviewees categorised the role of the urban planner as:

"*It's a lot of process work. So, communication and process are probably the most important parts of the job. (...) It's mostly communicating and then setting up different timelines and involving different actors, because the planning is way more resilient the more actors you have.*" (Urban planner, Copenhagen Metro)

Furthermore, the following keywords were used when describing the role of the urban planner: facilitation, process planning, communication, strategy, connecting, negotiation, cross-collaboration and using a multitude of methods. The interviewees agreed that the urban planner, therefore, has a broad range of tasks. However, common to all of the interviewees was the role of being a facilitator.

Theme 4 - Urban planning deeply benefits from the diverse expertise of local citizens, but struggles to include all demographics.
The interviewees expressed that even if the intention is there to include as many demographics as possible, it can be challenging, since it is needed to adapt recruiting approaches and citizen research methods to different demographics.

"*We were doing these little city walks [with elders], and for starters, not very many people showed up. (...) I managed to get three of them to come along, but it was the same feeling - it wasn't quite right. It wasn't city walks they needed; it was better to sit with a map and tell me where they felt restricted [in their neighbourhoods].*" (Urban developer, Danish Municipality)

The interviewees expressed that it is not "only" difficult to include elders, but also other groups such as youth and low-income groups:

"*If we want to involve the citizens and they are placed in temporary pavilions, maybe having trouble making ends meet, do they have the energy to come and engage in a big meeting on what they think this area needs?*" (Urban Planner, Copenhagen Municipality)

This theme highlights the challenge of including underrepresented citizen groups in urban planning processes and presents an opportunity to create a tool for urban planners that makes it easier to include as many demographics as possible.

Theme 5 - The field of urban planning is evolving beyond "just" physical planning of cities to also consider the well-being of citizens.
Through the interviews, it became clear that urban planning is evolving to explore the synergies between physical planning and the citizens' experiences of the city.

"*What happens between the houses, the life we live. That's what really interests me. I've gotten into this field and over the years figured out how physical space and life kind of interact, so I know quite a bit about how important it is that these things work together, and they need to support each other.*" (Urban developer, Høje Taastrup Municipality)

Furthermore, it was also mentioned how urban planning affects the well-being of citizens and the importance of including that insight into urban planning. This correlates with the insights from the Japanese interviews and with the findings in our literature review (Koohsari et al., 2018; Kuta, 2025; Yi et al., 2022; Social- og Boligstyrelsen, 2023, 2024, n.d.). An interviewee gave an example of how green spaces, blue spaces and public spaces with social interactions improve the well-being of elders:

"*What we found was that, in terms of the positive experience for seniors' health and well-being, we found that more beautiful and aesthetically green and blue spaces contribute to a healthy and more balanced urban lifestyle and the public spaces that promote social interaction are very important for the seniors.*" (Urban Sociologist, Gehl)

These quotes show the importance of understanding urban planning as more than planning physical spaces, but as a field that can benefit from exploring the relationship between the built environment and the interactions, experiences, and emotions of citizens.

Theme 6 - Universal design can be a solution for designing inclusive urban spaces, also for elders.
Universal design was a recurring term that came up during the interviews. This was especially when we asked the interviewees how they include the needs of elders in urban planning:

"*Big theme right now is universal design, which you may probably have heard of. So we try to have an approach that is not directly focused on elders, but*

is focused on: If it's good for elders, it's good for everyone." (Urban planner, Copenhagen Municipality)

We also saw hints of universal design appearing in the interview with Ældresagen and during our interviews in Japan. This sparked our interest in investigating what universal design is. Universal design is defined as designing products, services, and physical spaces for everyone, without requiring user adaptation (Persson et al., 2014). Initially, we thought that the framework/tool created in this thesis would be solely focused on accommodating the needs of elders. However, during the pre-design phase, we realised that the point is not to focus "only" on elders and create a specific tool or framework that is solely focused on their perspective, but rather to ensure that everyone is included in the urban planning process and to avoid creating separations between different groups. This is also important, as an ageing society means there will be more individuals who can represent this target group, while other generations might remain overlooked or underrepresented.

Theme 7 - Urban planning is affected by top-down systemic constraints, which influence how urban planning is or is not executed, despite the will of urban planners.

The interviewees stated the urge to include citizens as much as possible and plan inclusive spaces; however, often systemic constraints, such as money and time, would make it challenging:

"*Usually, you have a tight, not a tight, but you have a time schedule, and you have a budget, and you have an entrepreneur, and you have probably also a consultant working for you and it's not always that you have the time or the money to engage as much as you probably wanted to.*" (Urban planner, Copenhagen Municipality)

This is not something we as service designers can solve directly, but it is a reminder to remember systemic constraints when designing the framework/tool.

All these seven themes are important to consider for the remainder of the process. However, we chose to focus especially on Themes 1 and 5 for the design activities, since the challenge of using citizen data throughout the urban planning process and the potential of urban planning moving beyond just physical spaces towards focusing more on the well-being of the citizens were the most recurring topics our interviewees experienced.

Lastly, the final part of the interview focused on getting an initial reaction from urban planners when presenting our approach of working with cities and urban planning through the lens of services and service design. We did this by briefly explaining what service design is and how cities can be seen as a sum of services for the citizens. The interviewees' initial reactions were curiosity and excitement to learn more. This indicated that exploring service design in relation to urban planning was interesting for urban planning practitioners, which we wanted to explore in much greater detail in the co-exploratory workshop (see Section 4.2.1).

4.1.5 SUMMARY

After concluding the research activities in the Pre-design phase, we determined that we had reached data saturation, thereby having sufficient data to proceed with our process (see Section 5.1.1 for further elaboration on data saturation). A summary of the collected insights from the Pre-design stage is outlined in the following:

- **Japanese interviews:** Conducting interviews with Japanese municipalities, governmental institutions, and organisations gave us insights into the challenges a super-aged country faces. Especially prominent findings were the importance of planning cities that focus on the well-being of citizens and feature age-friendly mobility infrastructure. Furthermore, an overall finding was that urban planners in Japanese municipalities often aim to involve citizens in their processes but lack guidelines and expertise to do so meaningfully. It is therefore interesting to explore these findings further and to investigate if they are also present in Western countries, such as Denmark.

- **Survey:** The survey provided valuable insights into how elders experience public spaces in Denmark, including their challenges and suggestions for improvement. Key insights show that respondents spend significantly more time outside in public spaces after retirement, primarily walking or using public transport for mobility, mainly using pavements and parks, and predominantly during the day. These, and other insights from the survey, will be used as real data in the further design activities and will be included in the final design solution to ensure that elders' needs are accommodated.

- **Danish interviews:** Through the interviews with four Danish urban planners and related practitioners, we identified seven themes through thematic analysis. Two themes are especially highlighted (Themes 1 and 5), since the challenge of using citizen data throughout the urban planning process and the potential of urban planning moving beyond just physical spaces towards focusing more on the well-being of the citizens were the most recurring topics our interviewees pointed out. These themes are also similar to the key themes identified in the Japanese interviews, which amplifies their relevance. The further design activities, therefore, had the purpose of exploring how service design methods could potentially solve these challenges.

Furthermore, through the Pre-design phase, we realised that addressing the needs of elders is essential in ageing societies, but other demographics should not be forgotten, as both Japanese and Danish interviews highlighted. Even though the elders remain one of our main target groups, we recognised the importance of universal design, ensuring everyone feels welcome. In the further exploration in the Design phase, we therefore aim not only to accommodate the needs of elders, but also to create a tool/framework that can work for other demographics just as well.

DESIGN

PRE-DESIGN **DESIGN** POST-DESIGN

1. Co-exploratory Workshop
2. Prototyping and Asynchronous Co-creation
3. Validation

4.2.1 CO-EXPLORATORY WORKSHOP

Concluding our Pre-design phase, we moved towards the Design part of our research process. Following our participatory design perspective, we chose to plan and facilitate a co-exploratory workshop to explore the potential of using service design methods alongside practitioners from the urban planning field. This format allowed us to focus more deeply on our research topic, try out service design methods with urban planners, and discuss the potential directions for including service design within an urban planning context.

The workshop followed the below-listed aims:

- Include practitioners working within urban planning in the design process
- Gather data and validate our insights
- Generate and explore ideas on how service design methods can be used in urban planning
- Use citizen data from the survey in practical activities.

Moreover, the participatory approach was amplified and structured by following the Tell-Make-Enact Framework (previously defined in Section 3.1) (Brandt et al., 2012). When designing the workshop, we used this framework as a checklist, ensuring participants had the opportunity to engage with all three aspects throughout the workshop's activities.

One of the first things we had to decide before designing the workshop was which service design methods and tools would be the most suitable for our case. Firstly, we created a list of core service design methods: service blueprint, user journey map, touchpoint mapping, desktop walkthrough, service ecosystem map, service origami, stakeholder map, and value network map. This list is based on the basic service design tools proposed in Stickdorn et al. (2018), from which we removed tools and methods that are not primarily used in the context of services, such as personas and the business model canvas (Stickdorn et al., 2018).

These methods were further evaluated by us in a method matrix based on: themes we identified in the research; usability; and whether the method was accessible for people without extensive knowledge of service design (see Table 1). Each method was evaluated on each criterion on a scale from 1 (low) to 3 (high). Based on the results, the methods we identified as most suitable for our process were: the journey map, service blueprint, and desktop walkthrough. Touchpoint mapping also scored highly; however, because its aspects are included in the journey map as a category, we decided not to use it as a separate activity. Moreover, we acknowledge that each method has pros and cons (see information box on next page), and therefore it was important to reflect on them when working with the methods and suggesting possible implementation in later stages of our thesis.

Service design methods / insights from research	Using data in decision making Does the method support effectively using citizen data in decision making?	Well-being How much does the method focus on the well-being of the citizens	Closeness to source data Does the method stay tightly connected to what citizens actually said and experienced, or does it risk drifting into assumption?	Combining different sources of data Does the method make it easy to combine data from different sources?	Flexibility: uncertainty Does the method support working with the uncertainty of future in urban planning?	Flexibility: including different user groups Does the method make it easy to address various needs of different user groups?	Flexibility: iterations Does the method support iterations of data gathering throughout the urban planning process?	Complexity How much expertise does it require to use the method?	Ability to carry insight over time If someone who wasn't part of this section picks this output up six months from now, can they use it to make a better decision?	Total
Journey Maps	3	3	2	2	2	2	2.5	2.5	2	21
Desktop walkthrough	2	3	2.5	1.5	2.5	3	2	2	1	19.5
Service Blueprint	3	2	3	2.5	1	2	2	1	2.5	19
Touchpoint mapping	2	2.5	1.5	2	2	2	2.5	2.5	2	19
Value network map	1.5	1	1.5	2.5	1	2	1.5	1.5	2	14.5
Service ecosystem map	1.5	1	1.5	2.5	1	2	1.5	1.5	2	14.5
Stakeholder map	1	1	1	2.5	1	1	1.5	2.5	2	13.5
Service origami	1.5	1.5	1.5	1	1	2	2	2	1	13.5

Table 1: A matrix used for evaluating core service design methods in relation to key themes identified in the research and other parameters.

User Journey Map

A user journey map is a tool used to visualise a user's current or future experience with the service over time. It is structured in linear steps and covers a variety of categories, including emotions, touchpoints, pains, and opportunities (Stickdorn et al., 2018).

Pros:

- Creating fast and effective visualisation of complex processes
- Giving a basis for the next steps and further direction in the research (Endmann & Keßner, 2016)
- Providing an overview of all interactions between the user and the service, allowing it to serve as a valuable communication tool (Howard, 2014)

Cons:

- Need to create multiple user journeys for specific parts of the process
- Need for a certain level of expertise, especially if the process is facilitated in a group (Endmann & Keßner, 2016)

Service Blueprint

A service blueprint, serving as an extension of a user journey map, covers both the frontstage – what the user sees and interacts with – and backstage and supporting processes that are invisible to the user but essential to the service, adding deeper layers that show the interdependencies between the specific processes (Stickdorn et al., 2018).

Pros:

- Providing an overview for internal teams to see the context of their work within the full system
- Creates a visual representation of a high-complex process (Bitner et al., 2008)
- Allows to see what is wrong and how to fix it (Polaine, 2013)

Cons:

- Is of higher complexity, requiring zooming in and out to see the entire service (Polaine, 2013)
- Lacks a common structure and standard representation that would make it easier to create (Polaine et al., n.d.)
- Need to be updated as new ideas are developed (Polaine, 2013)

Desktop Walkthrough

A desktop walkthrough is a collaborative prototyping tool used to act out the service experience, simulating both the current state and exploring alternatives. It uses various prompts, such as LEGO, paper cutouts, maps and figurines (Stickdorn et al., 2018).

Pros:

- Creating a more natural representation of intangible service, while being able to capture its temporal and dynamic components
- Allowing for the inclusion of people of diverse backgrounds, serving as a collective mediating tool
- Having the ability to stir creative thinking of participants, making each walkthrough unique depending on the given context and participant group (Blomkvist et al., 2016b)

Cons:

- Limited shareability due to its dynamic nature (Blomkvist et al., 2016a)
- Need for a certain level of expertise in order to be used meaningfully and to fully represent the needed service (Blomkvist & Wahlman, 2018)

4.2.1.1 Practicalities

The workshop took place in a classroom at the Copenhagen campus of Aalborg University for 1.5 hours and had two participants: one an urban designer with an architectural background, the other an urban developer. Before the workshop, we feared the low number of participants; however, it turned out to be positive. This small group allowed us to create a safe space, focus on the participants without splitting them into smaller groups, and go deeper into our explorations.

To ensure the workshop ran smoothly, we created a workshop outline (see Appendix VI) with descriptions of each activity, which helped us clearly divide our roles as facilitators and provided a structure for the whole workshop. Moreover, to gather all necessary data, we designed a reflection diary in which participants wrote their thoughts and feedback throughout the workshop. Additionally, the workshop was recorded and later transcribed to ensure no important information was overlooked.

In terms of the context of the workshop, we focused on exploring two main themes discovered in the previous research:

- **Urban planning collects diverse sources of data, but struggles to meaningfully use citizen data throughout the urban planning process.**

- **The field of urban planning is evolving beyond "just" physical planning of cities to also consider the well-being of citizens.**

The activities were therefore set in the decision-making stage of urban planning, in which all the initial data is collected (from interviews, surveys, observations, walk-alongs, etc.), putting more focus on the internal use of the methods, and aiming for consolidation of the data and further meaningful use in the process.

To simulate this, we created a case study set in a fictive neighbourhood in Copenhagen, using citizen data compiled from our survey insights, which was further adjusted and amplified with generative AI. The materials we prepared for this occasion (examples of which can be found in Appendix VII) contained: a brief, a map of the area, quotes, interview excerpts, observation notes, core technical data, templates for the methods, prompts for desktop walkthrough, and examples of pre-filled templates.

Figure 6: Photos from co-exploratory workshop

The workshop itself consisted of six separate activities (see Figure 6):

- **Introduction:** focusing on everyone introducing themselves and sharing the main goals of the workshop
- **Cities as a sum of services:** explaining the purpose of our research and what has been done so far, getting everyone on the same page by making sure the participants understand from what perspective we are coming to the workshop, and we understand the cities the same way: as a sum of multiple services (similarly to what has been done through service offering map in Meroni & Selloni (2022))
- **Introduction to the case study and the journey map:** introducing the method, going through the case study and insights, and building part of the journey map together
- **Introduction to the service blueprint:** introducing the method, building on the journey map to create the blueprint, which in our case was an extension of the journey map, with a strong focus on backstage and supporting processes
- **Introduction to the desktop walkthrough:** introducing the method, creating two scenarios, setting up the scene and acting out the scenarios
- **Reflection and debriefing:** filling out the reflection diary, in which they wrote throughout the workshop to record immediate thoughts, and asking additional questions to understand the participants' experience and perception of the introduced methods

At the beginning of the workshop, it was also important to highlight that we were not experts in urban planning/design and that the pain points we identified, based on the interviews we conducted, might differ from their practices. We therefore aimed for the workshop to be a mutual conversation without anything being set in stone. Our role hence fluctuated between facilitators who explained the activities and guided through the tasks, and co-designers who actively participated in filling out the templates and working with the data. This created a more balanced distribution of power within the group and made us feel like four participants working toward the same goal.

In terms of the validity and reliability of our insights, we also have to consider the limitations of our workshop format. Apart from the low number of participants, which limited the diversity of ideas and opinions, neither of our participants held the title of

an urban planner directly, but instead titles closely related to the field. That, however, showed the methods can be used in a broader spectrum of work roles and titles. Another limit was the limited time, which prevented us from testing the full range of methods and fully exploring all components of each method; instead, we simplified them as needed for the workshop.

4.2.1.2 Key Insights

Overall, the workshop ran smoothly, and participants were highly engaged and eager to learn more about the methods, expressing an intention to use them in their own work. Even though they were familiar with participatory approaches, neither had previously seen or used the service design methods, as noted by one of the participants: "*That's strange because we do something similar all the time with workshops and things, but not exactly this.*"

Regarding specific methods, the **user journey map** was praised for helping them see through the user's eyes and empathise with the elderly persona; it also allowed them to brainstorm new ideas. Additionally, the participants found that journey maps helped them most in moving from raw data to actionable insights, which was the main challenge identified in the Pre-design phase.

The **service blueprint**, which in our case mainly focused on backstage actions and supporting processes, emphasised its effectiveness when used with clients or other stakeholders, functioning primarily as a communication tool for decision-making.

"T*he second one [read: service blueprint] I can definitely imagine doing that with maybe a client or engineers or other stakeholders where you're trying to understand their issues or their problems with what you're proposing - like a design table almost - when you have these open conversations and it would be a great way to pull out their issues or what they're feeling and communicate that in a way that everybody understands because you're all talking about this one person.*" (Workshop participant)

Lastly, the **desktop walkthrough** was, on one hand highlighted as having fun and engaging characteristics, being well-suited to be used with citizens, and allowing them to fully step into the shoes of the characters; while on the other hand, being too unserious to be used with clients.

"*I thought it was really nice to step into a persona of someone and to experience it through their eyes, and especially this. You know, there's one thing. reading their thoughts and talking about it, but actually playing it out, you really step into the persona of someone.*" (Workshop participant)

Moreover, the participants seemed to agree that all the methods were more suitable for internal use (within the organisation and the urban planning team) than for communicating with clients. The final handover to clients may therefore not be where service design adds value. However, they saw potential in using some of the methods together with citizens, which was not the original focus of the workshop.

The three methods followed one another in sequence, creating synergy among them, as participants also highlighted. They stated that the combination of the three methods would be preferable for effectively moving from raw research data to actionable insights:

"*Yes, I think all of the three activities were fun to do and could also be done for a workshop with the citizens. It has a lot of high complexity, but I think it would make sense.*" (Workshop participant)

Based on these insights, we compiled a set of **design principles** to follow when designing our newly adapted tools:

- Enable experiencing the space/service through the elders', and other citizen group's eyes.
- Addressing the fact that there are different personas with different needs, that also differ through various age groups.
- Capturing complexity while maintaining an overview of important insights.
- Serving as a tool for common understanding between different stakeholders (e.g. citizens, team members, clients...).
- Being easy, fun and engaging, but not too unserious.
- Reflecting on the conflicting interests of various stakeholders/actions.
- Being flexible and easily adaptable, also on different scales (micro vs. macro).
- Need for guidance in order to navigate the tools.
- Having both online and physical versions in order to serve different contexts.

Overall, reflecting on the workshop, we did not see a single method that clearly outperformed the others; all methods had opportunities for use in urban planning, with different strengths and in different scenarios/stages. Therefore, we saw an opportunity to create a toolkit that combines the strengths of all three methods to demonstrate and further explore how service design can be used in urban planning, especially in the context of including elders' experiences and needs to address the issues of an ageing population.

4.2.2 PROTOTYPING AND ASYNCHRONOUS CO-CREATION

After the co-exploratory workshop, we further explored and prototyped how the service design tools could be used in urban planning to involve elders' experiences and needs. To do this, we did an initial sketching session, where we sketched different versions of the tools. The goal of creating these sketches was to implement the feedback collected during the co-exploratory workshop into the classic service design tools to create initial tools that are adapted to the urban planning context. It was important to find a balance between creating tools that included core functionalities while still leaving space for participants to further co-create during the later asynchronous co-creation session. The initial sketches and tool development took place in Miro due to its great visual and collaboration functionalities and ease of sharing with participants.

To create the initial sketches, we first digitised the basic components of the tools we used during the co-exploratory workshop: user journey map, service blueprint and desktop walkthrough. To further develop the initial tools, we sketched different versions of each tool based on all relevant feedback we collected from the workshop (see Figure 7 for an example of how we sketched different versions of a tool).

As mentioned above, the goal of the sketching session was to create three tools for participants to further co-create. Therefore, the tools are aimed to look not fully finished, while still showing the key functionalities. Each version of the three tools was evaluated based on how well it fulfilled participants' feedback and the design principles. For example, feedback from the workshop on the user journey tool was that the categories (actions, emotions, etc.) could bring great value, but a category for "conflicting interest" between the citizen and the urban planner was missing. Furthermore, the user journey map should fulfil as many of the design principles as possible, such as including guiding questions and the possibility of adding more personas. One version of each tool was thereby chosen based on these criteria (see Figure 8 for an example of a chosen tool). These tools would then be used in a session where participants could further co-create them.

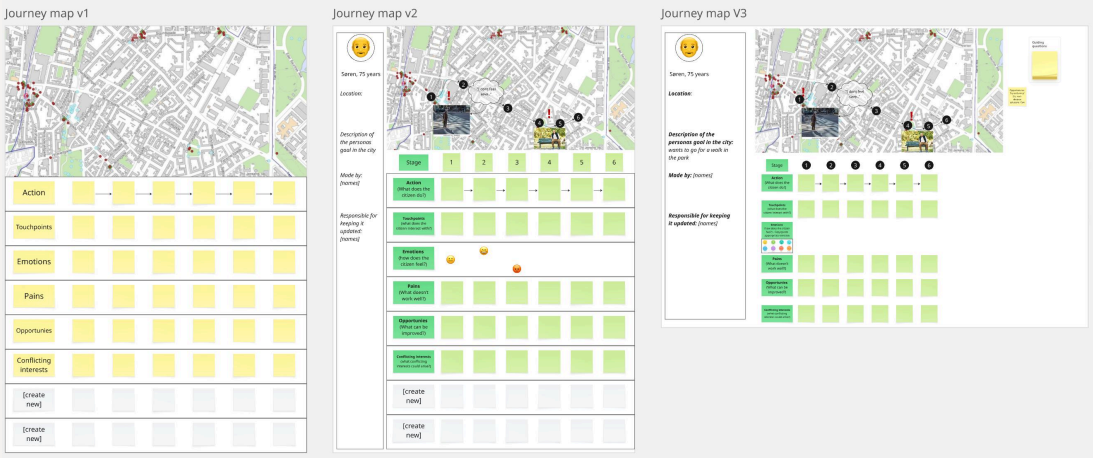


Figure 7: Three examples of different sketches of the initial user journey mapping tool, made in Miro

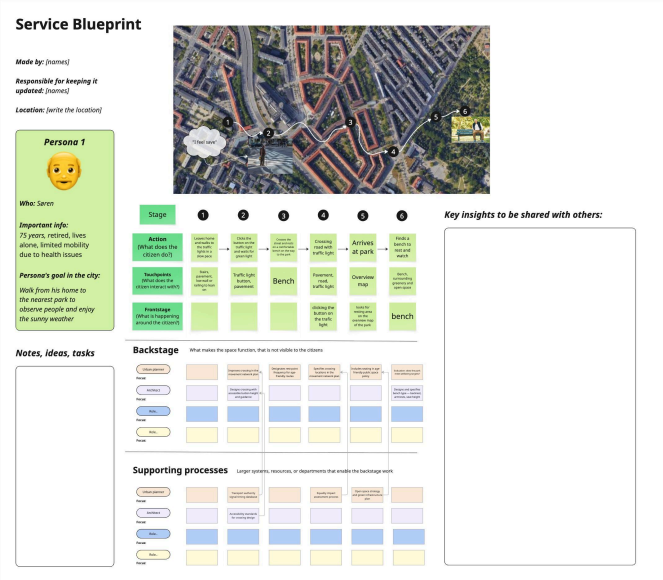


Figure 8 - The chosen service blueprint sketch, that the participants could further co-create

4.2.2.1 Asynchronous Co-Creation Session

Due to our previous difficulties finding participants for our co-exploratory workshop, we decided to create an asynchronous co-creation session in which participants could co-create the tools individually, at their own pace and time. This stands in contrast to a more traditional co-creation workshop, where participants and designers collaboratively co-create. The asynchronous structure gave both opportunities and challenges. We saw the asynchronous nature of the session as beneficial, allowing the participant more time to work with the tools and giving them full ownership of when and how they could co-create. However, the asynchronous structure also meant that we had to rely on trusting the participants, since we did not know how they would solve the tasks, whether they would give up, or how long it would take them to complete. Furthermore, since we were not present as facilitators, we could not ask follow-up questions that could have provided greater depth of insight. Nevertheless, creating a co-creation session like this gave us the opportunity to further co-create the tools, which might not have been possible in other formats.

There were five participants in the asynchronous co-creation session. Two of the participants were the same as for the co-exploratory workshop, one was an urban studies master's student, and the last two were service design master's students. It was important for us to have both participants who were present in the co-exploratory workshop, but also participants who had not been a part of the process so far. This combination of participants would give feedback and design suggestions with depth from the participants that were already familiar with the tools, and new perspectives and suggestions from participants that had not seen the tools before. Furthermore, since the tools are service design originated and adapted to the urban planning context, it was also important to get feedback from other service designers on the service design aspects of the tools.

The session was hosted in Miro, where we created a step-by-step guide explaining the tools and how the participants can co-create them and give feedback (see Appendix VIII). We strived to create a guide that was concrete and informative, since we, as the creators of the session, were not there to facilitate the session. The session was divided into five parts: The first part introduced the session with special emphasis on co-creation. Then, one part per tool, where participants could learn about the concept of the tool and further co-create it. Each of these parts was further structured into sub-parts where the participants both had the opportunity to *tell*, by writing their thoughts and feedback, and *make*, by changing the appearance and contents of the tool (Brandt et al., 2012). Lastly, participants could reflect on the tools as a whole by writing comments.

From the session, many concrete ideas, design solutions and feedback were created. We collected all the feedback for each tool and grouped them into three categories: 1) ignore, 2) include in the design of the tools, and 3) include in reflections. The ignore category was almost unused, but it was still relevant for feedback that had duplicates or was outside the tools' scope. Most of the ideas and design solutions

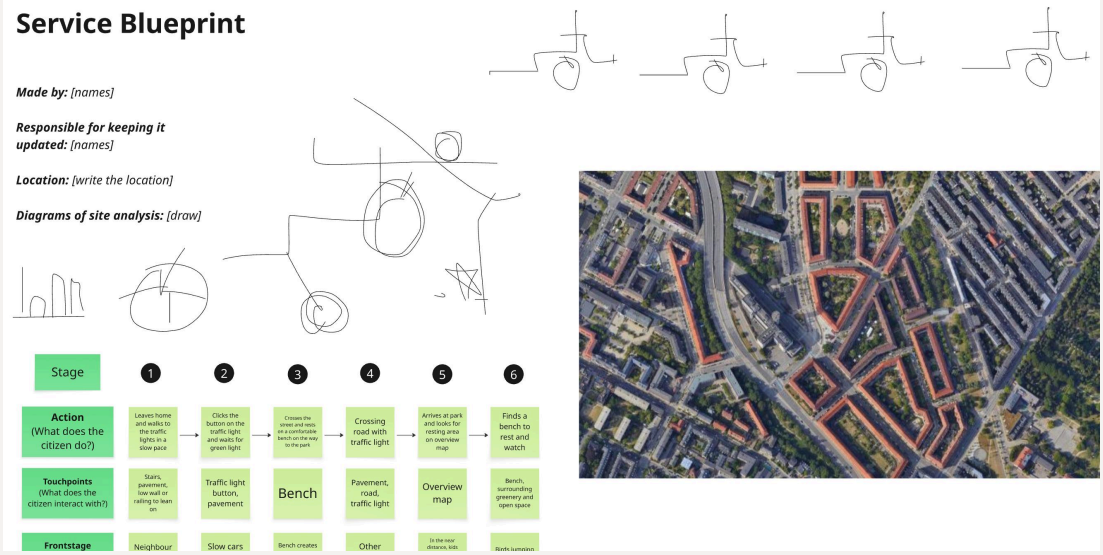


Figure 9: A snippet of the service blueprint tool, showing a sketch of how the participant imagined adding site analysis diagrams

the participants created were constructive and gave us insights we did not consider before this session, which is one of the purposes of co-creation sessions. An example of an idea a participant created was adding site analysis to the Service Blueprint (see Figure 9).

Site analysis is an examination of an urban area, including visualising data such as topography and accessibility (Altieri, 2024). The participant wrote that the tool lacks a section for site analysis, as site analysis is essential for urban planners to make informed decisions. Adding site analysis to the service blueprint is a brilliant example of mutual learning (Blomberg & Karasti, 2013), since we, as the designers, learned about the importance of site analysis in urban planning, and the user/participant learned how the service blueprint tool can complement a site analysis. Another suggestion was to remove the "second persona" section from the user journey map and instead add a section where the urban planner could briefly list the personas they want to design for, with the option to create new user journeys for each persona. Lastly, some of the feedback was not directly related to the creation of the tools, but rather reflections worth considering. For example, one participant wrote: "Urban planning decisions are very top down, and service design seems to be much more bottom up". This is an interesting reflection that highlights what a service design perspective can contribute to urban planning, namely by connecting citizens' needs and experiences with the backstage decisions of urban planning.

4.2.2.2 Refining the Tools

After the co-creation session, we refined the three tools to accommodate the participants' design ideas and feedback. Firstly, the revision of the tools entailed giving each tool a cleaner design that looked less like a sketch but more like a finished tool. Secondly, and most importantly, the revision of the tools also included several changes suggested by the participants, such as:

User journey map

- Removed the "second persona" section and adding a section to write multiple personas, with the possibility to create a new journey map per persona

- Made the map bigger to be more central
- Removed guiding questions from the tool, but added them to the separate instructions.

Desktop walkthrough

- Changed the persona cards, so they focus more on the persona's role in the scenario and their pain points
- Added a section for writing the current scenario and the future scenario
- Made the map bigger to be more central
- Moved the observation log and icons for roleplaying closer to the map.

Service blueprint

- Added a section for site analysis diagrams
- Made the persona section smaller, since it is less important in this tool
- Added more space for writing notes, ideas and tasks, with the possibility to write the responsible role.

The asynchronous co-creation session led to refining the tools based on participants' ideas and feedback (see Figure 10 for an example), which we then wanted to further test and validate with urban planners to create the final version of our tools.

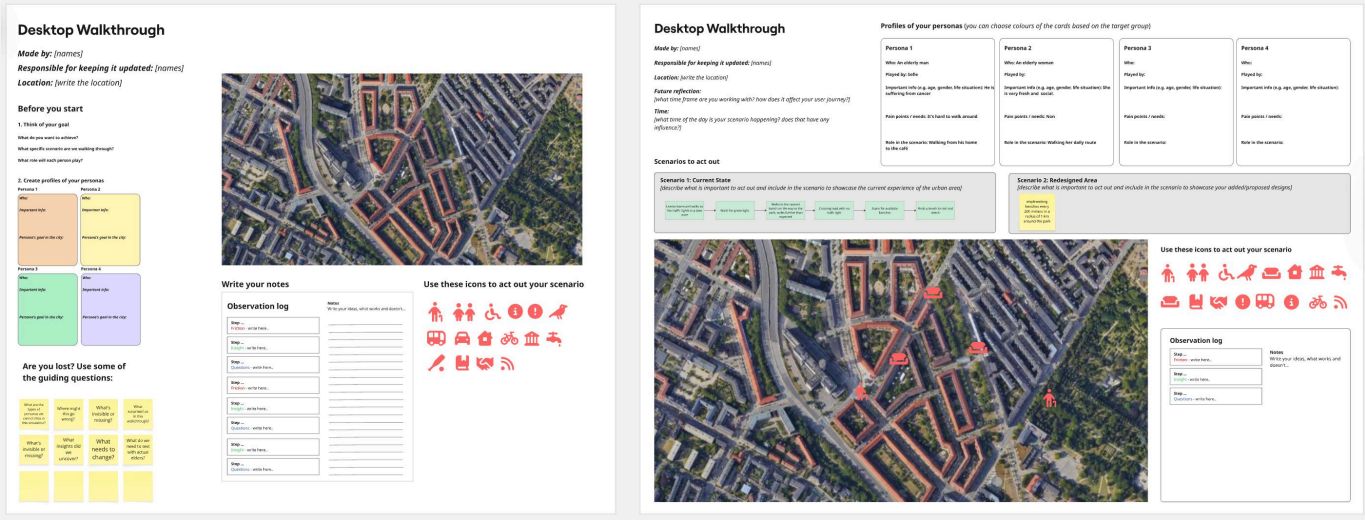


Figure 10:The desktop walkthrough tool before (left) and after (right) the co-creation session

4.2.3 VALIDATION

After completing the first round of iterations based on the asynchronous co-creation session, it was time to validate the tools with urban planners. We therefore planned a validation session combining usability testing and concept validation to receive feedback before finalising the tools.

Throughout the validation sessions, we followed these aims:

- Including practitioners working within urban planning in the design process
- Gathering data and validating our insights
- Validating the tools and seeing their usefulness for urban planners
- Answering final questions related to the components of the tools
- Testing the usability of the tools.

4.2.3.1 Practicalities

The validation took place online, in two separate hour-long sessions with two different urban planners (see Figure 11). One of the participants was previously interviewed by us and therefore had some notion of service design; the other was included in the process for the first time at this stage. Just as during the workshop, we created a session outline to help us structure our facilitation (see Appendix IX). Additionally, each session was recorded and later transcribed to capture all important feedback.

The sessions took place on Microsoft Teams, and we used Miro to engage participants in the activities. This Miro board was created based on feedback from the asynchronous co-creation session, after which we iterated on the tools and otherwise kept the board as clean as possible. We also created a brief, a simplified version of the one used in the co-exploratory workshop, to make it easier for participants to fill out the tools.

The sessions were structured into 5 separate activities:

- **Introduction:** aiming to introduce ourselves, the context of the thesis and the goal of the session
- **User Journey Map, Desktop Walkthrough, Service Blueprint** (with the same structure): shortly introducing the tool, letting the participants try it out and sharing their immediate feedback
- **Reflections:** reflecting on the tools overall and asking additional questions.

4.2.3.2 Limitations

The sessions themselves were not without limitations. The main limiting aspect was the time. We realised it is hard to cover three different tools within an hour-long session with participants who have never used them; the busyness of our target group, however, did not allow us to extend the sessions. We therefore had to shorten or stop activities before they were fully completed, limiting the depth of exploration for each tool. We also tweaked the session slightly to better adapt to the time: the first session was more leading, during which we explained the tools in more detail, and the other had clearer tasks and was more autonomous, letting the participant navigate the tools themselves.

Furthermore, because urban planning is a broad field, we found that the tools were less relevant to individuals who do not regularly involve citizens in their practices. This was evident in one of our participants, who did not have a direct connection to citizens in most projects and instead focused on laws and technical aspects. Although the tools were less relevant to their work, they nevertheless saw potential in applying them.

Even though we still collected valuable feedback, we believe a different form of validation should take

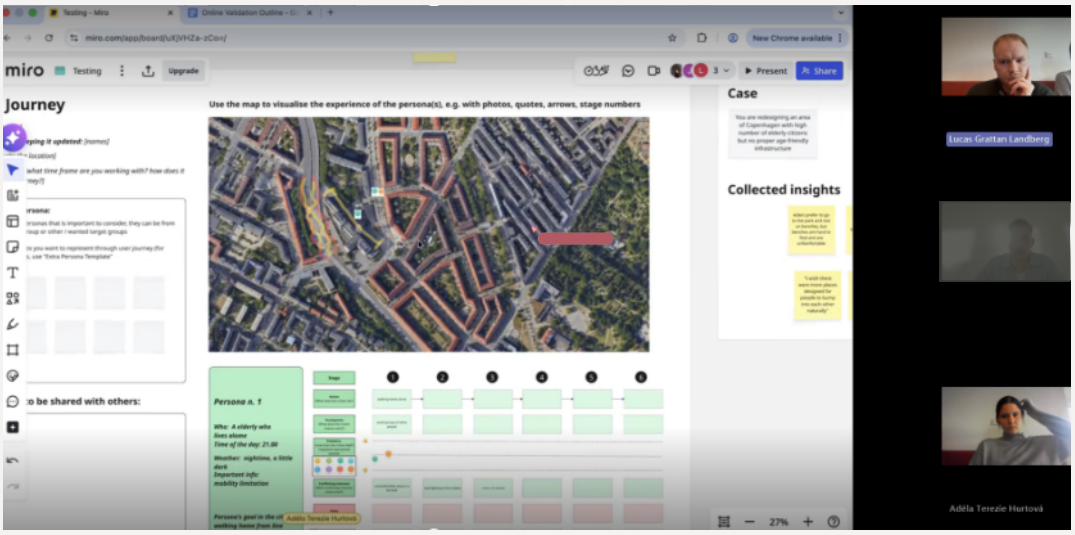


Figure 11:Screenshot from an online validation session testing the use of user journey map

place, one in which the urban planner applies the method in their work to the full extent, later reporting on their experience. This was not possible due to the time constraints of the thesis and urban planners themselves; however, it remains a potential future step.

4.2.3.3 Key Insights

Overall, the validation sessions provided valuable feedback, primarily focused on refining instructions and clarity for first-time users, making each component clearer to ensure the tools could be adopted without significant effort. Specific changes and feedback are discussed further in this section; however, a few particular thoughts were also raised, which are reflected in the context of future work in Section 5.4.

Looking at the feedback more concretely, just as in the workshop, the participants highlighted the potential of using the tools in their work. One of the participants even mentioned that they had experience with similar tools previously, but found our tools more valuable for their work:

"*I think it's pretty cool. And I think once you get your head around how it completely works, it's actually a pretty cool tool. I remember doing some similar stuff when I studied... and sometimes we had to create a target group, and then a persona within that group. But this is like the same, just even better, because it already looks at the different possibilities and challenges, and then you can actually compare with different target groups and see where the different kinds of problems are. I actually think that's pretty cool, and it's a good way to collect, so you already have it based on real-life insights.*" (Session 1 participant reflecting on the user journey map)

As with the workshop and the asynchronous session, each tool had its pros and cons in the participants' eyes. The desktop walkthrough was evaluated as a good tool for visualising citizens' needs and uncovering what is needed to improve the experience. The importance of an observation log for the dialogue was highlighted, as well as the potential to use the method directly with the target group (as also proposed by participants in the co-exploratory workshop).

"*I think it would also be good if this is used with people who use the area because they know the*

area. Then I can see that makes totally sense because then it's easier to role-play it out, because they know how to live out the role." (Session 2 participant)

The service blueprint, however, seemed to offer the greatest value to urban planners because of its more detailed and strategic nature. The participants liked that it provided a good overview of the roles and who is responsible for what, and that it created a basis for a good discussion.

During the sessions, we also looked into the practical use of the tools. In terms of format, participants overall preferred a printable version, allowing participants to sit around it, facilitating better dialogue; however, they saw potential for the digital version as well, especially for online meetings and larger groups. What might, however, prevent urban planners from using the tools are top-down constraints on time and money, as well as organisational barriers, since implementing a new tool in the organisation can be a significant change.

4.2.3.4 Refining the Tools

Based on the collected insights from the validation sessions, the following changes have been made to the tools:

User journey map

- Clarified how to use the specific categories
- Made it more explicit to use data from real insights collected through previous research

Desktop walkthrough

- Clarified instructions for the tool
- Clarified specific aspects of the persona cards

Service blueprint

- Clarified the link between the frontstage actions and the backstage/supporting processes
- Made the roles clearer in the backstage section.

The final tools, where these changes are implemented, can be seen in the next section (4.3.1).

Urban Experience Toolkit

POST-DESIGN

PRE-DESIGN | DESIGN | **POST-DESIGN**

1. Final concept
2. Implementation

4.3.1 FINAL CONCEPT

The final concept, delivered as an outcome of our thesis, is an *Urban Experience Toolkit*. It was developed building on collected insights throughout the thesis both from the Danish and Japanese contexts with the purpose of adapting service design methods into urban planning to accommodate the needs of elders. While the motivation of developing the toolkit came from the need of addressing the ageing population, it serves just as well for other demographics. It consists of three main tools: *Urban Journey Map*, *Urban Experience Walkthrough*, and *Urban Planning Blueprint*, all based on original service design tools and adapted through a series of iterations to address the urban planning context. Although these tools have a service design origin, their use has been extended to encompass urban-specific components; therefore, we saw it appropriate to give these tools new names that highlight their connection to urban contexts while still acknowledging the service design components. For this reason, we kept the last words of each tool to indicate the original service design method, added "urban" to indicate the new focus context, and potentially added extra words to further clarify the purpose of each tool.

The toolkit aims to:

- Help urban planners meaningfully translate collected citizen data into decision-making
- Help urban planners to accommodate the needs of elders and other demographics, by focusing on the citizen's experiences and well-being in public spaces
- Make it easier to involve diverse needs, perspectives and experiences (including those of elders) in the urban planning process, and enable them to see the urban space through the eyes of its users and address their well-being
- Support a common understanding between the different stakeholders involved in the urban planning context
- Strengthen the urban planning field through an interdisciplinary approach, and enrich it by bringing a service design approach, through e.g., a human-centred focus, mapping the sequentiality of citizen experiences, and holistic involvement of stakeholders
- Capture the complexity of urban contexts and enable seeing them through different lenses and in different scales in sequential stages
- Allow for flexibility as the tools are not static and can and are encouraged to be updated based on new insights to address uncertain futures.

The toolkit is presented as a PDF in a separate document, and can be used both printed or online if copied and pasted into a digital collaboration programme, such as Miro or FigJam (see frontpage of the toolkit in Figure 12). Moreover, the tools can be used both to follow up on each other as the toolkit proposes or independently. An important part of the PDF is the instructions needed to ensure a smooth adoption by first-time users. They guide the user through the specific tools, explain how each part should be used, and offer recommendations, examples, and the value of adopting these tools. These instructions were refined through a series of validations and iterations to ensure the toolkit can be used without prior knowledge or training.

Figure 12: Front page of the toolkit "Urban Experience Toolkit"

Each tool is further presented in a separate section, accompanied by the original template for the tool and a filled-out version using previously collected survey data to showcase how these tools can be used.

4.3.1.1 Urban Journey Map

The Urban Journey Map is based on the original service design method, the user journey map, which focuses on visualising a user or customer's experience in the service (Stickdorn et al., 2018). The Urban Journey Map extends this focus to an urban area and therefore aims to typically consider the experience of a citizen in an urban space. It aims to synthesise data collected through previous research into one or more personas and respective journey maps that capture the experience of moving through a specific area. Users of the tool can thereby collaboratively create and visualise experiences of the urban area while identifying key insights to inform a future redesign.

It consists of the following components (see Figure 13 on the next page):

- **General information** aimed at defining the context of the Urban Journey Map, e.g. by whom it was made, what location and timeframe is considered, and what data it is based on (e.g. interviews, observations).

- Space to **brainstorm on personas** from the main or wanted target groups, with the potential of highlighting the persona that is used for the Urban Journey Map.

- A **map** of the considered location that can be used to visualise the experience of the persona by adding photos, quotes, touchpoints, or arrows.

- **Citizen journey** divided into two sections: a space to describe the chosen persona, and their sequential journey visualised by considering seven specific categories:
  - **Action** (what does the citizen do?),
  - **Touchpoint** (what does the citizen interact with?),
  - **Emotions** (how does the citizen feel?),
  - **Conflicting interests** (what conflicting interests could arise?),
  - **Pains** (what doesn't work well?),
  - **Opportunities** (what can be improved?) and
  - **Ideas** (what came out of the discussion as specific ideas, the team can later get back to?).

- Space for **key insights** that can be used in later decision-making activities, which makes it easier to share the findings and most important components with other stakeholders.

Additionally, the tool includes a separate template that captures only the persona's experience, which can be used to develop multiple journeys and therefore cover more target groups or scenarios. Each additional persona's journey can then be visualised on the same map, creating layers that show how the different parts of the space are perceived.

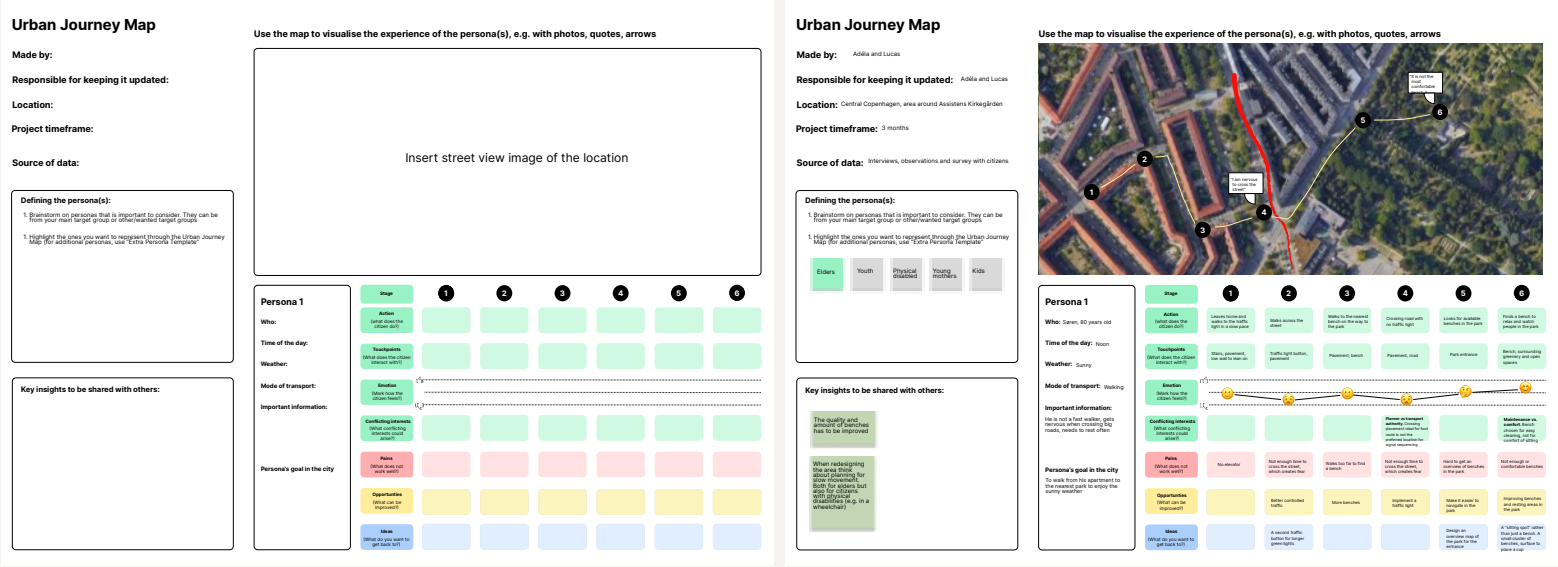


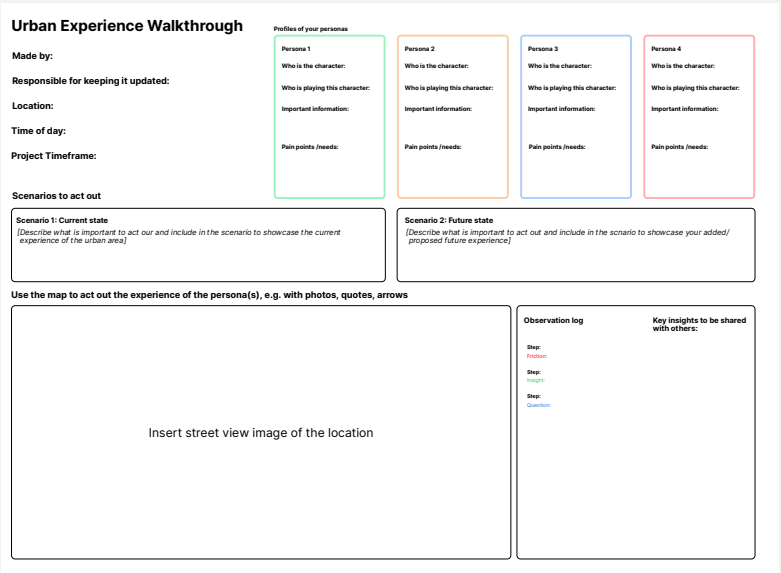
Figure 13 - An empty (left) and a filled out version (right) of the tool Urban Journey Map (see the attached file "Urban Experience Toolkit" for a more detailed version of the tools)

4.3.1.2 Urban Experience Walkthrough

The Urban Experience Walkthrough aims to collaboratively act out specific scenarios of an experience in the space and is based on the desktop walkthrough method. It simulates how the urban space is currently designed and experienced and offers an opportunity to try out various potential interventions and see how they would affect the experience.

The Urban Experience Walkthrough includes (see Figure 14 on the next page):

- **General information** considering who worked on the tool, what location and timeframe is considered, and what time of the day the scenario happens in.
- **Persona cards** that provide the space to define characters that will be acted out through the scenarios, describe their key characteristics, pain points and needs, as well as who is responsible for acting them out.
- Space to **define the main scenarios**: of the current state, and of the redesigned area or new intervention(s).
- A **map** of the focus area to act out the scenarios.
- **Observation log** with space to note frictions, insights, or questions raised during the Urban Experience Walkthrough, and to write additional notes.



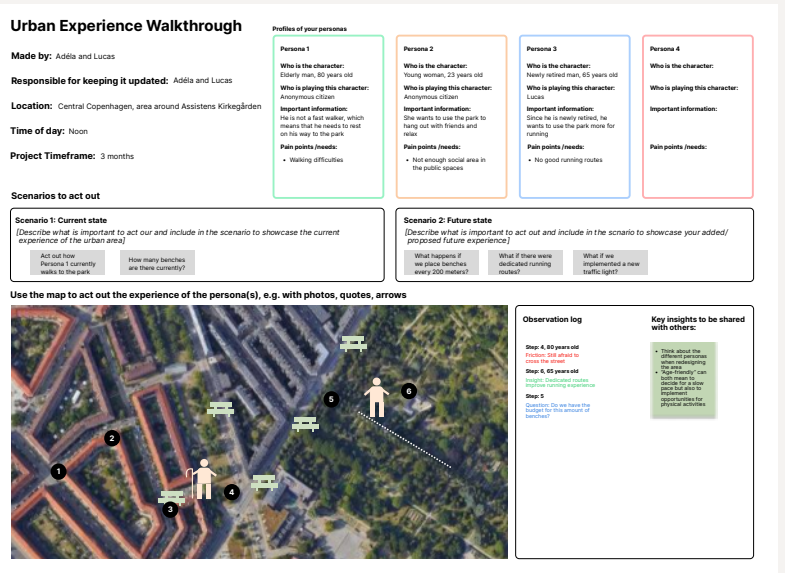


Figure 14: An empty (left) and a filled out version (right) of the tool Urban Experience Walkthrough (see the attached file "Urban Experience Toolkit" for a more detailed version of the tools)

4.3.1.3 Urban Planning Blueprint

Lastly, the Urban Planning Blueprint originates from a service design method known as the service blueprint. This method builds on the Urban Journey Map and enriches it by focusing on backstage and supporting processes that enable the experience in the space. The Urban Planning Blueprint, therefore, primarily serves as a collaborative discussion tool that enables stakeholders in the urban planning process to understand one another's perspectives and responsibilities to find a common strategy.

The Urban Planning Blueprint is built of the following components (see Figure 15 on the next page):

- **General information** that considers who it is made by, what location and timeframe is considered and provides space to describe the chosen persona.
- The **blueprint part** divided into three main sections:
  - **Frontstage:** Everything connected to the persona and what is happening around them: their actions, touchpoints, and surroundings that affect their experience in the space,
  - **Backstage:** Considering what makes the space function but is invisible to the user, and with space to define the roles that affect the urban planning process, and
  - **Supporting processes:** Systems, resources, or departments that enable the backstage to work, with each having the option to be connected to the corresponding role in the backstage.
  - In the Urban Planning Blueprint, more focus is placed on backstage actions, serving as a collaborative tool for discussions among stakeholders involved in the urban planning process. With the strong focus on discussion, one additional section has been added to the blueprint: potential/opportunities, which serves as a space to capture opportunities arising from the actions mentioned above.

- A **map** that can be used the same way as in the Urban Journey Map and visualise the experience of the persona in the space, which in Urban Planning Blueprint is accompanied by **site analysis** providing a more detailed analysis of the area, e.g. in terms of climate, transportation, topography or zoning, allowing the involved stakeholders to consider overall conditions of the space as well.

- Space for **notes** that can be directly connected to a specific role and therefore serve as a task/plan list, and a section with key insights intended to be used with others.

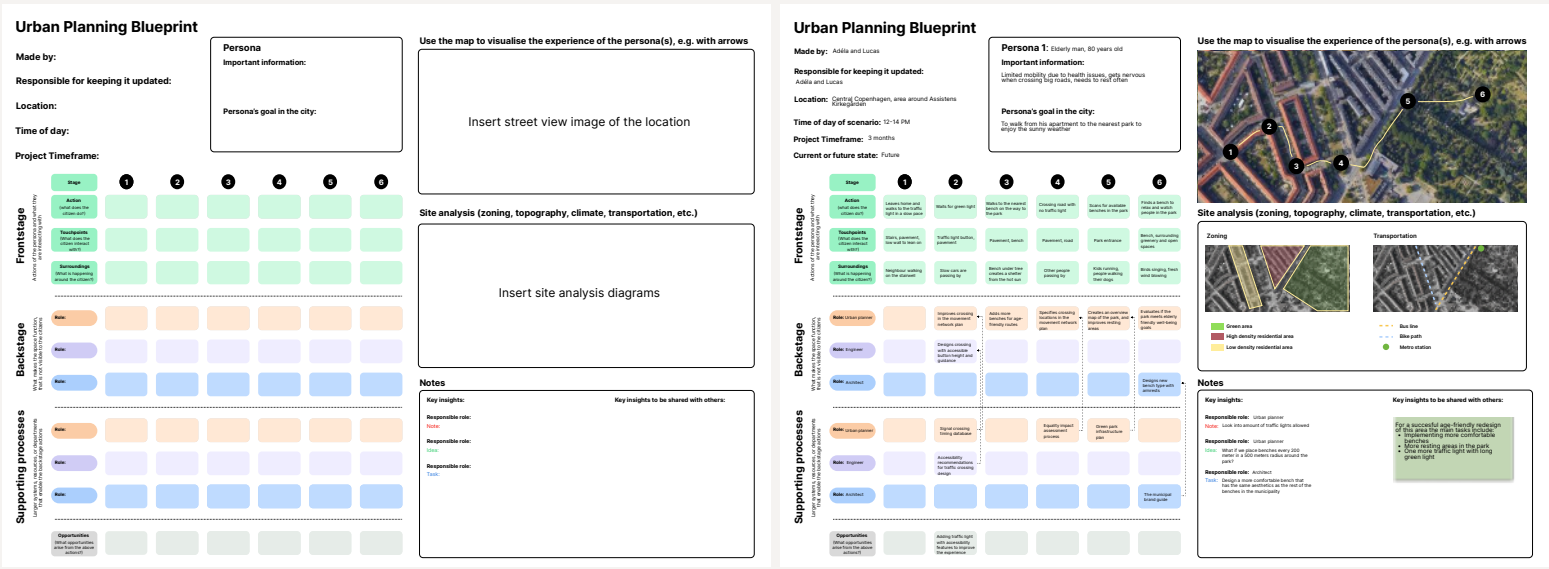


Figure 15: An empty (left) and a filled out version (right) of the tool Urban Planning Blueprint (see the attached file "Urban Experience Toolkit" for a more detailed version of the tools)

4.3.2 IMPLEMENTATION

In the previous section, we introduced the final toolkit and its components. Furthermore, the aims of the toolkit were highlighted, with its target group being urban planners and related practitioners shaping urban spaces. However, how and when can the toolkit be used?

Urban planning has traditionally focused on technical and spatial aspects of city design, failing to directly address citizens' needs and create social equity in urban spaces. We therefore applied a service design approach to bring a more human-centred perspective, allowing urban experts to better empathise with those they are designing for, and to focus on sequentiality in the process and on collaboration among diverse stakeholders in urban planning.

4.3.2.1 Recommendations For Implementation

The following section proposes the ways and situations in which the tools are recommended for use, based on how they were explored throughout the thesis. Key information for each tool is summarised in the table below (see Table 2).

Urban Journey map

When to use:

- To move from collected raw data towards actionable steps
- To visualise in detail how a persona experiences the urban area
- To capture both existing and potential future journeys.

How it helps:

The Urban Journey Map proved to be the most effective at an earlier stage of the planning process, when various key insights have been collected, to synthesise this data and move towards concrete steps. It helps not only to visualise the experience and journey of a specific persona through urban space, but also to break this journey into distinct categories, enabling urban planners to understand the needs, pain points, and opportunities of the specific target groups. Its strength lies in helping urban planners see through the eyes of the persona, thereby better relating to them and, if needed, comparing the experiences of multiple personas and the way they approach the urban space.

Best suited for: internal work.

	When To Use	Strengths	Focus	Situation
Urban Journey Map	• From raw data to action • Visualising urban experiences • Existing and future journey	• Understanding diverse personas • Seeing through the eyes of the people	Citizens	Internal
Urban Experience Walkthrough	• Explore urban scenarios • Engage citizens	• Engaging, collaborative • Stepping into the shoes of the people • Easily changed, on different scales	Citizens	Internal, external workshops
Urban Planning Blueprint	• Identify what happens in backstage • Understand the roles in urban planning • Existing and new interventions	• Strategic, detailed • Collaborative • Overview of backstage roles and responsibilities	Stakeholders in urban planning process	Internal, across departments

Table 2: Table summarising the recommendations for the use of the proposed tools

Urban Experience Walkthrough

When to use:

- To explore different scenarios to improve the experience of an urban area
- To engage citizens directly in the urban planning process.

How it helps:

The Urban Experience Walkthrough stands out for its engaging, collaborative, playful nature, which easily draws in participants and can therefore be effectively used with citizens. It allows urban planners to step directly into the shoes of those using the urban space, or, if citizens are present, to draw on their knowledge and experience in the space. Moreover, due to its low fidelity, the Urban Experience Walkthrough is easily changeable and can therefore be adapted to different situations and contexts, as well as enabling exploration of different scales.

Best suited for: internal work, workshops with citizens/users.

Urban Planning Blueprint

When to use:

- To identify what needs to be in place for the urban space to be as it is, which is typically unknown and invisible to the citizens
- To understand the roles and responsibilities of stakeholders in the urban planning process
- To collaboratively outline existing activities as well as those needed to implement a redesign of an urban area.

How it helps:

The Urban Planning Blueprint is a tool that assists teams within or across departments in creating mutual understanding of the urban planning process and each other's roles by bringing them to a single table and summarising them in one tool. Its strengths lie in its strategic, detailed, and collaborative nature, which help uncover and provide a good overview of backstage roles and responsibilities.

Best suited for: internal work, cross-department work.

We acknowledge that each tool has its strengths, which can be best harnessed in specific situations we propose in this section. That, however, does not mean they cannot be used in other situations. The tools are flexible, and it is encouraged to shape them and experiment with them in different ways, as practitioners see fit. Moreover, while they can work on their own, to harness maximum value, we recommend using them in combination, following up on and complementing each other.

4.3.2.2 Success Criteria

Given that these tools are intended mainly for first-time users, we also proposed a set of success indicators for implementing the toolkit. They take the form of a question, which, if answered affirmatively, indicates that users are likely to use the toolkit in the intended way. Those questions are as follows:

- **Overall:** Do you feel that you have an understanding of the needs of the citizens and how you can use these insights in urban planning decision-making processes?
- **Urban Journey Map:** Do you have an understanding of how your target citizen group experiences the urban space you are investigating?
- **Urban Experience Walkthrough:** Do you feel you have explored and evaluated different scenarios for how the redesign of the urban space can look?
- **Urban Planning Blueprint:** Do you have an overview of backstage activities that are needed to successfully implement a potential future redesign of an urban space?

4.3.2.3 Considerations

In terms of practical use, it is important to treat the tools as living materials; therefore, they should be maintained and updated to sustain their value over time. For this reason, we recommend assigning a person responsible for the tools and their updates, whether the urban planner directly or another team member interested in using the tools and their results.

While this toolkit was developed in order to address the ageing population and accommodate the needs of elders, it works just as well for any other citizen group, and therefore aligns with the principle of universal design and also Jan Gehl, as a pioneer in humanistic urbanism, who highlighted: "*If you see a city with many children and many old people using the city's public spaces, it's a sign that it's a good quality place for people.*" (Stubbs, 2020) Hence, the toolkit aims to help urban planners focus more on citizens' pain points and needs, including those of the elderly, and thereby better address their lived experiences when designing new spaces.

Lastly, while we believe the toolkit has the potential to be transferred outside a Danish context, we would not recommend doing so without prior consideration of cultural aspects, institutional and societal structures, and local challenges. In other contexts, a very different approach to the issue might be needed, or at least a different way of introducing the toolkit should be considered. If those aspects are considered, we gladly allow the replication of our toolkit, which can benefit the practice of urban planning and the work of its practitioners.

5

DISCUSSION

The following chapter aims to answer the thesis research question: *How can service design methods be used in urban planning to design cities that accommodate the needs of elders?* and reflect on its limitations. It further provides reflections on data saturation, the toolkit, the methodology and methods used, the use of a non-Western approach, the previously defined learning objectives, as well as recommendations for future work.

This chapter includes the following sections:

- 5.1 Reflections and Limitations
- 5.2 Reflections on Learning Objectives
- 5.3 Future Work

5.1 REFLECTIONS AND LIMITATIONS

The thesis aims to answer the research question: *How can service design methods be used in urban planning to design cities that accommodate the needs of elders?*. Does our solution address this question? What are some potential limitations?

If we break down the research question into the three gaps found in the literature review, and how the solution addresses these, including what is missing, it will look as follows:

1. The use of service design methods in urban planning is largely unexplored but offers significant opportunities.

How it addresses: The thesis explores how different service design methods can be used in urban planning. This gap is addressed directly by investigating how service design methods can give value to urban planning, which was conducted with urban planners in co-creation sessions and in the context of public spaces. Furthermore, new tools that combine service design with urban planning were created, along with descriptions of their strengths and recommendations for when to use them.

Limitations: The three service design methods were not fully explored. Due to the limited time in the co-creation and validation sessions, and participants' lack of prior knowledge of service design, it was difficult to go into detail and explore the methods in depth. A thorough investigation of the methods in relation to urban planning might have given more insights. Furthermore, choosing three service design methods that were most relevant for our context, meant many others were discarded. Therefore, we cannot guarantee that the chosen methods are the most appropriate for urban planning.

2. Urban planning needs new approaches to navigate new and uncertain realities, focusing on achieving social equity and social sustainability in cities.

How it addresses: Through the thesis, we argue that a service design approach can help urban planners be more human-centred in their decision-making processes. When applying the Urban Experience Toolkit, urban planners and related practitioners will both directly and indirectly focus on creating urban spaces that accommodate citizens' needs, thereby improving social equity.

Limitations: However, since urban planning is a broad field, the tools lack adaptability to accommodate the varied roles of urban planners. An urban planner who focuses on creating urban policies and regulations will have very different needs than one who focuses on urban renewal projects with citizen involvement at their core.

3. Ageing societies are creating challenges for the city as a whole and for the elderly, and the needs of the elderly must be reflected in the planning of cities.

How it addresses: The challenges of the elderly, identified through the survey, interviews and literature review, were included throughout the design activities as the main case study both in the co-creation and validation sessions. Furthermore, the toolkit helps urban planners to accommodate the needs of elders, and other demographics, by focusing on the citizen's experiences and well-being in public spaces.

Limitations: However, the tools do not focus on elderly as the only target group. This was mainly due to several mentions of universal design in different

phases of our process, that stressed the importance of creating urban spaces that do not only accommodate one target group. Our proposed tools can therefore serve various demographics. Nevertheless, tools that focus solely on the elderly might offer better solutions to the challenges of ageing societies. Furthermore, the tools mostly focus on how a new approach to urban planning could contribute to the well-being of the elderly in cities. Therefore, further interdisciplinary collaboration with, e.g. policy designers and public health authorities would potentially have given a broader solution to the challenges of ageing societies.

5.1.1 Reflections on Data Saturation

Throughout the thesis, we engaged with 20 unique participants, which includes the interviewees and participants in co-creation and validation sessions. Furthermore, we had 36 respondents for the survey. Since the majority of our data is qualitative, with the exception of a few quantitative questions in the survey, data saturation is important to reflect upon in relation to the credibility of the data collected (Ahmed, 2025). Data saturation is defined as: "collecting data until no new information is obtained" (Morse, 1995, p. 147). In qualitative research, there are no calculations or estimations for when saturation is reached, and therefore, there is no specific number of participants or quantity of data needed to reach saturation, rather it is something the researchers decide based on the collected data (Morse, 1995). It is therefore important to reflect on whether we reached data saturation in the thesis.

We argue that data saturation was reached in the interviews, because many insights were similar across interviewees, despite their different titles and organisations. We could have conducted more interviews; however, since no new insights emerged from the last interviews, we concluded that data saturation had been reached. Nevertheless, since urban planning is a broad field, it would perhaps have been beneficial to interview more participants from different parts of the urban planning spectrum.

Whether we reached data saturation in the co-exploratory and asynchronous co-creation session is debatable. Even though we had a small number of participants for the co-exploratory workshop, the purpose of exploring service design methods in relation to urban planning was achieved. Furthermore, having a small number of participants is favourable when detailed in-depth insights are needed (Arcia et al., 2024), which was the goal of this workshop. However, having a small number of participants also means that fewer voices from the target group are heard (Verloigne et al., 2025). The few participants, therefore, have more power over the decisions made, and the outcome will then be based on a few people's opinions. However, participants in both sessions provided mostly similar feedback and rarely had conflicting opinions, suggesting that data saturation was achieved. Nevertheless, recruiting participants for the co-exploration and asynchronous co-creation session was challenging, and despite the small number of participants, valuable insights were collected that would have been difficult to achieve through non-design methods such as interviews and surveys.

Lastly, we conclude that data saturation was not reached in the validation sessions. This evaluation is based on two arguments: 1) the format of the validation and 2) the limited amount of feedback collected from few participants. As reflected in Section 4.2.3.2, the validation session had limitations, such as time and the chosen validation approach. The chosen approach of combining concept validation with usability testing in a one-hour online session proved to be challenging, since it was difficult to explore the tools in depth. A more in-depth exploration of the tools could have yielded richer insights and, therefore, a stronger foundation for reaching data saturation. However, since time was a constraint, the chosen validation approach still provided valuable insights, even with its limitations. Secondly, similar to the co-exploratory workshop and

asynchronous co-creation session there were few participants in the validation session. In combination with the format, this meant that limited feedback was given. Furthermore, participants in the validation sessions held different opinions regarding the tools, as they were working on different parts of urban planning, indicating that data saturation was not reached. Therefore, we acknowledge that validation with more urban planners and the use of another validation method are needed.

5.1.2 Limitations of the Proposed Toolkit

As outlined in Sections 4.3.1 and 4.3.2 , the proposed Urban Experience Toolkit has many strengths and is a great starting point for integrating service design methods into urban planning. However, during the co-creation and validation sessions, limitations emerged that would be worth exploring in future iterations of the toolkit (see Section 5.4 for a detailed description).

Firstly, the toolkit could benefit from both a printable version for physical meetings and a fully digital version with interactive components, such as an embedded GIS map. Secondly, one of the participants suggested to use stimulation prompts for the tools. This could be games, quests, questions, etc. to guide and engage users throughout the completion of the tools. Lastly, if we evaluate whether the toolkit includes and amplifies the six principles of service design identified in Section 2.3.1, we would argue that the toolkit includes a human-centred approach, encourages collaboration, maps experiences sequentially, is based on real citizen data, and is holistic since both citizens and backstage actors' needs are reflected upon throughout the service journey. However, an aspect we did not put full attention to was the iterativeness. In the instructions to the tools, it is recommended to treat the tools as living documents, to keep them updated based on new data, however this is not directly part of the tools. This could lead to the tools being used as static documents and for "one-time" activities, which would not fully realise their potential. Keeping service design tools up to date, such as a completed service blueprint, is a common challenge practitioners face (Polaine, 2013). Future work could therefore explore how iterations can be built into the tools.

5.1.3 Reflections on Methodological Approach and Methods

As noted in Section 3.1, research by design is often used interchangeably with research through design, making the distinction hard to define. Furthermore, research by design was for us a new methodological approach, with very few examples in the literature to be inspired by. It was therefore hard for us to know if we were using research by design "correctly" or to its full potential. Looking at the definition of research by design: Using design (methods) as a mode of knowledge inquiry, in which the design knowledge and research insights are interconnected (Barbosa et al., 2014; Roggema, 2016; Hauberg, 2011), we argue that the core premise of the approach was followed. Through using design methods, such as sketching and co-creation sessions, we acquired knowledge that either confirmed insights from the literature review and Pre-design phase or yielded new insights that could be used to answer and explore the research question further. Therefore, the design knowledge and the research insights were interconnected. Moreover, following the framework of "Pre-design, Design, and Post-design" helped us to navigate the approach and reflect throughout the thesis on whether we were on the right track.

The thesis combines qualitative and quantitative methods, though it primarily uses qualitative methods such as interviews and co-creation sessions, which can create limitations. Using mostly qualitative methods, amplifies bias in the research, since the researcher has a more internal/subjective role

(Queirós et al., 2017). Supplementing with more quantitative data would yield less biased results, since the researcher has a more external/neutral role. However, due to the wickedness of the problem area investigated in the thesis, a more qualitative approach is preferable to gain a deeper understanding and explore potential solutions that a solely scientific approach could not reach (Roggema, 2016; Queirós et al., 2017). Nevertheless, e.g. a quantitative survey of urban planners, focusing on how often they use citizen data in decision-making, could have provided a stronger foundation for further qualitative exploration.

Moreover, we also have to acknowledge there might have been biases coming from our backgrounds and experience (as discussed in the Section 1.3), that affected the choices of methods we made. Nevertheless, we aimed to be intentional with our choices and be strategic about the types of methods we use in our process, in order not to result in unnecessary or irrelevant data.

5.1.4 Reflections on Non-Western Perspectives

In the methodology, we mentioned that this thesis seeks to include non-Western perspectives in the research to fully understand the problem of ageing cities, since non-Western super-aged countries, like Japan, are strongly affected by this issue (Apolitical, 2020). We also wrote that the aim is not to become experts in non-Western countries or speak on their behalf, but to include other perspectives that can challenge our Western worldview. Did the thesis succeed with this?

The thesis succeeded by including non-Western research in the literature review, from countries such as Japan and Singapore, which deepened our understanding of the challenges of ageing societies. Furthermore, we interviewed Japanese urban planners and other experts to investigate how current super-aged cities are working with ageing populations, thereby looking into the future, which gave us important insights to consider in the Danish context, such as the focus on citizen's well-being in urban planning. However, we created a toolkit for a Danish urban planning context, and not for a non-Western context. This was an intentional decision, as we are more closely connected to the Danish context and faced practical limitations, such as time and resources. By doing so, we did not include non-Western perspectives directly in the design process and final solution. If we were to do so, it would have required an extensive understanding of cultural differences, such as power structures and communication styles (Meyer, 2015). Another reason for this was that we did not want to "force" a Western approach in service design, into a non-Western culture.

Nevertheless, we see opportunities for the toolkit to be applied in urban planning in non-Western countries like Japan, as our interviews showed that Japanese urban planners face challenges similar to those of Danish urban planners, such as using citizen data meaningfully in decision-making processes, addressing the citizens' well-being and the importance of mobility for elders in cities allowing them to better connect to the rest of the society. We do, however, recommend that future work explore whether and how the tools can be adapted for a non-Western country, preferably by researchers who understand the cultural differences between, e.g., Denmark and Japan.

5.2 REFLECTIONS ON LEARNING OBJECTIVES

Reflecting on the official learning objectives introduced in Section 1.2, we believe we fulfilled most of them, though there is room for improvement. Writing a thesis focused on adapting service design methods and tools to other contexts and disciplines forced us to examine them from different angles and to delve deeper into them. We also got to explore new methodological approaches (research by design) and be more research-focused than in traditional service design frameworks.

Moreover, not having a collaboration or a given brief forced us to navigate the problem independently and to find our way through the process, while still contributing to the field with an innovative solution that addresses a wicked problem in ageing societies. This was amplified by the fact that our whole project was interdisciplinary, focusing on creating a bridge between urban planning and service design.

Also in line with our personal learning goals, we centred our focus on exploring the intersection of urban planning and service design, aiming to identify ways these two disciplines can benefit from each other. This was done both academically and practically, by e.g. introducing our final toolkit, intended for use by urban planners in their practise. The research's focus also enabled us to meet many practitioners in urban planning and related fields, both across Japan and Denmark, and to share the notion of service design with them.

Following our participatory approach, we included diverse stakeholders who offered different perspectives on the topic, treating them not solely as passive recipients but as co-creators and co-explorers. Nevertheless, we could have engaged them even more, or more strongly involved the citizens, e.g. by inviting them to the workshop.

We also aimed to respectfully include practitioners from Japan and academic literature from East/Southeast Asia. We have done so, while acknowledging that we were not experts in their context; nevertheless, our approach had its limits, as our way of working still relates primarily to what we have been taught and grown up in in the Western reality.

Another of our objectives was to contribute to solving emerging societal challenges, primarily the ageing society, as well as to design inclusive cities (as connected to the UN SDG 11) (United Nations, n.d.b). We kept that in mind throughout the process; however, the final tools are universal and therefore not directly focused on the elderly. Nevertheless, the tools aim to help urban planners focus more on this target group and on other citizens, and to include their perspectives in their work.

Lastly, related to our writing, we made sure to keep the red thread in the text and communicate understandably while not overburdening the reader with unnecessary information.

5.3 FUTURE WORK

As the last part of the thesis, we would like to present our recommendations for future work. The recommendations are either based on insights collected from participants throughout our thesis or on activities we wanted to implement but did not have the time or resources to carry out. The future work recommendations are grouped into two sub-categories: future work for the proposed toolkit, and future work in relation to the thesis topic and research question.

Future work for the toolkit could include:

- **Long-term, broader and more in-depth testing of the tools on real cases:** Our testing session provided valuable feedback, but we recommend further testing to allow urban planners to try the tools on their current projects and create an iteration of the tools based on this feedback. It is also recommended to test on more urban planners, with as varied job descriptions as possible.

- **A printable version of the tools:** Based on feedback from our participants, a fully printable version of the tools, e.g. in A3 format, as a supplement to the digital version, would be favourable, especially to use in physical meetings with colleagues and other stakeholders.

- **A digital interactive version of the tools, especially focusing on implementing a GIS interactive map into the tools:** This would give urban planners and other users the ability to zoom in and out on the map and layer site analysis data onto it. This could potentially be done using technology such as generative Artificial Intelligence, which would be worth investigating further.

- **Stimulation prompts for guidance and engagement:** This could include cards, quests, or photos that guide users and keep them engaged.

- **An exploration of how the toolkit could be used in other countries than Denmark could be interesting:** Since our design solution is mainly connected to a Danish context, exploring the toolkit in other contexts was not a priority. However, it would be interesting to explore how cultural differences and country-specific context could affect the use and value of this toolkit.

- **Adding iterative components to the tools:** Instead of recommending the users to treat the tools as living documents through creating iterations of the tools, it could be explored how the tools could directly prompt the users to keep updating the tools based on new data.

Future work in relation to our research question could include:

- **Exploring further how a service design perspective and use of service design methods and tools can support urban planners in including the needs of elderly in their processes:** Our thesis is a first step, but future work could explore other service design tools and methods, and/or involve the elderly and elderly advocacy organisations in the co-creation of the tools, exploring if there are any specific tools that are most useful for this exact target group.

- **Adapting the tools to the varied range of urban planners:** Since urban planning is a broad field, it would be beneficial to explore how service design methods and tools could adapt to the specific urban planning practitioner, from someone who specialises in urban law to someone doing citizen involvement regularly.

- **Further interdisciplinary collaboration:** This thesis included fields beyond service design, such as urban planning, urban design, and architecture. However, it would also be interesting to collaborate with other fields, such as policy design and public health authorities, to explore how they could benefit from using service design to create cities where elders thrive.

Our hope is that this thesis will inspire other researchers to further explore this important topic, for example, by investigating the recommendations above.

6. CONCLUSION

"How can service design methods be used in urban planning to design cities that accommodate the needs of elders?"

This thesis aimed to explore service design and its methods in the context of urban planning, creating a bridge between the two fields, and contributing to addressing issues caused by an ageing population and its effects on cities. All while aiding in both academic research and the creation of practical tools that practitioners can use in their daily work.

Drawing on data collected through research by design process that included interviews with both Japanese and Danish urban planners and related experts, extensive literature research, co-creation and validation sessions, the research shows that service design methods can be effectively used and adapted to the urban planning process. The potential does not rely on a single method, but rather on a more complex approach that combines multiple methods. Therefore, as a practical output, the thesis presented the Urban Experience Toolkit comprising three tools: Urban Journey Map, Urban Experience Walkthrough, and Urban Planning Blueprint. The toolkit was developed to address the issues resulting from ageing population, however, they can just as well be used for other citizen groups. The tools build on the strengths of service design methods and help urban planners to move from raw citizen data to actionable insights, making it easier to understand the pain points and needs of citizens and therefore address their well-being, and support mutual understanding between the different stakeholders in the urban planning process.

Despite limitations and beyond the toolkit, the thesis uncovers the potential for broader use of service design within urban planning, bringing empathy and a human-centred focus, an iterative approach, and the fruits of an interdisciplinary approach, while supporting the urban planning discipline in addressing wicked problems and societal challenges. The full potential of service design in other fields, like urban planning, remains to be fully uncovered; however, could service design be the missing piece of the puzzle that can add a new way to address current societal challenges?

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APPENDIX I: AI STATEMENT

The following AI tools were used in the duration of the project:

- Claude
- ChatGPT
- Grammarly
- Deepl
- Microsoft Teams

Grammarly was used for grammatical corrections and text refinements. Microsoft Teams was used to transcribe the interviews, and Deepl to translate interviews from Japanese into English. Generative AI, such as Claude and ChatGPT, was used to refine texts, assist in creating materials for our workshop, brainstorming on questions for survey and interviews, and bounce off our ideas to set a direction for our research.

APPENDIX II: LEARNING GOALS

Learning goals as defined in the Curriculum for the Master's Programme in Service Systems Design by Aalborg University (2023):

"**Knowledge**

Students who complete the module will obtain:

- knowledge about the appropriate methodological approaches to specific study areas
- knowledge about design theories and methods that focus on the design of advanced and complex product-service systems
- knowledge about the relevant literature in the Service Design field

With respect to Problem-Based Learning students will be able to:

- account for the scientific foundation, and scientific problem areas
- describe the state of the art of relevant research

Skills

Students who complete the module will be able to:

- work independently, to identify major problem areas and adequately address problems and opportunities
- analyse, design and represent innovative solutions
- evaluate and address major organisational and business issues emerging in the design of a product-service system

With respect to Problem-Based Learning students will be able to:

- master the scientific methods and general skills associated with the problem area

- produce a project report according to norms of the area, apply correct terminology, document extensive command over relevant literature, communicate and discuss the research-based foundation, problem and results of the project orally, graphically and in writing in a coherent manner
- critically evaluate the results of the project in relation to relevant literature and established scientific methods and models, evaluate and discuss the project's problem area in a relevant scientific context
- evaluate and discuss the project's potential for further development

Competences

Students who complete the module will be able to:

- master design and development work in situations that are complex, unpredictable and require new solutions
- independently initiate and implement discipline-specific and interdisciplinary cooperation and assume professional responsibility

With respect to Problem-Based Learning students will be able to:

- participate in, and independently carry out, technological development and research, and apply scientific methods in solving complex problems
- plan, execute and manage complex research and/or development tasks, and assume a professional responsibility for independently carrying out, potentially cross-disciplinary, collaborations
- independently assume responsibility for own scientific development"

APPENDIX III: SURVEY QUESTIONS IN ORIGINAL LANGUAGE (DANISH)

General

- Hvad er din alder?* :: *Under 65 år* :: *65–70 år* :: *71–75 år* :: *76–85 år* :: *86+*
- Hvilken køn identificere du sig som:* :: *Kvinde* :: *Mand* :: *Nonbinær* :: *Ønsker ikke at oplyse*
- Hvilken Kommune bor du i?*
- Hvad er din nuværende livssituation?* (Sæt gerne flere krydser) :: *Pensioneret* :: *Deltidspensioneret/ arbejder på deltid* :: *Arbejder fuldtid* :: *Arbejder frivilligt* :: *Omsorg for familiemedlemmer* :: *Andet:* _____

Everyday Life

- Hvor ofte bevæger du dig uden for dit hjem?* :: *Hver dag* :: *Flere gange om ugen* :: *En gang om ugen* :: *Mindre end en gang om ugen*
- Hvad er dine primære årsager til at du bevæger du dig uden for dit hjem?* (Sæt op til tre kryds) :: *Arbejde* :: *Indkøb* :: *Møde med familie/venner* :: *Lægebesøg* :: *Gåture / frisk luft* :: *Hobbyer / aktiviteter* :: *Frivilligt arbejde* :: *Deltagelse i lokale arrangementer/fælleskab* :: *Andet:* _____

- Hvordan bevæger du sig som regel rundt i det offentlige rum?* (Sæt gerne flere krydser) :: *Til fods* :: *Cykel / elcykel* :: *Offentlig transport* :: *Egen bil* :: *Delebil / taxa* :: *Med hjælp fra andre (familie, hjemmehjælp m.fl.)* :: *Andet: _____*
- Har dine vaner omkring brugen af det offentlige rum ændret sig, siden du gik på pension eller reducerede dine arbejdstimer?* :: *Ja, jeg går mere ud* :: *Ja, jeg går mindre ud* :: *Mine vaner er nogenlunde de samme* :: *Jeg er ikke gået på pension eller har reduceret mine arbejdstimer*
- Oplever du helbredsmæssige forhold, som har betydning for, hvordan du bruger byen og det offentlige rum?* :: *Ja, fysiske forhold* :: *Ja, psykiske forhold* :: *Ja, andet* :: *Nej* :: *Ønsker ikke at oplyse*
- Hvis du har lyst til at uddybe, så gør det venligst her:

Public spaces

- Hvilke dele af det offentlige rum bruger du mest?* (Sæt op til fem kryds) :: *Parker og haver* :: *Veje, gader og fortove* :: *Torve og pladser* :: *Legepladser* :: *Kirkegårde* :: *Biblioteker* :: *Medborgerhuse, kulturhuse eller forsamlingshuse* :: *Naturområder (skove, strande, mv.)* :: *Togstationer og bustoppesteder* :: *Andet: _____*
- På hvilket tidspunkt af dagen bruger du oftest offentlige steder?* :: *Tidlig morgen (før kl. 9)* :: *Morgen/ formiddag (kl. 9-12)* :: *Eftermiddag (kl. 12-17)* :: *Aften (efter kl. 17)* :: *Det varierer*
- Hvad værdsætter du mest ved det offentlige rum?* (Vælg op til tre svar) :: *Adgang til grønne områder og natur* :: *Mulighed for at bevæge sig og være fysisk aktiv* :: *Sociale aktiviteter og arrangementer* :: *Rolige og fredelige omgivelser* :: *God tilgængelighed (fx bænke, stier og nem adgang)* :: *At møde andre mennesker og føle sig som en del af fællesskabet* :: *Andet: _____*
- Bedøm venligst din enighed med hvert udsagn: (1 = Helt uenig → 5 = Helt enig)*
  1. *Jeg føler mig velkommen og godt tilpas i det offentlige rum i mit område.*
  2. *Offentlige rum tilbyder aktiviteter og ting at lave, der interesserer mig.*
  3. *Jeg føler mig tryg ved at være ude i det offentlige rum alene.*
  4. *Jeg møder ofte mennesker, jeg kender, eller skaber nye sociale forbindelser i det offentlige rum.*
  5. *Offentlige rum i mit område understøtter en aktiv livsstil.*
- Hvad oplever du især begrænser din brug af det offentlige rum?* (Sæt op til tre kryds) :: *Lang afstand eller transportudfordringer* :: *Manglende siddepladser eller muligheder for at hvile* :: *Oplevelse af utryghed* :: *Vejrforhold eller begrænset muligheder for ly* :: *Manglende tilbud eller aktiviteter, der interesserer mig* :: *Helbredsmæssige forhold eller nedsat mobilitet* :: *Jeg føler mig ikke altid velkommen eller tilpas* :: *Nej, jeg oplever ingen særlige begrænsninger* :: *Andet: _____*

Barriers & Challenges

- Er der steder i dit lokalområde, du undgår?* :: *Ja* :: *Nej*
- Hvis ja, skriv venligst hvilke og hvorfor:
- Føler du, at du hører til i dit lokalområde?* :: *Ja, i høj grad* :: *For det meste* :: *Nej*
- Hvordan vil du beskrive dit nuværende niveau af sociale forbindelser?* :: *Meget forbundet - Jeg har et rigt socialt liv* :: *Rimelig forbundet - Jeg ser folk regelmæssigt* :: *Ofte ensom - Jeg vil gerne have mere social kontakt*
- Bedøm venligst din enighed med hvert udsagn: (1 = Helt uenig → 5 = Helt enig)*
  1. *Offentlige rum giver mig muligheder for at få kontakt med andre mennesker.*
  2. *Jeg føler en følelse af fællesskab eller tilhørsforhold i de dele af det offentlige rum, som jeg bruger.*
  3. *Der er nok arrangementer eller aktiviteter i lokalsamfundet til folk på min alder.*
  4. *Jeg ville sætte pris på flere muligheder for at omgås andre mennesker i det offentlige rum.*

Opportunities

- Føler du, at du kan påvirke, hvordan det offentlige rum i din kommune/dit lokalområde designes og planlægges?* :: *Ja* :: *Nogle gange* :: *Nej* :: *Det ved jeg ikke*
- Vil du gerne være mere involveret i beslutninger vedrørende det offentlige rum i din kommune/dit lokalområde?* :: *Ja* :: *Måske* :: *Nej*
- Hvis du kunne ændre én ting ved det offentlige rum, i din kommune/dit lokalområde, hvad ville det så være?*

Ending questions

- Er der noget i din hverdag eller oplevelse af byen, som du gerne vil dele, og som vi ikke har spurgt om?
- Hvis du ønsker, at vi må kontakte dig ved eventuelle opfølgende spørgsmål eller invitation til aktiviteter i projektet, kan du skrive dit navn og din e-mail her. Bemærk, at din besvarelse dermed ikke længere er anonym. Oplysningerne behandles fortroligt og bruges kun i dette projekt.

APPENDIX IV: EXAMPLE OF AN INTERVIEW GUIDE FOR DANISH URBAN PLANNERS

Introduction

- Could you briefly introduce yourself and your work as an urban planner (within ..)? (You can also give examples of some projects you are working on.)
- How does your work stand in relation to urban planning and urban design?

State of Urban Planning

- How do you work as an urban planner? What are the core methods you use?
- How would you define the difference between urban design and urban planning? Where do they overlap? Do you collaborate somehow or how do you work with them?
- What core challenges do you face in your work as an urban planner?
- Is there something you are missing? a tool, method?
- The society is ageing, and there will be many more elderly people. Is that something you consider in your work? Or prepare for?
- When you think about the city from your perspective as an urban planner - is it primarily a physical environment you're shaping, or more a set of experiences and services that need to work for people?
- Do you have an urban planning vision you follow?

Including Citizens/Elders Needs in Urban Planning

- Do you actively include citizens in your work? If yes, at which stages?
- What challenges do you face when wanting to include elders/citizens?
- How do you incorporate the citizens' experiences in your decision making/process?
- Are there stages where better understanding of citizens' experiences/needs would help you?

Service Design Approach

- Imagine you're implementing a park in a neighbourhood with a large elderly population. You have the technical data, but you want to understand how older residents actually use and experience that space day to day. How would you go about that? What would you do, what would you struggle with?
- When it comes to older residents specifically - how confident are you that you understand how they actually experience and move through the spaces you work on day to day?

Reflection

- What should urban planning focus more on in the future?
- What new trends are rising in urban planning?

APPENDIX V: CODEBOOK SNIPPET

job scope_cross-collaboration

Example: "So I'm sitting in a team that's called external city projects. So that's when external parts developers want to develop along the metro. If that makes sense. So anything like in a near proximity of the metro, then we are kind of planning that with them."

job scope_cross-collaboration_importance of finding common ground

Example: "Which is the kind of three principles that's the most important for the metro company, which they then we then use that in the like in the planning department when talking to the municipality or to the developer. Because it's not always our demand that we can integrate everything, but I think it gives an understanding for the municipality and developers which principles is actually really important when planning stations and city together. And how do you plan the city so they give like a maximum effort or maximum like passenger numbers?"

job scope_cross-collaboration_forming resilience

Example: "involving different actors because the planning is way more resilient the more actors you have and I think in like smaller scale when I was at. That was small, like working."

job scope_cross collaboration_negotiating on behalf of citizens

Example: "There, it becomes very much a give-and-take between working hand in hand, and we can say, "I can support my planner in saying, 'You have to say this,' and at the same time, the planner has to juggle getting some development projects through that the politicians have also agreed to." So it's a constant interplay. You could say it's a negotiation taking place."

job scope_facilitation

Example: "So what I'm doing is more the local planning part of it. So I'll talk.
Internally with the customer service and our engineers and figure out how much space do we need around our stations to fit in all the kind of systems and services that we need for the passengers.
And how it fits in with the rest of the city."

job scope_use of quantitative data

Example: "We like figure out the passenger numbers for each stations.
And then some stations of course have way more passengers than others. And then there we have to plan for how many bicycles do we need in this specific station. So maybe that's two 200 bike parking places and other places it's like 600 and then we also need to be sure that it's placed for."

APPENDIX VI: CO-EXPLORATORY WORKSHOP OUTLINE

Title of session:	Co-Exploratory Workshop		
Preparation by:	Adéla and Lucas		
Facilitators:	Adéla and Lucas		
Number of pax:	2	**Time allocation:**	90 mins
Session Objectives:	1. Including practitioners working within urban planning into the design process 2. Gathering data and validating our insights 3. Generating and exploring ideas on how service design methods can be used in urban planning		
Preparation:	Physical materials		

Time	Who	Activity	Materials needed	Goals
5 mins 1505-1510	L	**Activity 1: Introduction** We welcome everyone, ask if everyone is okay that we take photos and record, and invite participants to introduce themselves by sharing: - *Name* - *Their work and experience with urban planning/urban development* - *What is on their plate at the moment in terms of designing cities?* *Explain that we are both facilitators and participants, and that it is okay if she wants to speak Danish* *goal of today: try out service design methods in an urban context* *three methods/activities* *break if you need it, toilet, snacks*	/	Break the ice, get people to introduce themselves and start in a free, positive mood.
Link to following activity:				
10 mins 1510 - 1520	L A	**Activity 2: City as a sum of services** We introduce the **purpose of our research** and what we have done so far: - **Purpose:** finding a way to meaningfully apply service design within urban planning in the realm of designing cities, focusing on the ageing population - **Done:** interviews with Japanese and Danish experts, identified a gap: synthesising collected data to be used meaningfully throughout the process - **What service design is:** improving/designing experiences of services (both digital and physical) Of course, we are **not experts**, and urban planning/design as a field is very broad, so the pain points we identified were based on the interviews we conducted, but might be very different for others. Therefore, we want this to be a mutual conversation without things being set in stone. In order to **understand the cities** the same way, we show a map of the city: - Explain how the different places and activities are services that the city provides, and not just physical spaces - Ask the participants what other type of services they see + write them on the post-it notes to place them in the map - We can also highlight what services are missing Introduce a **reflection diary** in which they can write short notes after every activity.	Map of the city, post-its, pens	Getting the participants to understand the context of the workshops and how cities are worked with in the workshop

30 mins 1520 - 1550	A	**Activity 3: Introduction of the case study and working on the journey map** We introduce the case study, explain what a journey map is, and what is going to happen now. **Case:** Copenhagen municipality wants to redesign a fictive area in Nørrebro, since the population is ageing. To make it more age-friendly. **Task:** Your team has gathered many insights into how this area is used by elders. Some of your colleagues did walk-alongs with elders and other citizens, some interviews, and others observations. You now have a meeting with your team where you have to summarise the data into meaningful insights. You each have a set of insights in front of you that only you have. The goal is to create a journey map that represents the typical elder's experience of this area. **User journey:** maps out step-by-step what someone experiences in the space or within the service The journey map consists of actions, touchpoints, emotions, pains and opportunities. Explain briefly each. 5 min to read through the insights while highlighting and writing central insights on post-its and categorising them into the 5 categories. **Group work:** discussing insights and placing them on the journey map template. You can also add categories to the map if something is missing.	Papers with case, data insights, tasks, post-its, pens, highlighters, and paper category lines	
Reflection: How was the exercise? Could you see yourself doing this? What is missing?				
10 mins 1550 - 1600	L	**Activity 3: Building on the journey map to create a service blueprint** You have now mapped the citizen's journey. Next, use your journey map to identify what happens behind the scenes to make that experience possible. Task: For each step in the journey, discuss and fill out: • Backstage actions Internal tasks and activities citizens do not see *(e.g. maintenance, planning, coordination)* • Supporting processes Systems, resources, and departments that enable the work *(e.g. budgets, contracts, policies, IT systems)*	Paper category lines, data insights	
Reflection: How was the exercise? Could you see yourself doing this? What is missing?				
20 mins 1600 - 1620	L	**Activity 5: Desktop walkthrough** You now have good insights into how elders experience this area. Now you have to use this knowledge to create a better area for the elders, by focusing on the journey map (pains and opportunities). **Task:** - Create one scenario from the perspective of an elder, where you change the area to fit their needs. - Use lego, paper materials, etc., to create the space - First, act out the journey as it is now and then how it could look if the changes were put into practice.	Desktop walkthrough prompts, lego, simple map of area A3	
Reflection: How was the exercise? Could you see yourself doing this? What is missing?				

15 mins 1620-1635	A	**Activity 6: Reflection and debriefing** Participants are asked to **reflect individually** on the methods used for about 5 mins. **Reflecting questions:** Finish Rating of the methods: - How intuitive were the methods to learn and apply? - Which method was most effective for your specific urban planning practise? Why? - How easy would it be to share the results with stakeholders? - Which method helped you move most effectively from raw research data to actionable insights? - How well do the methods capture the complexity of urban planning challenges (multiple stakeholders, long timeframes, spatial considerations, policy constraints)? - What limits did the methods have? What would they need to have in order to be effectively used in your work? Participants are asked to present the main points and are asked follow-up questions. **Guiding questions:** - What did they communicate well and what poorly? - If you had limited time, which method would you prioritize? - What support materials or guidance would make these methods more effective for urban planners? **Closing:** - Asking if there is anything else the participants would like to add - Thanking them for their attention and participation - Inviting them to the testing at the end of April	Reflection diary	

APPENDIX VII: EXAMPLES OF WORKSHOP MATERIALS

REDESIGN OF ALDERSROGADE

The Challenge

Aldersrogade and the surrounding residential blocks in Nørrebro have seen significant demographic ageing over the past 15 years. While the small neighbourhood is well-functioning and many residents report high satisfaction, recent research reveals a more complex picture. The municipality recognises that proactive improvements now can create an age-friendly neighbourhood that serves as a pilot for other areas.

Municipality's Goal:

Build on existing strengths while reaching older residents to create an age-friendly neighbourhood that supports independence, social connection, and future mobility needs

You have been provided with research data collected over 4 months (surveys, interviews, observations, and municipal data). Use service design methods to summarise this data and identify key interventions that will have the greatest impact on residents' daily lives.

"After gymnastics at Lundehuset, we all want to sit and chat over coffee, but there's nowhere to do it. The room is booked for the next activity immediately after us. We end up just going home. It would be lovely to have a space - even just some comfortable chairs in a corner - where we can linger after class. That's what I'd change if I could."

Lis, 73

"I've always been healthy, never thought about 'accessibility' until last year when I had knee surgery. Suddenly I noticed every curb, every stair, every rough pavement. It's opened my eyes. The neighbourhood works fine if you're able-bodied. But as we all age, these small barriers add up. We need to think ahead, not wait until people can't manage."

Poul, 82

Location: Aldersrogade residential street Observation: Counted 18 elderly people walking over 2-hour period (afternoon). Only 1 pair walking together. Rest alone. 8 carrying shopping bags from local mini-supermarket. Several pause to adjust bags or shift weight. Tree-lined street is pleasant and quiet but no benches along entire 400m length. People rest by leaning on courtyard walls or sitting on building steps (not designed for sitting).

Insight: Walking is primary mode of transport but very individualized; lack of seating forces adaptations; street could support more social encounter with deliberate

Observation: Counted 34 elderly pedestrians crossing at uncontrolled crossing over 1 hour (3-4pm). 12 were carrying shopping bags from pharmacy or larger shops. 8 visibly using walking aids or walking slowly. Many wait for large gaps in traffic. Average crossing time: 18 seconds for able-bodied, 35+ seconds for those with mobility aids. Saw 2 people turn back without crossing.

Insight: Major barrier between quiet neighbourhood and essential services on busy street; crossing time doesn't match elderly mobility; some avoid crossing entirely

Reflection Diary

THINK OF LIMITS, POSITIVES, NEGATIVES, NEW IDEAS...

RATE THE INDIVIDUAL METHODS BASED ON THE GIVEN CATEGORIES FROM 1 (THE WORST) TO 3 (THE BEST):

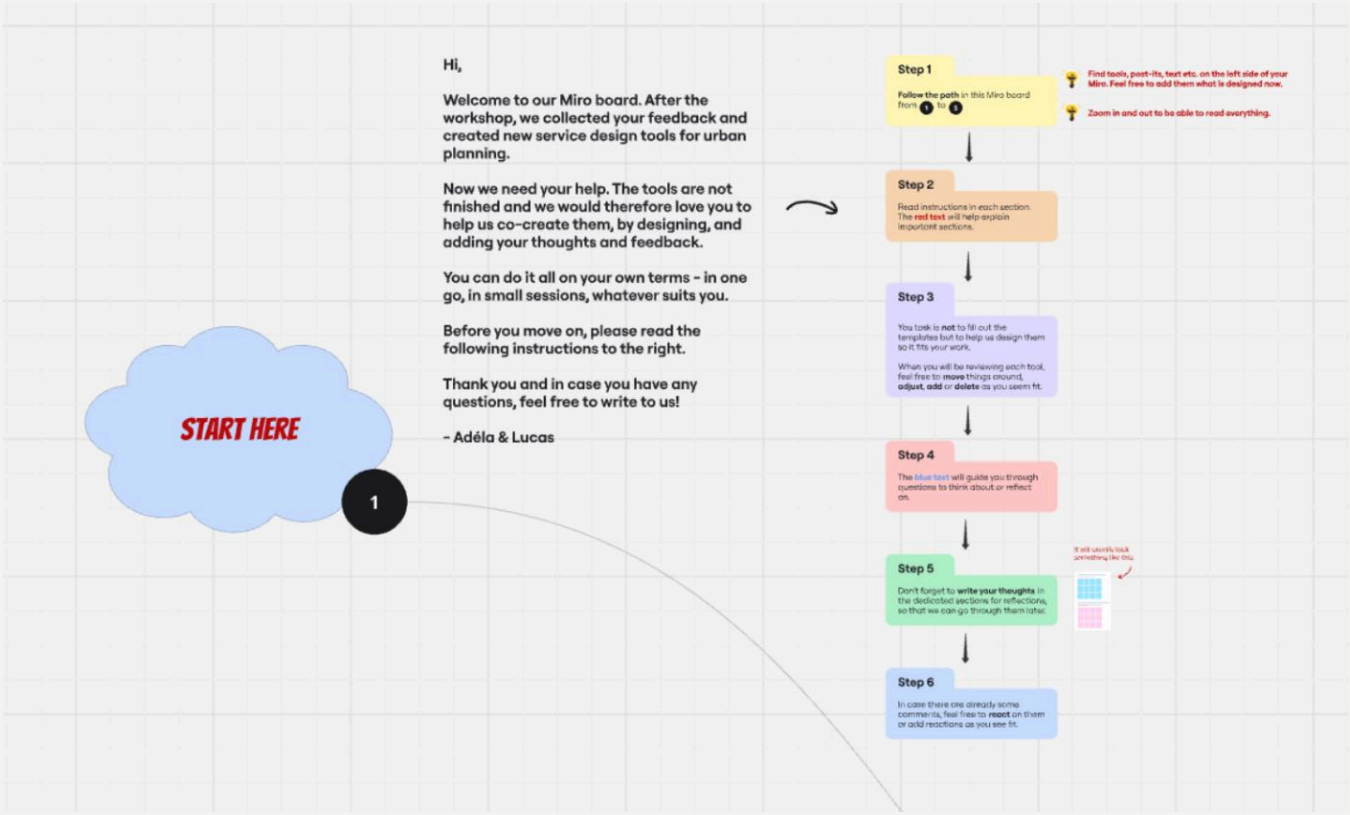
	ACTIVITY I	ACTIVITY II	ACTIVITY III
How intuitive was the method to learn and apply?			
How well does the method capture the complexity of urban planning (many actors, long timeframes, spatial considerations..)?			
How easy would it be to share the results with stakeholders and colleagues?			
Which method helped you move most effectively from raw research data to actionable insights?			
Which method would be most effective for your work?			

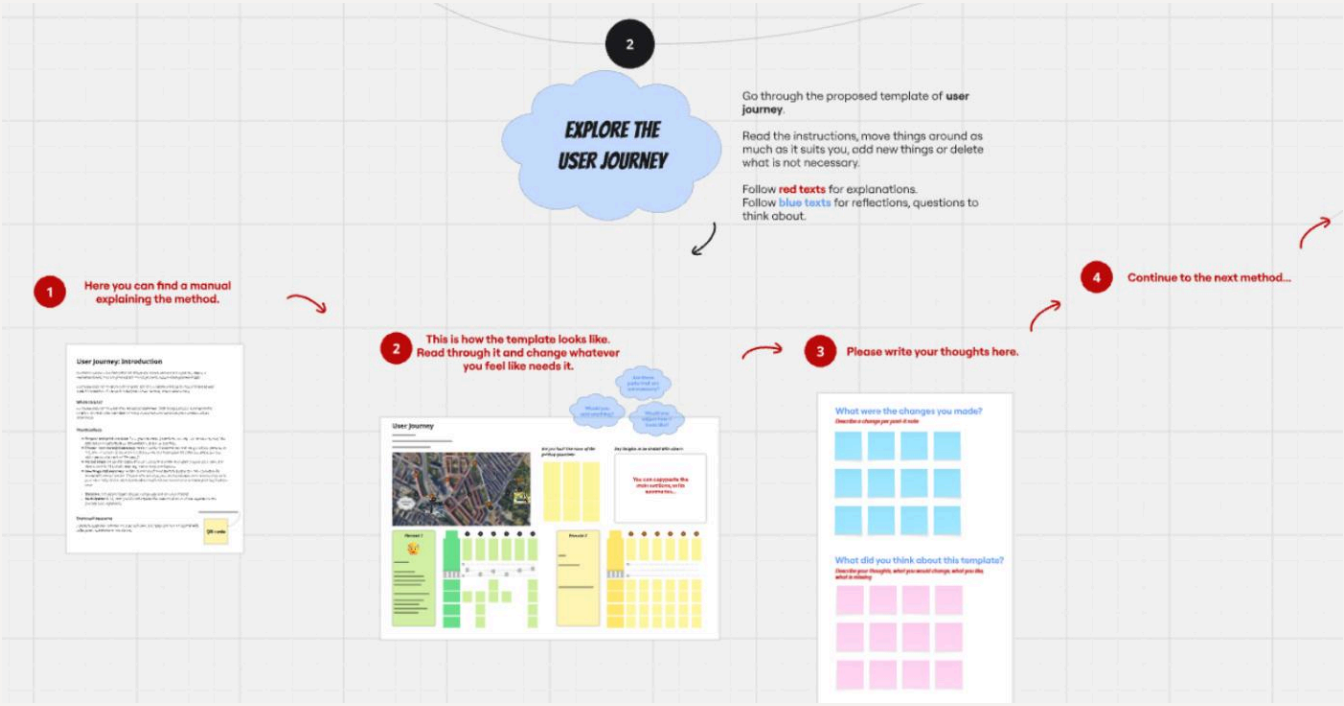
ACTIVITY I: USER JOURNEY

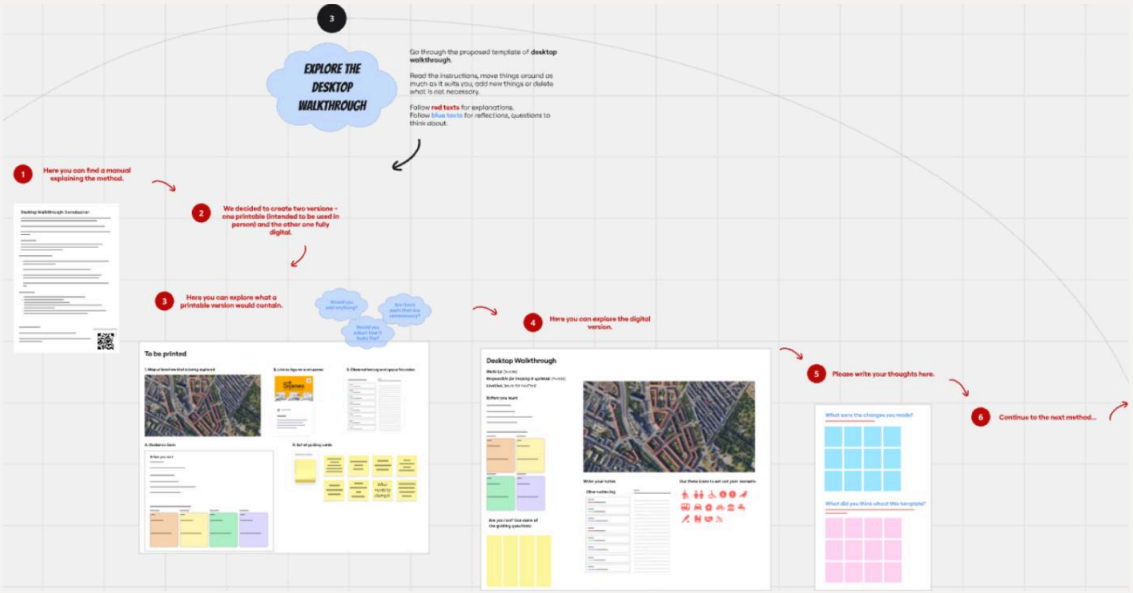
ACTIVITY II: SERVICE BLUEPRINT

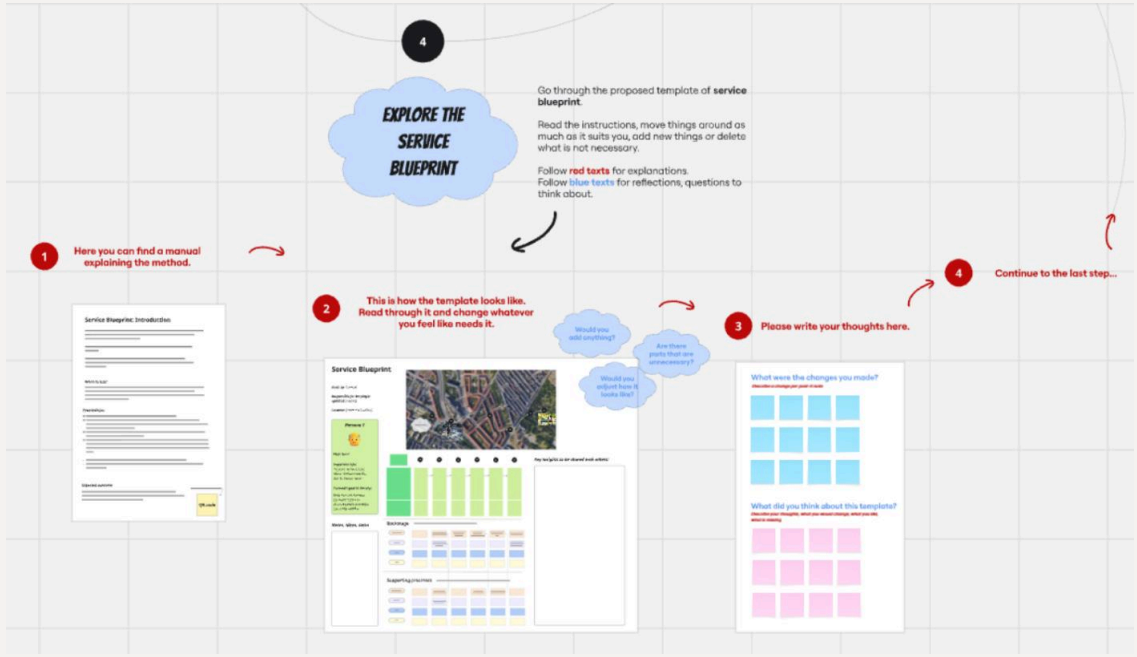
ACTIVITY III: DESKTOP WALKTHROUGH

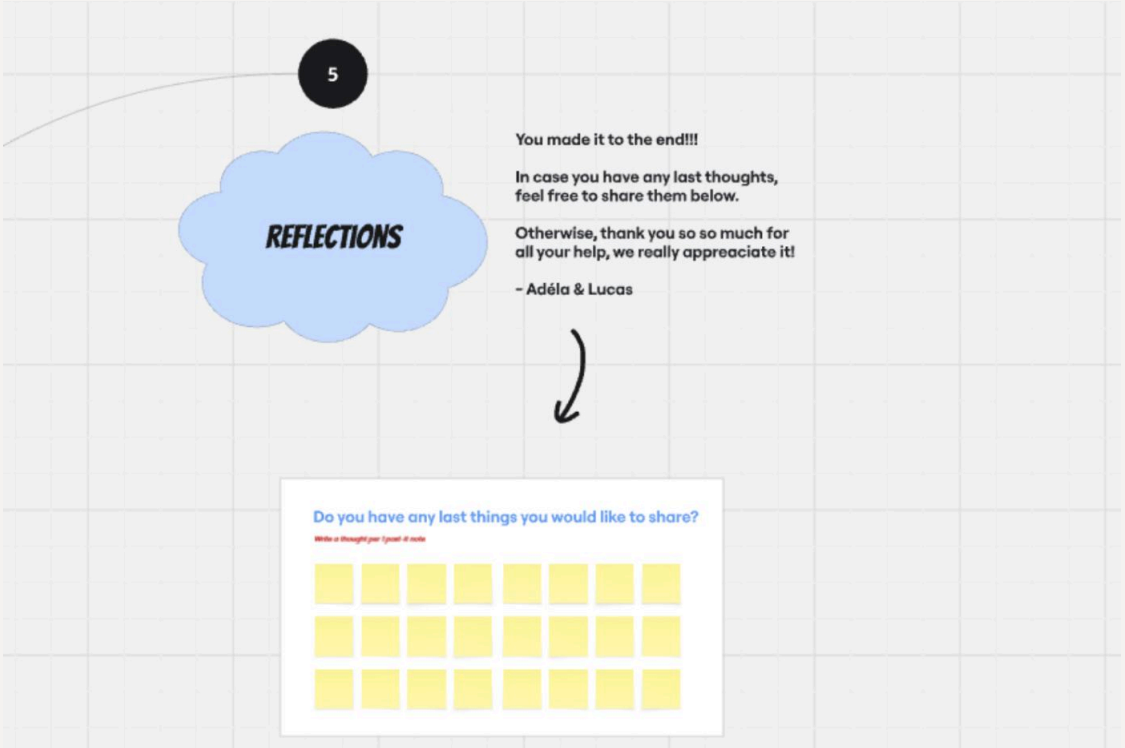
APPENDIX VIII: ASYNCHRONOUS CO-CREATION BOARD






3
EXPLORE THE DESKTOP WALKTHROUGH
Go through the proposed template of desktop walkthrough.
Read the instructions, move things around as much as it suits you, add new things or delete what is not necessary.
Follow red texts for explanations.
Follow blue texts for reflections, questions to think about.
1 Here you can find a manual explaining the method.
2 We decided to create two versions – one printable (intended to be used in person) and the other one fully digital.
3 Here you can explore what a printable version would contain.
To be printed
4 Here you can explore the digital version.
Desktop Walkthrough
5 Please write your thoughts here.
6 Continue to the next method...


4
EXPLORE THE SERVICE BLUEPRINT
Go through the proposed template of service blueprint.
Read the instructions, move things around as much as it suits you, add new things or delete what is not necessary.
Follow red texts for explanations.
Follow blue texts for reflections, questions to think about.
1 Here you can find a manual explaining the method.
2 This is how the template looks like. Read through it and change whatever you feel like needs it.
Would you add anything?
Are there parts that are unnecessary?
Would you adjust how it looks like?
Service Blueprint
3 Please write your thoughts here.
4 Continue to the last step...
What were the changes you made?
What did you think about this template?


5
REFLECTIONS
You made it to the end!!!
In case you have any last thoughts, feel free to share them below.
Otherwise, thank you so so much for all your help, we really appreciate it!
- Adéla & Lucas
Do you have any last things you would like to share?

APPENDIX IX: ONLINE VALIDATION OUTLINE

Title of session:	Online Validation		
Preparation by:	Adéla and Lucas		
Facilitators:	Adéla and Lucas		
Number of pax:	2	**Time allocation:**	60 mins
Session Objectives:	1. Including practitioners working within urban planning into the design process 2. Gathering data and validating our insights 3. See how Urban Planners use the tools, how much help do they need etc. 4. Validating the tools, will they use it? 5. Answering some final questions related to the components of the tools		
Preparation:	Miro board		

Time	Who	Activity	Materials needed	Goals
5 mins	A	**Activity 1: Introduction** We **welcome** the urban planner and: - Purpose of today's meeting - For Sofie: introducing ourselves, and ask her to introduce herself We explain the **point of our thesis** and how we've got to this point: - Exploring how service design tools and methods can be used in the context of urban planning - We've done interviews, workshop… and based on all these, we've created 3 tools that we would like them to test Ask if it's okay if we record **Invitation to join the Miro Board** - send this link in the chat		
15 mins	A	**Activity 2: User Journey** We've designed 3 tools that are based on service design tools, but we adapted them to the urban planning context. The first tool is User Journey - it is a tool for visualising the experience of a person in the space. It is a way to summarise different data you've collected into 1 or more personas. The **tool consists of** general information, space for brainstorming on personas, a map where a journey can be visualised, a description of the persona and the visualised experience with different categories, and space for notes that can be shared with others. Plus option for adding extra personas. Your task will be to **test out the tool.** You can have a bit of time to read through everything and also the case, and then use the data in the journey to visualise the experience in the area from an older person's perspective. Map the current state. You can start reading through, and if you don't mind, you can later narrate your thoughts as you use the tool. We have about 8 mins for this, the point is not to finish all the steps but to see your thoughts about using the tool and give us your feedback. There is no right or wrong. **Reflections:** - What are your first thoughts about the tool? - What to include in the visual map?		

Reflection: How was the exercise? Could you see yourself doing this? What is missing?

15 mins	L	**Activity 3: Desktop Walkthrough** Now we move to the Desktop Walkthrough. This is a collaborative prototyping and roleplaying tool, mainly used in a physical form. you act out how the space is currently used, and then you try out new designs/improvements of the area. The tool consists of general information, space to define the two scenarios, space to define the different characters you would be playing, a map in which you act out the scenarios, icons or other pictures that you can use for acting out and an observation log where you can write notes. So, in the previous task you have visualized the current experience that elders have in this area. Now you want to act it out and explore how to make it better for the elders. Imagine that you now gathered with your team and other relevant stakeholders. Your task is to use this tool to act out different scenarios to improve the space. Normally it is a collaborative tool, so we can simulate the whole experience. It is more for you to try and give feedback. **Reflections:** - What are your first thoughts about the tool? - Would you prefer using the digital version or a physical version?		
Reflection: How was the exercise? Could you see yourself doing this? What is missing?				
15 mins	L	**Activity 4: Service Blueprint** The last tool we will go through is a Service Blueprint. It is an extension of a journey map, but puts much more focus on the backstage and supporting processes, which are activities that are invisible to the citizens. The tool consists of general information, description of a persona, map and site analysis, steps in the journey that cover both the frontstage (e.g. what the persona sees/experiences), and backstage (e.g. the invisible, what needs to be in place in order for everything to work), space for notes and ideas and also insights you can share with others. Now you have an idea of how to improve the experience for elders in this area, and you would normally update the journey map based on these changes. We have already made an example for you, so you don't have to spend time on that. We imagine this as a collaborative/discussion tool. So you would be sitting with other stakeholders at the municipality or the company you work for (e.g., an architect or traffic management). You want to find out what each role should do in order for this new experience to become a success. You can again go through the tool and the case, and once you're ready, start narrating your thinking behind using the tool. **Reflections:** - What are your first thoughts about the tool? - Site analysis - is it important for this step, and how would you use it?		
Reflection: How was the exercise? Could you see yourself doing this? What is missing?				
10 mins	L	**Activity 5: Reflections** **Questions to ask:** - Do you see yourself using these tools? Why/why not? - You've now seen all three. Which would you try first? When? - Would using these tools replace something you already do or add something new to your work? - What would stop you from using these tools? - What is missing? - What format would you prefer? pdf, miro, physical? - Who do you think should have ownership over the tools in your organisation? **Closing:** - Asking if there is anything else the participants would like to add - Thanking them for their participation		