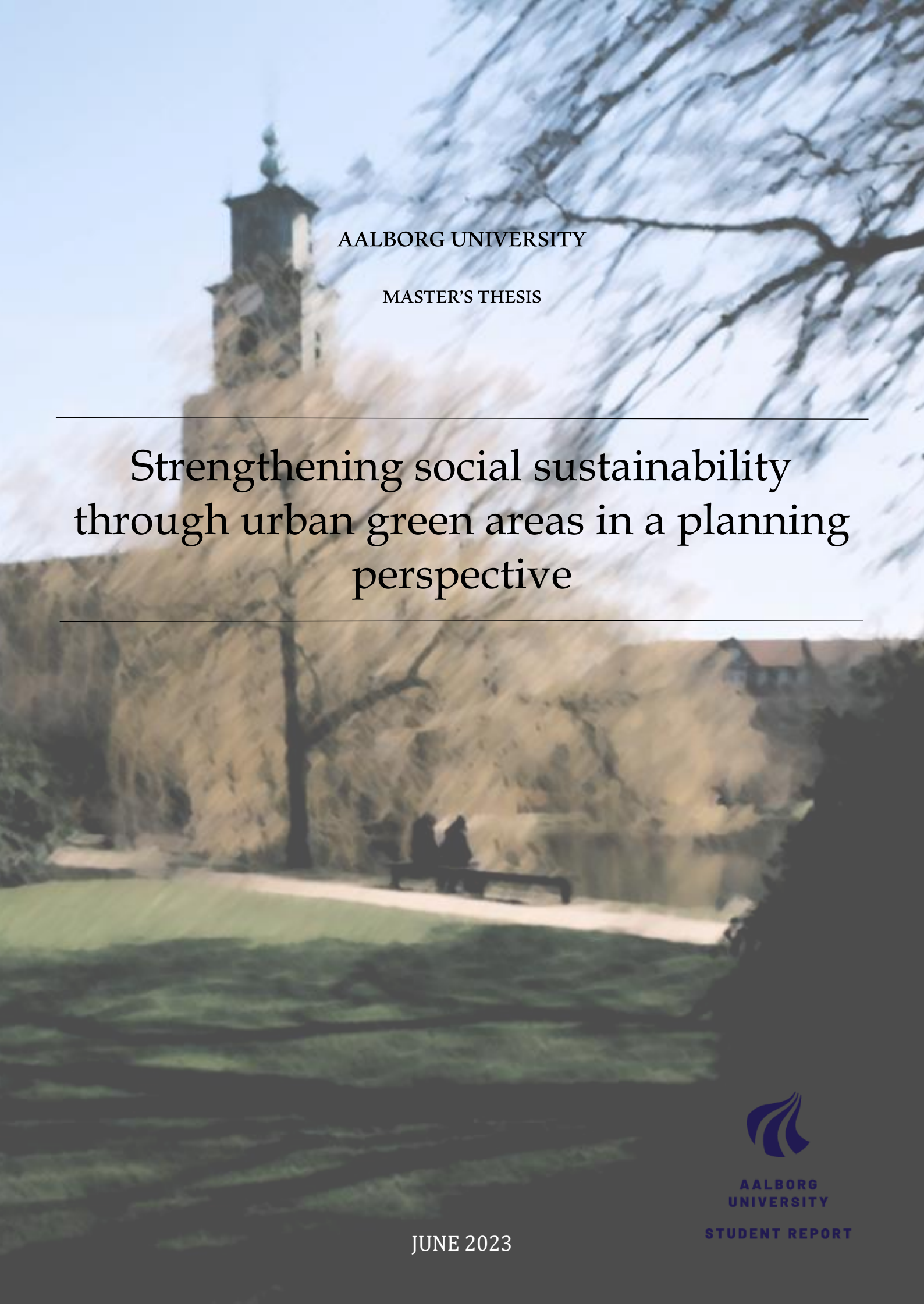

AALBORG UNIVERSITY

MASTER'S THESIS

# Strengthening social sustainability through urban green areas in a planning perspective

AALBORG UNIVERSITY

STUDENT REPORT

JUNE 2023

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STUDENT REPORT

**Department of the Build Environment**
Thomas Manns Vej, 23
9220 Aalborg Øst
https://www.en.build.aau.dk/

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**Author:**

Line Østergaard Jepsen

**Supervisor:**

Enza Lissandrello

**Abstract**:

This thesis is based on a comparative case study consisting of two urban green areas geographically located within the so-called Growth Axis in Aalborg, Denmark. The purpose of this thesis is to examine how social sustainability can be included in municipal strategies in a way that includes the residents of Aalborg and their preferences for their local urban green areas. This is based on an examination of the physical and produced space within the two urban green areas, and the current municipal strategies covering this topic from Aalborg Municipality.

The conclusion considers the urban green areas' potential for strengthening social sustainability for the local residents and a range of recommendations for including social sustainability in municipal strategies and planning processes. This is based on the data collected through this study, and the considerations from the three sub-questions.

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# Acknowledgement

First and foremost, a thank you to my thesis supervisor, Enza Lissandrello from the Planning Department at Aalborg University, for letting me make my own decisions but steering me in the right direction.

Secondly, I would like to thank the experts who have been involved in the data collection for this research project: Bodil V. Henningsen and Kirsten Lund Andersen from Aalborg Municipality.

# Preface

This Master Thesis was conducted through the Master Program *Geography* in the Department of the Build Environment compared with a specialization in *Sustainable Urban Planning* and *Cities and Sustainability* from the Master program *Urban, Energy, and Environmental Planning* in the Department of Planning. The thesis was conducted in the time period from the 1st of September 2022 to the 9th of June 2023. The author holds a Bachelor of Science (BSc) in Geography from Aalborg University.

### Reading guide

The thesis is a report built up of chapters, sections, and subsections that are numbered consecutively; subsection a.b.c., where a refers to the chapter, b refers to the section and c refers to the subsection. This reference system also applies to tables, figures, and pictures which are also equipped with references. Pictures or figures made by the author are marked with *Created by the author*. References are stated according to the Harvard method: [Surname/institution, year of publication], with a full bibliography at the end of the thesis divided into internet sources and books. If the year of publication is not stated within the reference this is denoted as n.d. (no date). Following the bibliography is the appendix. Interviews conducted through this thesis have been transcribed and can be found here. The front page picture has been taken by the author during a field trip in Østre Anlæg.

If the quotes or figures' original language was Danish, this has been translated to English by the author.

### List of abbreviations

- UGA - Urban green area(s)
- SDG - Sustainable Development Goals(s)
- SWB - Subjective well-being
- GDP - Gross domestic product
- SQ - Sub-question (e.g. SQ1, refers to the first sub-questions in the problem statement)
- Q - questions (e.g. Q1, refers to the first question in the survey)

# Resumé

**Nøgleord: Bæredygtighed, social bæredygtighed, kulturelle økosystem tjenester, urbane grønne områder, byplanlægning, kommunale strategier, Aalborg Kommune**

Social bæredygtighed er en vigtig del af byudviklings planlægning, da det påvirker borgernes trivsel. Det er formålet med dette speciale at identificere en måde hvorpå social bæredygtighed kan inkorporeres i den kommunale planlægning på en inkluderende måde, der tager højde for borgerne i kommunen.

Denne rapports tredje kapitel undersøger forholdet mellem urbane grønne områder og borgernes sociale bæredygtighed. Det er beviseligt, at adgang til urbane grønne områder er vigtig for borgernes trivsel, på grund af deres evne til at forsyne brugerne med økosystem tjenester. Forholdet er yderligere beskrevet via teorien om *place* formuleret af geograf Edward Relph i 1976.

Projektet tager udgangspunkt i to urbane grønne områder; Østre Anlæg og Sohngårdsholm Parken i Aalborg, Danmark. Disse urbane grønne områder er udvalgt da det antages at de fungerer som grønne oaser i byen, og fordi de passer på den definition af urbane grønne områder samt det overordnede case område, som anvendes i dette projekt. Derudover er disse to områder udvalgt på baggrund af deres forskel i præference hos borgerne i Aalborg. Ud fra dataindsamlingen i dette studie, ses det at Østre Anlæg har flere besøgende og ses derfor som en *succesfuld* case, hvorimod Sohngårdsholm Parken ses som en *problematisk* case. Dette studie undersøger denne difference i præference særligt i forhold til det fysiske og det producerede rum i de to urbane grønne områder.

Den videre rapport er en analyse af de to case områder samt borgerne i Aalborgs brug og præferencer i forhold til deres lokale grønne områder. Den første del af analyse er et mix mellem kvalitative og kvantitative metoder, som inkluderer en spørgeundersøgelse, observation samt kortlægning af den fysiske struktur i case områderne. Det undersøges hvordan det fysiske miljø, de aktiviteter som foregår der, og den betydning, som brugerne tillægger områderne former områdernes identitet, samt hvordan dette påvirker borgernes brug af de urbane grønne områder. Formålet med dette er at identificere borgernes præferencer for deres lokale grønne områder. Den anden del af analysen undersøger hvordan Aalborg Kommune arbejder med social bæredygtighed i deres nuværende kommunale strategier, og hvilke udfordringer, der kan være i forbindelse med byfornyelse, særligt i forhold til de urbane grønne områder. Det ses at Aalborg Kommune har en overordnet og generel tilgang til social bæredygtighed i deres strategier, og siden dette ikke er tilfældet for f.eks. miljømæssig bæredygtighed, antages det at en afklaring af begrebet og hvordan det konkret kan hjælpe med at strukturere og sikre en social bæredygtigheds tilgang i de kommunale strategier i Aalborg. Hvordan dette kan gøres diskuteres senere i rapporten hvor en række anbefalinger defineres.

Problemformuleringen er besvaret ud fra anbefalingerne defineret i diskussionen i denne rapport, og konkluderer hvordan dette kan inkorporeres i de kommunale strategier. Dette er ydermere visualiseret i praksis med Stigsborg Bypark som eksempel på hvordan et urbant grønt område kan designes ud fra anbefalingerne konkluderet i dette studie.

# Executive summary

**Keywords: Sustainability, social sustainability, cultural ecosystem services, urban green areas, city planning, municipal strategies, Aalborg Municipality**

Social sustainability is an important part of city development planning, as it relates to the residents' well-being. It is the purpose of this thesis, to identify a way to incorporate social sustainability in municipal strategies in an inclusive way that considers the residents of the municipality.

The third chapter of this report examines the relationship between urban green areas and the residents' social sustainability. It is evident, that access to urban green areas is vital for citizens' well-being, because of their ability to provide ecosystem services to their visitors. The relationship is furthermore examined via the theory of place formulated by geographer Edward Relph in 1976.

The project takes its starting point in two urban green areas; Østre Anlæg and Sohngårdsholm Parken located in Aalborg, Denmark. These urban green areas are selected based on the assumption of them being green oases in the city environment, and because they fit the definition of urban green areas and the overall case area used in this study. Furthermore, they are selected based on their difference in preference by the residents of Aalborg. From the data collected in this study, it is evident, that Østre Anlæg has more visitors and is therefore seen as a *successful* case, whereas Sohngårdsholm Parken is seen as a *problematic* case. This study examines this difference in preference especially in terms of the physical and produced space in the two urban green areas.

The further report is an analysis of the two case areas and the residents of Aalborg's use and preferences in relation to urban green areas in their local environment. The first part of the analysis is based on a mix of qualitative and quantitative methods including a survey, observations, and a mapping of the physical structures of the case areas. It is examined how the physical environment, the activities taking place in the areas, and the meaning given by the people form the identity of the urban green area and how that affects how the residents use the UGA. The purpose of this is to define the residents' preference for their local urban green areas. The second part of the analysis is based on expert interviews and a document study and examines how Aalborg Municipality includes social sustainability in their current municipal strategies, and what challenges are related to city development, especially in relation to urban green areas. It is seen how Aalborg Municipality has an overall and general approach to social sustainability in their strategies, and since this is not the case for e.g. environmental sustainability it is assumed that a clarification of the term and how it can be used more specifically can help structure and secure a social sustainability approach within the municipal strategies in Aalborg, and how this can be done is discussed later in the report, where a range of recommendations are defined.

The research questions is answered based on the recommendations defined in the discussion of this thesis, and concludes how these can be included in the municipal strategies. This is also showed in practice with Stigsborg Bypark as example of how an urban green area can be designed in order to include the recommendations based on this study.

# Table of Contents

# Introduction 1

For most of human history, people have lived together in small communities, but over the past few centuries, we have experienced a mass migration from rural to urban areas. Urban settings are a relatively new phenomenon, but it has already changed the way humans live, work, and build networks. According to the United Nations, 2007 marked the year when half of Earth's population lived in urban settings. The trend of urbanization is continuing, and by the middle of this century, almost 7 billion people are expected to live in urban areas [Ritchie and Roser, 2018].

The shift from rural to urban environments has great effects on people's lives - both positive and negative, and therefore as the urban population rises the design of cities and urban areas plays a larger role in human well-being [Juul Frost Arkitekterne, 2022]. While the dense city supports economic growth it is also crowded, polluted, and stressful [Cox et al., 2018].

Danish studies show that quality of life is being threatened by obesity, inactivity, loneliness, and poor mental health. We know that there is a connection between the design of residential areas and the residents' physical and mental well-being. Meaning that the planning of our cities and the built environment has an influence on our health and well-being and how we live our life. In short, the cities set the framework for our urban health culture [Juul Frost Arkitekterne, 2022].

It is well known that green areas affect humans positively [Haciglu, 2020], and according to the study *SUSY Grøn: brug af grønne områder og folkesundhed i Danmark (SUSY Green: use of green areas and public health in Denmark)* people living within 300m of a green area are healthier than those who live more than 1km from a green area. Those who live close to a green area are in general more physically active, less stressed, has fewer pains and physical problems, and have a better social life. In short, access to green areas mitigates the negative effects of city life mentioned above. This shows that spending time in natural settings has a positive effect on human well-being but also that the accessibility and proximity to these areas are of great importance for the opportunity to access these benefits [Bild, 2011].

The rising urbanization creates competition for space, and it is of great concern that nature is losing that battle when the cities become denser and more populated [Cox et al., 2018]. When more people share the same urban space, the urban green areas (UGA) tend to be moved to the periphery of the city or replaced by housing for the rising number of residents [Haciglu, 2020].

More and more people live in the urban environment, and therefore the quality of UGAs

is more important than ever. In this thesis, it is desired to investigate the relationship between UGAs and the well-being of urban residents. The well-being of the residents will be explored through the term *social sustainability*, with the purpose of identifying the UGAs' potential for strengthening social sustainability. The study will be performed as a case study with the overall geographical area being the so-called *Growth Axis* in Aalborg, Denmark. The Growth Axis is a predefined area by Aalborg Municipality and is already used in several development strategies for the city. The case study is chosen to further concretize the theoretical research made in this study, and the case study also provides the opportunity to make a human-oriented study with the residents of Aalborg as the main data source, in accordance with the dynamic nature of the social sustainability term. The choice of the research area is further described in Chapter 5. The geographical extent of the Growth Axis can be seen in Figure 1.1.

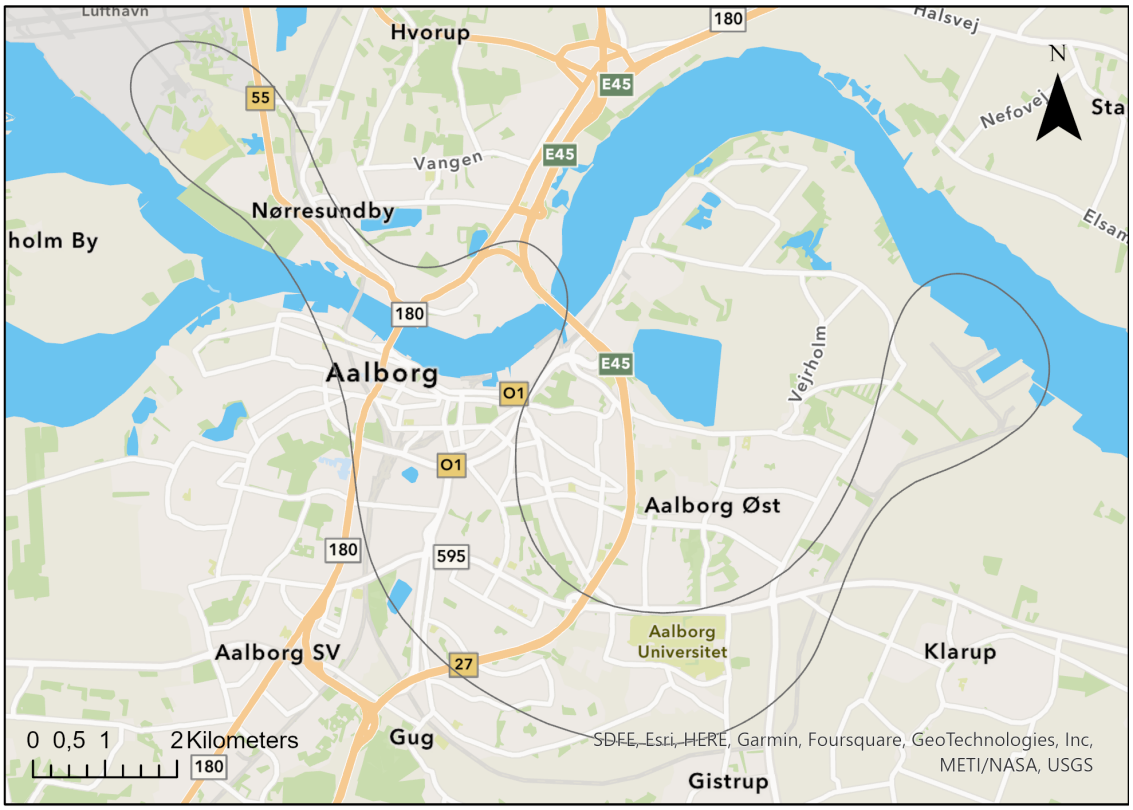


***Figure 1.1.*** Map of the geographical extent of the Growth Axis in Aalborg Municipality [Created by the author]

## 1.1 Research question

Based on the dilemmas described previously in this chapter the main research question was formulated and accompanied by three sub-questions to help guide the research.

**Research question:**

*"What potential do urban green areas hold for strengthening the social sustainability of the residents of Aalborg, and how can this be reinforced by the municipal planning process?"*

Three sub-questions are formulated to guide the research:

- **SQ1:** In what way can access to quality urban green areas affect the local residents' social sustainability?
- **SQ2:** How do the residents of Aalborg use the urban green areas in their city, and how does Aalborg Municipality approach social sustainability in the planning of urban green areas?
- **SQ3:** How can social sustainability be implemented in Aalborg Municipality's urban green area strategies?

The first sub-question is theoretical and will be answered in Chapter 3 based on a literature study. SQ2 and SQ3 are analytical and will be answered in Chapter 5 and 6 based on empirical data collected via a range of methods, these are further described in Chapter 4. Since the research questions are geographically specified to Aalborg, the methods are performed as part of the case study and the data collection is therefore primarily limited to the residents of Aalborg and planners at Aalborg Municipality. The research questions will be answered as the conclusion of this study in Chapter 7.

# Research design 2

This chapter describes the structure of the research design of this thesis. The research design functions as the overall frame for collecting and analyzing data. A research design diagram was created to make evidence of the design thinking and iterative approach in this study. Furthermore, this chapter describes the theory of science and the decisions made regarding the research and data collection. Lastly is a presentation of the case study framework that the study will be conducted within.

Figure 2.1 shows the research design diagram with the initiating work question. The research process has been divided into three phases: first the theoretical phase and second the empirical phase. During both these phases data was collected with a range of different methods and analyzed in relation to the research questions defined in the previous chapter. This leads to the last phase; the conclusion of this study. Data from each phase supports the next phase and this gives flexibility and adaptivity to answer the research question and is in accordance with the iterative approach. The figure also shows which sub-questions and methods for data collection that supports the different phases.

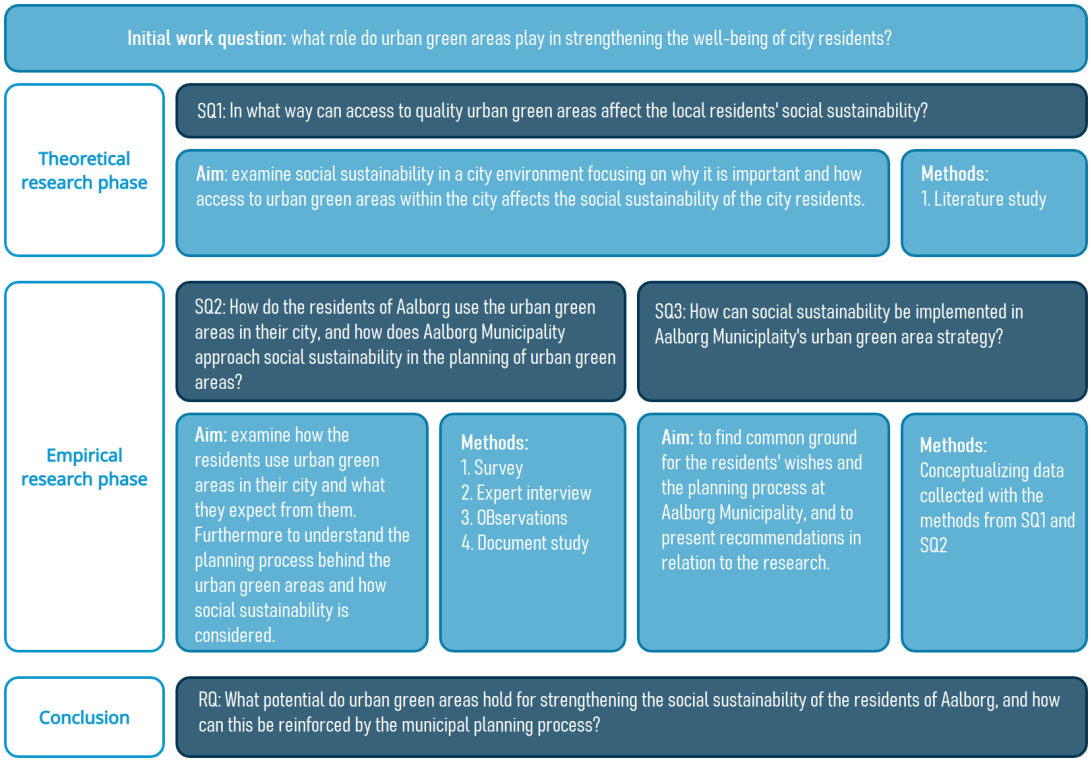


***Figure 2.1.*** Research design diagram showing the structure of this report [Created by the author]

The theoretical phase explores the concepts and theories that support this thesis, and data is collected through a literature study in order to find and understand the most recent studies about this topic. The aim of the theoretical phase is to answer SQ1, and this is done in Chapter 3. The chapter defines what social sustainability is and elaborates on how UGAs can support social sustainability by providing the residents with cultural ecosystem services. The interactions between UGAs and the residents are furthermore described via the theory of place. Additionally, this builds up the analytical framework that carries the following empirical phase.

The empirical phase is related to the analysis and discussion of this study and aims to answer SQ2 (Chapter 5) and SQ3 (Chapter 6). To answer SQ2 the questions are divided into two parts: the residents' perspective and the planning perspective. The residents' perspective consists of an analysis of how the residents of Aalborg are using their UGAs and what makes them choose their favorite UGA. The planning perspective analyses how Aalborg Municipality include social sustainability in their existing work especially when designing UGAs. The purpose is to identify social sustainability parameters that are especially important in an Aalborg context. To gain knowledge about SQ2 a range of methods for data collection and data analysis. The methods supporting the empirical phase are a survey, expert interviews, observations, and a document study, these methods are further described in Chapter 4. The research in the empirical phase focus on data from Aalborg residents and planners from Aalborg Municipality because of the context-specific nature of *social sustainability* that will be further elaborated in the next chapter. The research is therefore on a local scale and the analysis will be performed as a case study.

The purpose of the analysis is *not* to test whether social sustainability has been advanced in the case areas, as it will require a large analysis of data collected over a long time period to answer this question. It would require the possibility of following a population over a large time period and during changes in the UGAs, and the time frame of this study does not allow this. The purpose is however to identify UGAs potential for strengthening social sustainability in a future Aalborg. How this can be used to include social sustainability more actively in municipal strategies is discussed in SQ3 based on data collected in *phase 1* and *phase 3*.

The final phase of the research is the conclusion where the main research question will be answered based on the data collected during the first two phases and especially the recommendations for including social sustainability in the municipal strategies that are formed based on the discussion of SQ3.

## 2.1 Theory of science

This section outlines the theory of science used in this study as it has greatly impacted the research. This includes the framework of the research, the intent of the study, and how the data was collected and subsequently analyzed.

It is always a challenge to measure things related to humans, their mind and their choices [Biczyńska, 2015], but that is exactly what this study aims to do. To control the study the project follows a *methodically hermeneutic* approach that aims to understand the different residents' preferences for UGAs based on their prejudices and pre-understandings [Jacobsen

et al., 2004; Fuglsang et al., 2013]. According to [Jacobsen et al., 2004] hermeneutism is the *"practical skill to interpret and understand phenomenons in which meaning is placed".*

This thesis focuses on identifying and interpreting the residents of Aalborg's perception and preferences for their local UGAs based and how social sustainability is included in the municipal strategies and planning processes, especially in relation to UGAs. This constitutes the hermeneutic contribution to the scientific work, as this is based on the resident's preferences and intentions and the municipality's understanding and interpretation of the concept of *social sustainability.* Gadamer states about the philosophical hermeneutic methodology that you misinterpret the intentions if you reconstruct them only to maintain them as intentions, and 'horizons of understandings' is constantly formed and rebuilt [Jacobsen et al., 2004], therefore it is important to acknowledge that the data collected in this study stems from the residents' current point of view and should be renewed every so often to retain social relevance.

According to Immanuel Kant, it is important to distinguish between *"the thing itself"* (ontology) and *"the thing, as it appears to us"* (epistemology), furthermore he says that we never have access to the world as such, but only to how it appears to us [Fuglsang et al., 2013]. In this thesis, the residents of Aalborg's experiences, understandings, and views will form the basis of an epistemological approach to assess the UGAs from a planning point of view. To secure an epistemological and local scale approach the data collected in *phase 2* is based on the residents of Aalborg and planners from Aalborg Municipality and because of the hermeneutic approach it is highly based on the UGAs and their potential *as it appears to* the residents and planners.

In order to be true to this approach, the research will be conducted via a case study on a local scale and only regard the citizens of Aalborg's use, intentions, and preferences regarding UGAs in their city. The solution to the problem being investigated in this study can be as diverse and complex as humans can be. Therefore this study also adopts a *design thinking* approach. According to Richard Buchanan [Buchanan, 1992] design thinking is especially suitable when dealing with and solving complex and wicked planning problems. Design thinking challenges the old perceptions of a designer as a visionary individual who has all the answers, and the aim of using the design thinking process is to invite the residents of Aalborg to imagine their future UGAs and engage in the design process. By doing this the designer becomes the facilitator for those who have the lived experiences and the most at stake for improving the situation [Fisher, 2021].

At the same time, the research for this thesis followed an iterative process, meaning that the result of one step led to the next step. This means that each method conducted throughout this study has contributed with a part-understanding, and caused a more holistic understanding of the problem and its potential solution [Fuglsang et al., 2013]. This was e.g. the approach during the selection of UGA to be analyzed within the case area, as these were chosen based on the result of the surveys Q13, where the residents of Aalborg indicated their favorite UGA and thereby also their collective least favorite. This is described in detail in Chapter 5.

## 2.2 Case study methodology

The case study as a research method was because of its ability to investigate a problem more thoroughly and in-depth for a specific area. This method is ideal to set the frame when a local perspective is to be investigated. In this thesis, the case study regards UGAs in Aalborg. The overall research area is the Growth Axis as described in Chapter 1, and the case study will consist of two different UGAs within the geographical extent of the Growth Axis, this is further elaborated in Chapter 5. This section will describe the case study as a method and how it will be used in this study as a framework for the research question.

This study is centered around concepts and theories that are place-specific and change over time and according to the people in question. It is therefore ideal to examine the research questions in the framework of a case study, as this facilitates data collected from a specific geographical place at a specific time.

The social scientist Bent Flyvbjerg describes in his book *The Case Study as Research Method* [Flyvbjerg, 1988] that the case study can be used as a benchmark for qualitative and inductive research, where the focus is on describing, understanding, and interpreting the collected data, which is in accordance with the hermeneutic approach of this study. In relation to that Flyvbjerg describes a case study as an empirical description of a present phenomenon in the lived life [Flyvbjerg, 1988]. In this case study the *phenomenon in the lived life* refers to the residents of Aalborg's experiences in UGAs as a result of the physical planning hereof.

There are different types of case studies and which to use depends on what type of problem to investigate. Flyvbjerg describes two methods as to how the type of case study can the decided, respectively the *information oriented* and the *random* selection method. In this study the *information oriented* selection method was used to maximize the information from, in this case, an isolated case, and because of an expectation of an already existing information base about the case area and the topic in question. Flyvbjerg defines four different case types as information based, these and their respective purpose can be seen in Table 2.1 [Flyvbjerg, 1991].

| Case type | Purpose |
|---|---|
| **1. Extreme/deviant** | To obtain information about unusual cases, e.g. especially problematic or especially successful. |
| **2. Maximum variation** | To obtain information about the importance of different circumstances for the appearance of the case, e.g. three-four cases varying in one essential parameter, like size, location, or budget. |
| **3. Critical** | To obtain information that allows logistical conclusions about the case type. *"If it does (not) apply for this case, then it does (not) apply for all (any) cases".* |
| **4. Paradigmatic** | To function as a metaphor or to form school for the topic that the case regards. |

***Table 2.1.*** The four information-based case types according to Bent Flyvbjerg [Flyvbjerg, 1991].

As described above, the case study in this thesis is used to secure a hermeneutic approach where a phenomenon in the lived life is studied on a local scale in order to apply the context-specific concept of *social sustainability* in the best possible way. The case study is performed as an *extreme case* where two UGAs in Aalborg are chosen based on being a successful case and a problematic case, this is further described in the analytical framework in Chapter 3. The case study method is used to investigate an urban setting, and will therefore include both the physical environment and the individuals potentially visiting the UGAs, to capture both the physical space and the mental, produced space.

The case study will furthermore function as a comparative case study, where the two UGAs will be compared based on their similarities and their differences in terms of both the physical and produced space. In this process, parameters for social sustainability within the case areas are defined and will be used in the analysis related to SQ2 and the discussion of SQ3.

It is not the goal to perform a case study that can be used to generalize (critical case study) because, as mentioned, social sustainability is a context-specific concept that should be addressed in relation to the place and the people in question. This is further elaborated in the analytical framework which concludes Chapter 3. However, it could be argued that similar cities could have the same tendencies regarding UGA and the residents' perception of these, this could e.g. be other Scandinavian countries with a similar city planning approach.

# Theories and concepts 3

This chapter aims to answer SQ1: *"In what way can access to quality urban green areas affect the local residents' social sustainability?"* via a literature study. The literature study doubles as a way of defining the concepts and theories used in this study. This chapter includes a definition of UGAs and how the term is used in this study. The theories explained in this chapter are the *theory of ecosystem services* and *theory of place* and they are both used to examine UGAs potential for social sustainability in a local community. Figure 3.1 shows the different components going into answering SQ1 via the literature study. In the end, an analytical framework will describe how the theories and concepts are used in the analysis and discussion of this study.

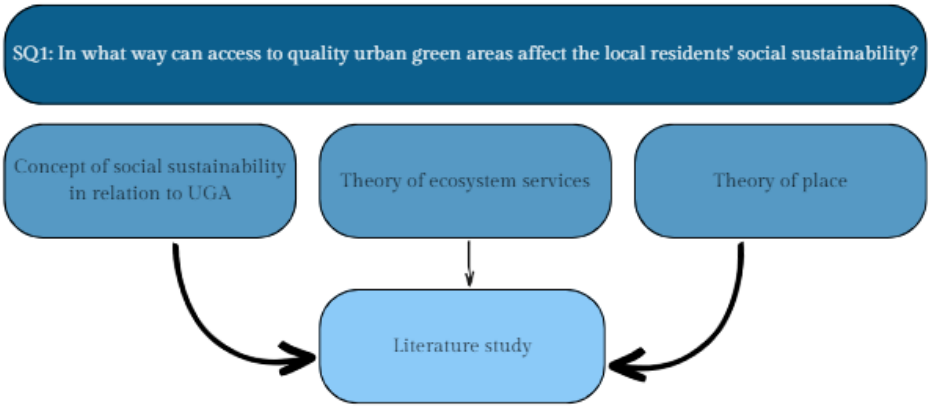


***Figure 3.1.*** Flow chart visualizing the components going into answering SQ1 in this chapter based on a literature study [Created by the author]

## 3.1 Sustainable development

Over the last two to three decades there has been an increase in publications related to sustainability and sustainable development to an extent where 'sustainable science' can be seen as a distinct field. Despite this amount of research within the field, the term 'sustainability' is still an open concept with a huge amount of interpretation and context-specific understandings [Purvis et al., 2018]. The term sustainability has been defined in many ways, but the most frequently used definition is from *Our Common Future* also known as the Brundtland Report, published in 1987 by the World Commission on Environment and Development (WCED) [Brundtland, 1987]. This report states:

> *"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."* [Brundtland, 1987]

Derives from this sustainability means that the development that is necessary to meet the present generation's needs cannot happen in a way that compromises future generations' ability to meet their needs in every aspect of the lived life. When we hear the word *sustainability* we often think about the environment, but sustainability is not just environmentalism. Embedded in the definition are also equity and economy, and development within all three sustainability parts should coexist in a way that does not compromise any of the parts for future generations [University of Alberta, n.d.].

Even though the Brundtland definition originally came from a perspective of environmental protection, the definition states that sustainable development should not be limited to that, nor to the 'traditional' economic perspective on development, which was often seen before the newest sustainability movement. The 1992 UN Conference on Environmental Development integrated the concerns and challenges of increasing pressure on the natural systems and the socioeconomic and political conditions into the development process in achieving socially inclusive and environmentally sustainable economic growth [European Parliament, 2020].

The three parts of sustainability are often visualized as interconnected pillars: social, environmental, and economic with each their own factors or 'goals' [Purvis et al., 2018]. The three pillars are illustrated in Figure 3.2, the figure also visualizes all pillars as contributing to maintaining a sustainable community.

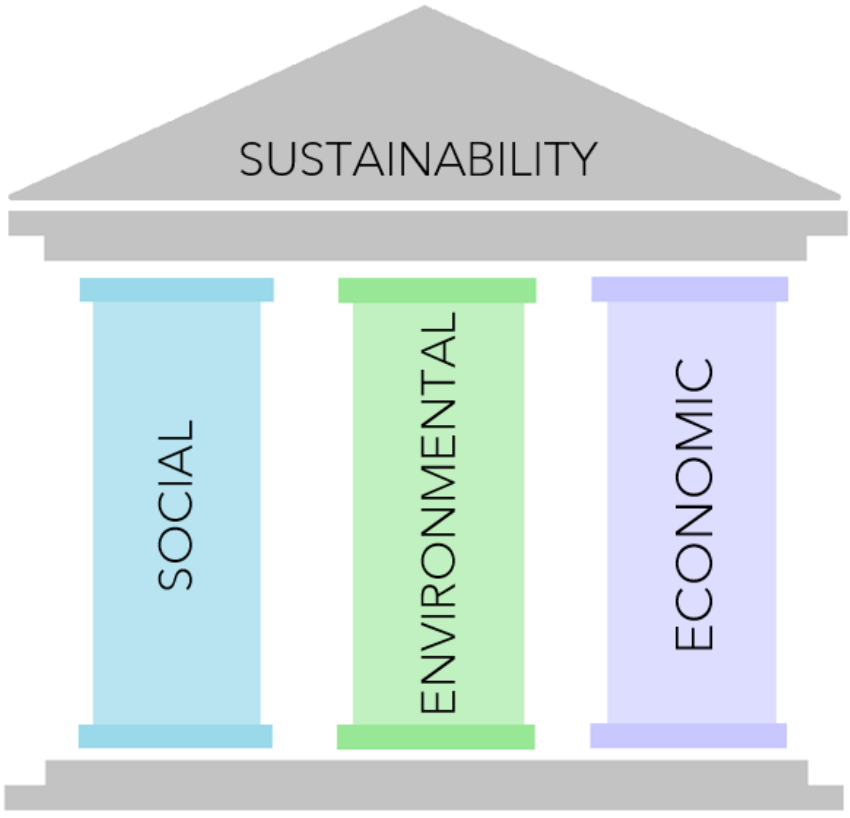


***Figure 3.2.*** The three pillars of sustainability; social, environmental and economic [Created by the author]

This tripartite description is often also depicted as three intersecting circles with sustainable development placed in the intersections, this is visualized in Figure 3.3 [Purvis

et al., 2018]. Figure 3.3 also shows different elements embedded in the three different parts of sustainability, and the overlap of the circles illustrates that they are all connected and interlinked and that all three need to be addressed to have the most efficient and lasting sustainable development.


***Figure 3.3.*** The tripartite description of sustainability; social, environmental and economic, showed as interlinked circles [European Parliament, 2020]

In short, economic sustainability aims to secure communities and maintain their access to resources, finances, and others, to ensure that they meet their needs. It revolves around growth, development, and productivity. Environmental sustainability is ecological integrity and is about sustaining the carrying capacity of the environmental systems on earth and keeping them in balance. Social sustainability revolves around universal human rights, well-being, and needs. Social sustainability aims to secure equal access to resources and to help families stay healthy and secure [University of Alberta, n.d.]. As can be seen in Figure 3.3 the social sustainability circle contains more indicators than the other two, and this is probably because it is the most human-focused and least theoretical structure of the three pillars [Biczyńska, 2015].

It can be argued that this threefold description of sustainability is the dominating interpretation within the literature, and a lot of sustainability discourses are built around this illustration. However, the origin of this description is unclear, but there is a consensus in the literature, that all three pillars are important to promote a holistic view of sustainable development [Purvis et al., 2018; University of Alberta, n.d.].

To answer the research question of this thesis only the social part of sustainable development will be taken into consideration due to the human-oriented approach to the research questions. The research is oriented towards UGAs, and while these areas

have great potential for environmental development, they have limited effect on economic development. For a long time the urban planning discourse has been focused on sustainable environmental development, and only in more recent times has the approach become more holistic as the social part of sustainability has been included in the planning [The World Bank, 2020; Rashidfarokhi et al., 2018]. This thesis aims to contribute to the social development point of view and therefore has a primary focus on social sustainability, but it is acknowledged that the three pillars cannot be completely separated either in reality or in the achievement of overall sustainable development in a community. The next section of this chapter will examine social sustainability and how it can be defined.

### 3.1.1 Social sustainability

According to Ph.D. Dyann Ross [Ross, 2013] social sustainability in a broader societal context is often defined as:

> *"a set of life-affirming strategies and occurs when the formal and informal processes; systems; structures; and relationships actively support the capacity of current and future generations to create healthy and liveable communities. Socially sustainable communities are equitable, diverse, connected and democratic and provide a good quality of life"* [Ross, 2013]

The Brundtland Report definition of sustainability is embedded in Dyann Ross's definition as it states "support the capacity of current of future generation", but the social sustainability definition is oriented towards *a quality life* for everyone in the community. According to the definition, this can only happen when all parts of society try to accomplish this together.

Defining social sustainability is challenging and there is no universal definition in the literature, but at the same time, there seems to be consensus about a division of social sustainability elements into tangible (physical) and intangible (non-physical) elements. This means that social sustainability relates to both the physical environment, and an environment, that is produced by the people in question.

The concept of social sustainability can be argued to be non-stationary and dynamic, as it evolves over time and place because the social priorities are context-specific drivers for the social discourse [European Parliament, 2020]. Vallance et.al. (2011) even argues that chaos reins within the concept of social sustainability and that this has a negative effect on the utility of the term. This is arguably also one of the reasons for the many different definitions and use of the term [Vallance et al., 2011].

There is no doubt that social sustainability is an important part of sustainable development, but also within the EU policy-making, there is little consensus as to what it means and how it can be used in planning [European Parliament, 2020].

Within the EU the main social development policy initiative is the European Pillar of Social Rights (EPSR) The European Parliament, 2021, proclaimed in 2017. The policy sets the frame for European social development and the member states progress is monitored with a *Social Scoreboard* introduced in 2018 and based on indicators within the themes 'equal

opportunities', 'fair working conditions', 'social protection and inclusion'. There are three EU headline targets to be achieved by the end of this decade The European Parliament, 2021:

1. At least 78% of the population aged 20 to 64 should be in employment by 2030
2. At least 60% of all adults should participate in training every year
3. The number of people at risk of poverty or social exclusion should be reduced by at least 15 million in 2030

The three headlines are about education, work, and poverty. In addition to the three headline targets, there is a total of 20 principles related to one of the three themes mentioned above. The principles are shown in Figure 3.4, and these are guiding the EU towards a strong Social Pillar and set the vision for the new "social rulebook" of EU [The European Parliament, 2021].

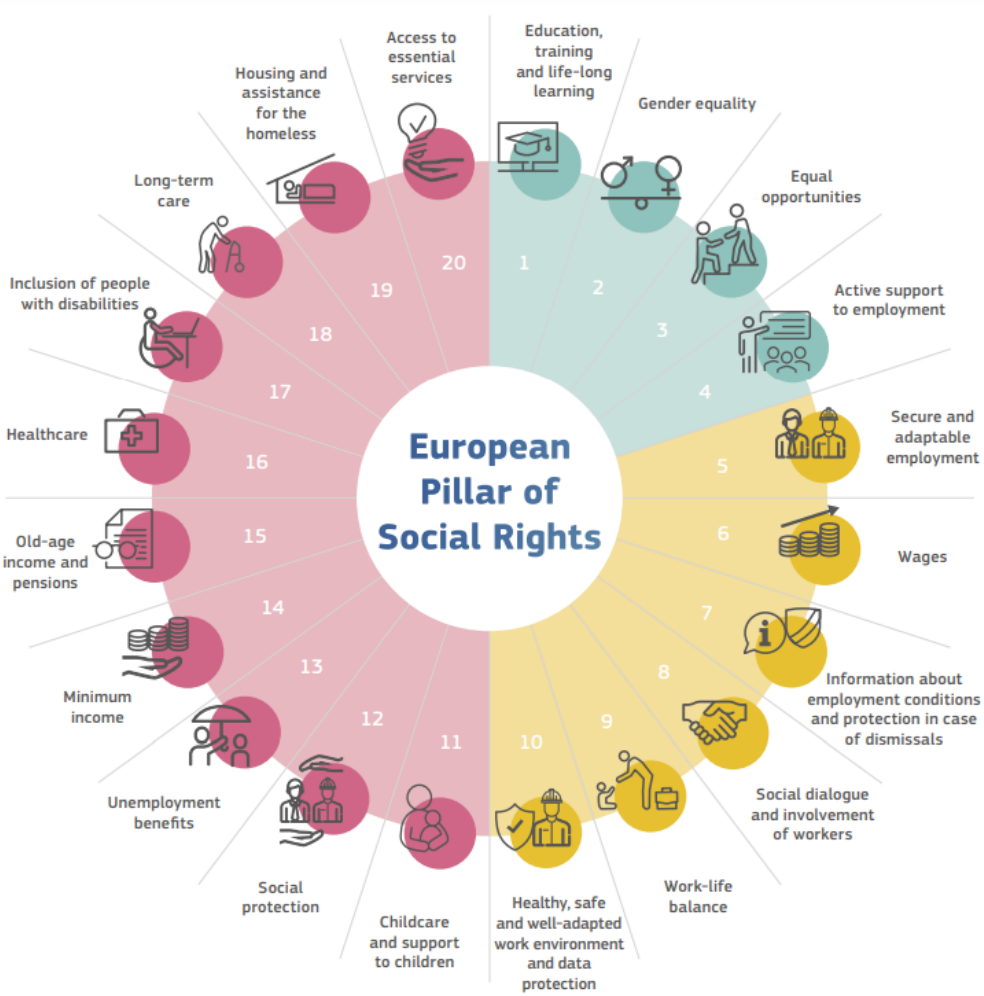


***Figure 3.4.*** The 20 principles defining the European Pillar of Social Rights [The European Parliament, 2021]

According to the European Parliament the 20 principles *"express principle and rights essential for fair and well-function labor markets and well fare systems in the 21st century Europe"* The European Parliament, 2021. The green part of the circle relates to "Equal opportunities and access to the labor market", the yellow part relates to "Fair working

conditions" and the red part relates to "Social protection and inclusion" [The European Parliament, 2021].

When looking into the three headlines and the 20 indicators, it is clear that the main focus is on education and work and using that as a method to end poverty. There is no doubt that ending poverty is an important part of social sustainability in a community, but the social sustainability concept does not rely only on economic themes. Based on Ross's definition above social sustainability is also about general human well-being, equity, and democratic right.

The traditional economy substitutes *happiness* with economic growth (growth in gross domestic product, GDP). Tim Jackson describes in his book *Prosperity without growth* [Jackson, 2016] how in poorer countries economic growth leads to direct growth in well-being due to improvements in the material standard of living. In richer countries, on the other hand, the effect of economic growth is indirect, and growth in well-being is due to changes in culture and people's feelings of freedom. Jackson presents the SWB-index, which shows the relationship between SWB (subjective well-being) and GDP pr. citizen [Jackson, 2016]

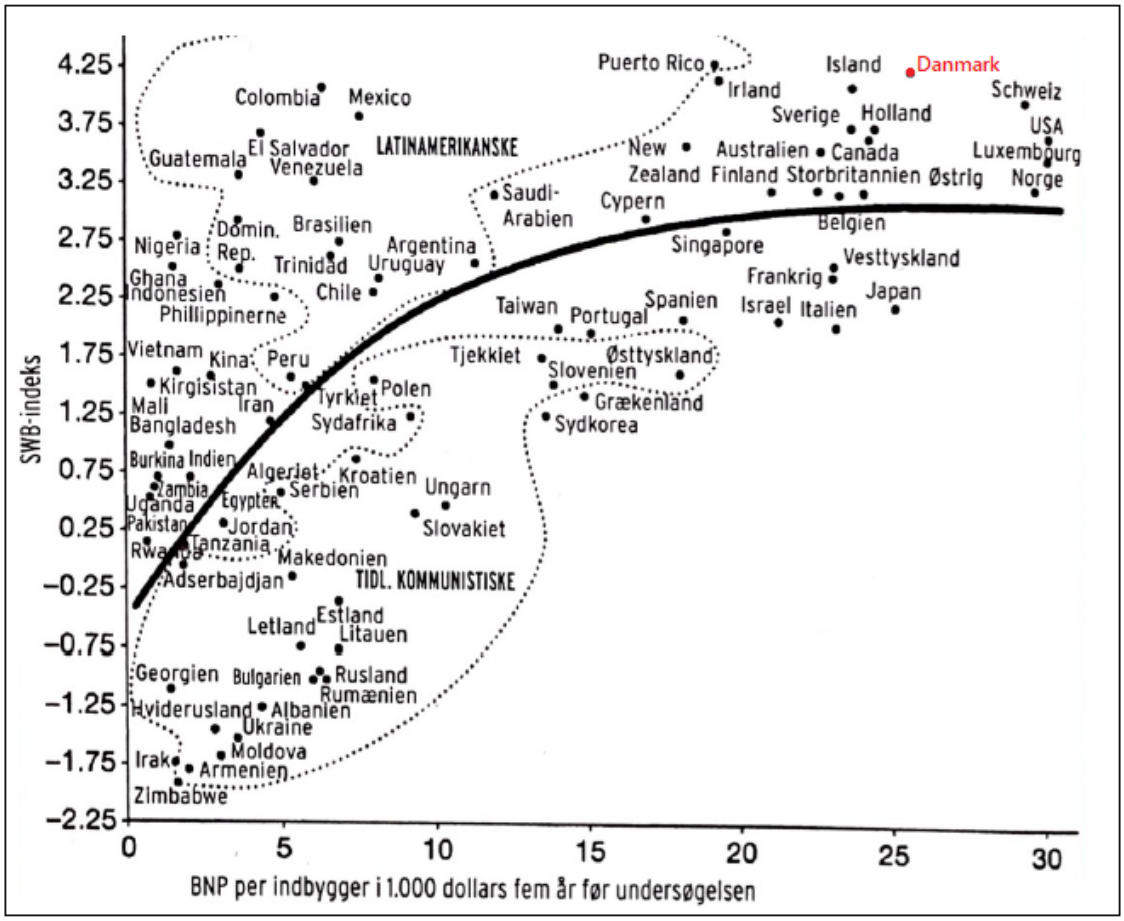


***Figure 3.5.*** SWB-index, showing the subjective well-being (SWB) relationship with GNP pr. citizen [Jackson, 2016]

Figure 3.5 shows that there are huge gains in well-being by lifting people out of poverty, as the higher income will make a significant difference in the citizens' living standards. In richer countries, however, the effect of increasing the income will be marginal in relation

to the citizens' well-being [Jackson, 2016]. Figure 3.5 shows Denmark in the top right corner (marked with red), scoring high on both SWB and GNP, and therefore, according to Jackson, economic growth will not lead to a significant change in people's well-being in Denmark.

With Jackson's argument in hand, the most efficient approach to increasing social sustainability in Denmark is therefore not to focus exclusively on education, work, and economic growth. This study will therefore aim to look beyond the traditional economic approach and the EU focus on education and work, and instead focus on how the residents' of Aalborg can benefit from UGAs in their local areas in terms of increasing social sustainability. The relationship between UGAs and social sustainability will be further discussed, but firstly the next section will look into social sustainability in general urban contexts.

### 3.1.2 Urban Social Sustainability

Before going into UGAs potential effect on social sustainability the term will be discussed from an urban perspective, as the focus of this study is the city residents local areas and the potential effect on social sustainability that they can experience here.

The last 150 years have been characterized by competing and overlapping urban paradigms with shifting design models and geographical theories. They have all been part of shaping the cities of today's Europe. Cities first became a part of European policy with the Aalborg Charter in 1994 (a follow-up on the Agenda 21 movement). Europe is a highly urbanized continent where around 74% of the population lives in cities. The development of this millennial has gone against history; the main population growth in Denmark is now within the urban core rather than in the commuting zones. This means that the Danes have adopted an urban lifestyle [Eales et al., 2021]. With more and more people allocated to the city, urban social sustainability becomes more and more important [Mehan and Soflaei, 2017], and there is an increased need for space that embraces different societal groups and gives them equal access to shared space in their city [Gehl, 2010].

As with the other sustainability concepts, there is also no single agreed definition of *urban sustainability*. The urban system is as complex as the people living in it, but there is a broad agreement on different elements that contribute to a sustainable city [Eales et al., 2021]. Studies of urban social sustainability have been focusing on the physical elements and the built environment, what was referred to as *tangible* elements earlier in this Chapter. However, according to Asma Mehan [Mehan and Soflaei, 2016], these themes have been complemented by more intangible themes that are hard to measure, e.g. identity, sense of place, and security.

During Mehan's study [Mehan and Soflaei, 2016], she identified parameters of social sustainability from academic urban studies, her findings can be seen in Table 3.1 as she describes them in her paper *Urban Regeneration: A Comprehensive Strategy for Achieving Social Sustainability in Historical Squares* [Mehan and Soflaei, 2016].

| General aspects (reviewing "social sustainability" in "Urban Literature") |
|---|
| **Social Equity:** includes equity of access to key services (including health, education, transport, housing, and recreation) |
| **Satisfaction of Human needs:** Relevant to individuals, it follows Maslow's hierarchy of needs |
| **Quality of life:** It is the sum of factors that contribute to the social, environmental, and economic well-being of citizens. It covers aspects such as well-being, happiness, and satisfaction. |
| **Social Interactions (Cohesion and Inclusion):** It is about right and opportunities to participate in community and interact with other members of the community. It encompasses the cohabitation of culturally and socially diverse groups in societies where people are involved in a wide variety of social activities and preventing social exclusion |
| **Pride, Sense of Place and Culture (Identity):** It is about people's precipitation of a certain place. It mainly relates to a positive sense of attachment, dependent, and identity that people feel about the place they live |
| **Sense of Community:** It is about social interaction of people living in a given area, related to sense of community or place attachment |
| **Future Focus:** Social sustainability is primarily about valuing and protecting positive aspects of cultures |

***Table 3.1.*** Parameters related to social sustainability in an urban context defined by Asma Mehan [Mehan and Soflaei, 2016].

The parameters in Table 3.1 are all intangible parameters, and give a more qualitative view on social sustainability than the European Pillar of Social Right which focuses more on tangible and quantitative parameters such as income and years of education. The parameters in the table refer to the human, the feelings, and the non-physical. As this study aims to move away from the income-focused social sustainability approach seen in the European Pillar of Social Rights, Mehan's parameters are more in line with the social sustainability approach this study aims towards and furthermore, also in line with Jackson's placement of Denmark in the top right corner in the SWB-index.

## 3.2 Relationship between social sustainability and urban green areas

The aim of this section is to examine the potential UGAs hold for strengthening social sustainability based on the description of the social sustainability approach of this study described in the last section. This is related to both the physical space and the produced space in the UGAs. Furthermore, the sections will be finalized with a definition of UGAs as it will be used in this study.

Social sustainability is often referred to as the *well-being* of humans, and as addressed in the introduction to this report *quality of life* and human well-being is being threatened by obesity, inactivity, loneliness, and poor mental health due to the city being crowded, polluted and stressful.

UGA adds vitality to the city and provides an attractive environment for the citizens [Rietz, 2021]. Access to UGAs has proven to significantly affect the health and well-being

of communities and the people living there. For a starter, UGAs improve air quality, reduce noise and lower the heat island effect. They also invite to physical exercise and social interactions and are at the same time a place for relaxation and mental restoration [Wolff and Haase, 2019; European Environmental Agency, 2022; Stigsdotter et al., 2011]. In other words, the UGAs are vital for the well-being of the urban population and give a way to escape the urban chaos [Rietz, 2021].

The *SUSY Grøn* report [Stigsdotter et al., 2011], that was mentioned in Chapter 1 is an interdisciplinary project between the Danish National Institute of Public Health and the research center Forest & Landscape Denmark. The study investigated the public's health and their use of green areas back in 2005. The respondents' *Perceived Stress Scale (PSS)* was measured on a scale from 0-40 where a high point level indicated more perceived stress. The PSS in relation to the respondents' use of green areas can be seen in Figure 3.6. The figure shows that the mean PSS point level was 11.0 (the grey dotted line) and that it is a little higher for women than for men. The research also shows a clear correlation between lower distance from home to the nearest green area (the dotted arrow), higher frequency of visits (the grey arrow), and lower self-reported PSS among the respondents [Stigsdotter et al., 2011].

| | Mean PSS (SD) | n |
|---|---|---|
| Total | 11.0 (5.9) | 10.250 |
| Men | 10.2 (5.7) | 4.802 |
| Women | 11.7 (6.1) | 5.448 |
| **Distance to green areas*** | | |
| <300 meter | 10.8 (5.8) | 6.931 |
| 300 meter - 1 kilometer | 11.1 (6.0) | 2.630 |
| >1 kilometer | 12.3 (6.4) | 602 |
| **Frequency of visits in green areas*** | | |
| Daily | 10.5 (5.7) | 4.446 |
| Multiple times a week | 10.7 (5.8) | 3.023 |
| Weekly | 11.7 (6.0) | 1.850 |
| Monthly/rarely or never | 12.8 (6.7) | 810 |

*p<0.05

***Figure 3.6.*** Average Perceived Stress Scale (PSS) based on gender, distance to green area and frequency of visits in green areas [[Stigsdotter et al., 2011], adapted and translated by the author]

Whether or not humans can benefit from the different services that the UGAs provide depends on their ability to visit the UGAs and take part in the services they potentially provide. The accessibility of UGAs depends on different factors such as proximity to home, physical and mental barriers, and individual preferences related to the quality of the UGA [Rietz, 2021]

Through the SUSY grøn research they also found a connection between distance to home and the nearest park and frequency in use. Figure 3.7 shows the respondents from the

SUSY Grøn survey's distance to the nearest park and their frequency in use, and as can be seen respondents with less than 300m to the nearest green area are more likely to visit daily or several times a week, and the further the respondent lives from a green area the less often they tend to visit [Stigsdotter et al., 2011].

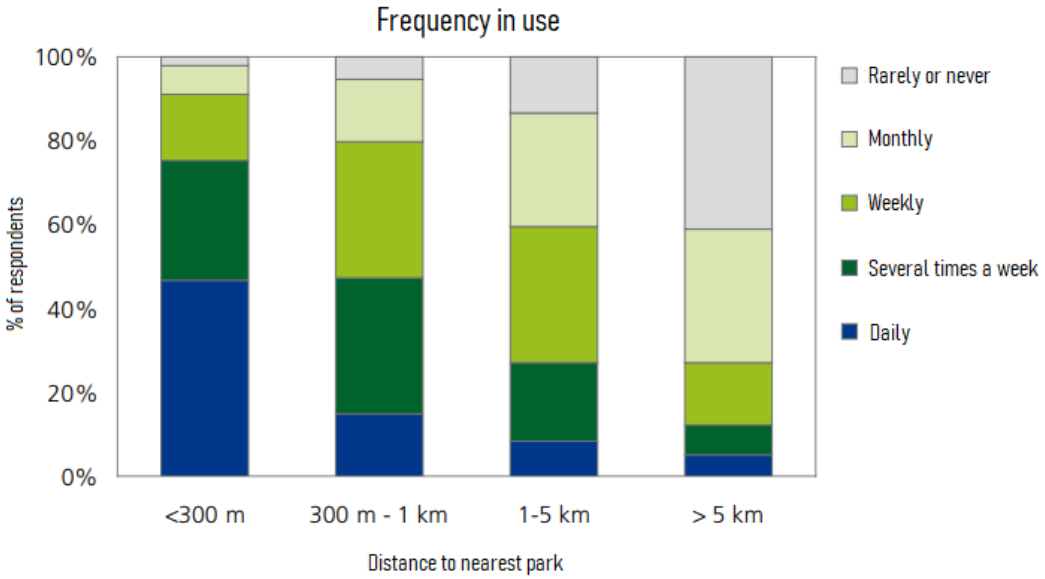


***Figure 3.7.*** Relationship between the respondents' frequency in use of green areas and the distance between their home and the nearest green area [[Stigsdotter et al., 2011], translated by the author]

Within the UGAs, there is also a produced environment related to *sense of placement* and place attachment. This is due to the UGAs' ability to create a space for social engagement. Raziyeh Teimouri found in her paper *Social Sustainability with Urban Green Space (UGS) planning* [Teimouri et al., 2019] that UGAs are a vital part of sustainability and that they affect the social sustainability in the city on different parameters that cause the city to become a more desirable living place. Figure 3.8 illustrates urban sustainability from the social sustainability aspect provided by UGA according to Teimouri's research [Teimouri et al., 2019].

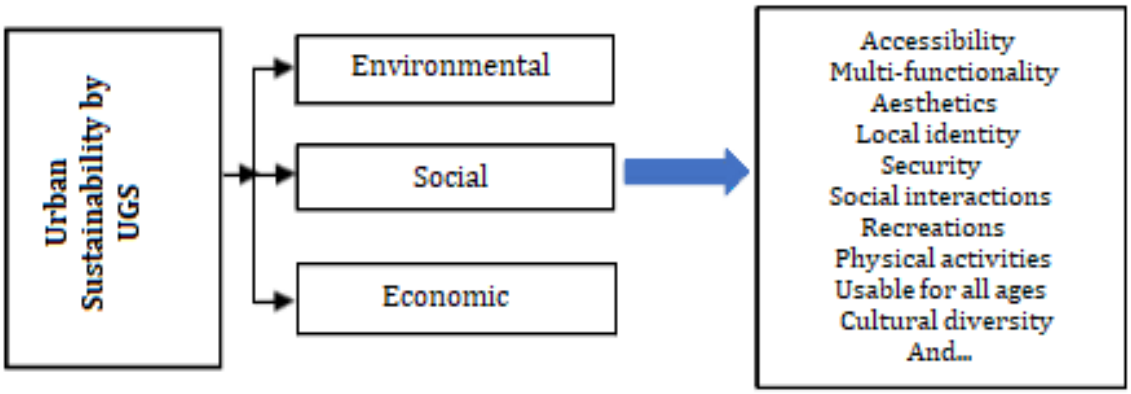


***Figure 3.8.*** Parameters of urban sustainability from the social sustainability aspect provided by UGAs [Teimouri et al., 2019]

Figure 3.8 illustrates how UGAs contribute to all three sustainability dimensions, but since the focus of Teimouri's paper also is limited to the social pillar this is the only one described in the figure. Most of the parameters on the figure are intangible, e.g. *accessibility*, *identity*, and *social interactions*. These are all related to the produced environment, just as the parameters identified by Mehan in the previous section on urban sustainability. However, Teimouri also includes the physical aspect in the form of *physical activities*.

The accessibility to green areas in the local community plays an important role in urban social sustainability, and as the urban population grows these places are challenged by an increasing focus on re-densification of the inner city areas to make room for more residents. At the same time, the ongoing urbanization is spreading the urban space and converting open land to residential areas, and this results in urban citizens with unequal access to UGAs and the potential benefits of social sustainability that they provide [Kabisch et al., 2014]. To secure the accessibility to UGAs it is recommended by the World Health Organisation (WHO) that city residents live no further than 300m from a public green space of at least 0,5 ha [European Environmental Agency, 2022]. Aalborg Municipality states in their strategy *"Under Åben Himmel"* from 2018 [Aalborg Kommune, 2018], that housings should have green recreational areas in their local community and a maximum of 300m to a recreational green area of a minimum of 1 ha, and maximum 500m to a recreational green area of minimum 5 ha in dense settlements.

### 3.2.1 Definition of Urban Green Areas

There is no universally accepted definition of the term *Urban Green Areas* in relation to its effect on social sustainability. In the words, it is implied that UGAs are places with a 'natural surface' or other 'natural settings' within the city or other urban settings. In public research the term often includes public parks and gardens but in some cases also public open spaces, street trees, sports facilities such as golf courses, private gardens, and roof gardens - indeed any place with a natural surface [Wordl Health Organisation, 2016]. Because of this confusion and lack of clarity within this term, this section states how the term will be used in this thesis. The European Urban Atlas defines *green urban area* as:

> *"Public green areas for predominantly recreational use such as gardens, zoos, parks, castle parks, and cemeteries. Suburban natural areas that have become and are managed as urban parks. Forests or green areas extending from the surroundings into urban areas are mapped as green urban areas when at least two sides are bordered by urban areas and structures, and traces of recreational use are visible"* [European Commission, 2011].

Thereby the *Green Urban Areas* does, by the UN definition, not include: private gardens, buildings within the parks, patches of natural vegetation, and agricultural areas not managed as green urban areas.

The definition used in this thesis is similar to the definition above. This thesis, aim to look at the term from a planning perspective and to investigate the accessibility of the UGAs in Aalborg. Therefore the term *Urban Green Areas (UGA)* used in this thesis refers to:

*Areas partly or completely covered in vegetation and with a recreational purpose, meaning that the UGA, in this case, is owned by and administered by Aalborg Municipality and planned for human purposes, like recreation, exercise, etc.*

This **excludes** places such as cemeteries, old train tracks, roadsides, ditches, etc. from the definition, even though it is recognized that these areas contributed to both the social and environmental aspects of urban green spaces, but these areas are not planned with human activities in mind.

### 3.2.2 Ecosystem services

The previous sections on the relationship between social sustainability and UGAs identify how city residents can benefit from access to UGAs in a range of both physical and mental parameters. These benefits can be addressed via the theory of ecosystem services, as they are benefits gained from interacting with different environmental spaces and the activities undertaken in these spaces [O'Brien, 2005; The Millennium Ecosystem Assessment, 2005].

In the literature, there is a difference between including human-modified ecosystems in the ecosystem service theory, but since this thesis geographically is based on UGAs that are all planned and facilitated by Aalborg Municipality the human-modified ecosystems will be included. The word *"services"* is used to encompass both the tangible and intangible benefits that humans can gain [The Millennium Ecosystem Assessment, 2005].

There are four different ecosystem service categories, and these include the *provisioning*, *regulating* and, *cultural* services which affect people directly, and the fourth category *supporting* services that are needed to maintain the other services. Figure 3.9 shows the four different ecosystem service categories and the potential benefits that can be obtained from them according to the Millennium Ecosystem Assessment [The Millennium Ecosystem Assessment, 2005].

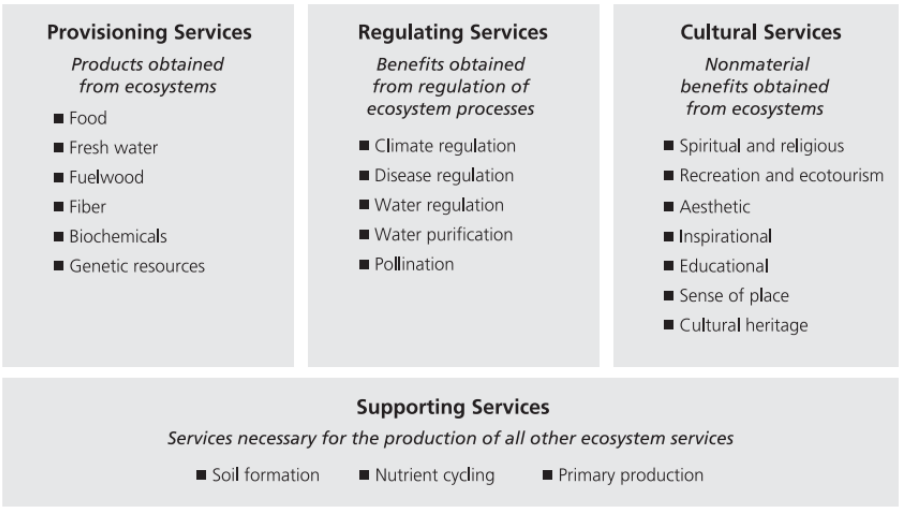


***Figure 3.9.*** Examples of provisioning, regulating, cultural and supporting ecosystem services [The Millennium Ecosystem Assessment, 2005]

The four categories are highly interlinked and in many cases overlapping, and it is acknowledged that many of the benefits from different categories can be obtained in the UGAs, e.g. the regulating services because, as mentioned before, the UGAs are also ideal to sustain environmental sustainability. However, since the focus in this thesis is on social sustainability only the *cultural* ecosystem services will be taken into account, as these are tightly bound to human values, behavior, and social patterns, and are therefore also more likely to differ among different individuals and communities [The Millennium Ecosystem Assessment, 2005].

According to the Millennium Ecosystem Assessment cultural services are "the non-material benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences" [The Millennium Ecosystem Assessment, 2005]. A range of more specific benefits is mentioned in the report, and some of these are highly related to the 'social sustainability' definition from previously in this chapter, and these are the following:

- *Cultural diversity:* the diversity of ecosystems in one factor influencing the diversity of cultures.
- *Aesthetic values:* Many people find beauty or aesthetic value in various aspects of ecosystems, as reflected in the support for parks, "scenic drives", and the selection of housing locations.
- *Social relations:* Ecosystems influence the type of social relations that are established in particular cultures. Fishing societies, for example, differ in many respects in their social relations from nomadic herding to agricultural societies.
- *Inspiration:* Ecosystems provide a rich source of inspiration for art, folklore, national symbols, architecture, and advertising.
- *Sense of place:* Many people value the "sense of place" that is associated with recognizing features of their environment, including aspects of the ecosystem.
- *Cultural heritage values:* Many societies place a high value on the maintenance of either historically important landscapes ("cultural landscapes") or culturally significant species.
- *Recreation and ecotourism:* People often choose where to spend their leisure time-based in part on the characteristics of the natural or cultivated landscapes in a particular area.

Since cultural ecosystem services per the definition in Figure 3.9 is the *"non-material* benefits, these all refer to what was previously in this chapter described as *intangible* elements.

Of the four different ecosystem service categories the cultural services are the hardest to evaluate, because they, just like social sustainability, relate to the human mind and behavior. Cultural services do only exist if there are people who value them, and therefore the assessment of these relates to direct and indirect human use. People will seek many different services from an ecosystem and their view on the ecosystem will depend on its ability to provide the desired service [The Millennium Ecosystem Assessment, 2005].

## 3.3 Urban green areas as a place

Derived from the literature study in this chapter it is clear that UGAs have the potential to provide the residents with a range of cultural ecosystem services that affect the residents' well-being and social sustainability. Based on Jackson's SWB-index, this study aims to address social sustainability in a more intangible and qualitative way than the more economic-oriented approach seen e.g. in the European Pillar of Social Rights. This relates to the approach that both Mehan and Teimouri described in their studies, and includes parameters such as accessibility, identity, and recreation, which are all intangible and relates to the produced space in the UGAs. It is also clear that the residents' ability to benefit from these cultural ecosystem services depends on their ability to visit and stay in the UGAs. The UGAs directly provide the physical space, and the *theory of place* is used to examine the produced space that is formed by the residents within the UGAs.

Places are spaces with meaning. A space is just a point on Earth but becomes subjective and relational when we develop feelings toward it. Places can feel familiar and friendly, or they can feel foreign and hostile. The first theorist to address *place* was geographer Edward Relph in his book *Place and Placelessness* from 1976 [Relph, 1976].

In his theory, Relph questions the lack of meaning given to the definitions of space and the taken-for-given nature of place as a significant and inescapable dimension of human life and experiences. In his theory, he does not separate *place* and *space* into two individual concepts, but argues that to study space as an experientially based understanding of a place, people's experiences of the space must also be explored. He concludes that space is heterogeneous and has many different lived dimensions [Seamon and Sowers, 2008].

*Placelessness* refers to a 'standardization' of places and their lack of uniqueness. Placelessness affects people's sense of place through diminishing relationships to the place, and when fewer relationships are formed, there is less responsibility for taking care of the place. If we have positive feelings towards an UGA these are likely to be reinforced by frequent visits and protection of the place, but if we have negative feelings it is likely that we will abandon or ignore the place to prevent evoking these feelings [Relph, 1976]. In relation to UGAs, this means that people are more likely to visit UGAs that they have formed a relationship with and that stands out in their memory. We could call this *placeness* as opposed to placelessness, and according to the theory of place, an UGAs *placeness* is important for residents to choose to visit and use that UGA.

In his book, Relph addresses the depth of place through people's identity *of* and *with* space. The identity *of* refers to "persistent sameness and unity which allows that place to be differentiated from other" [Relph, 1976] meaning that a place has an identity if it can be differentiated from other places and that the identity lies in the difference and the recognizability. He describes identity as consisting of three different components:

1. The place's physical settings
2. The place's activities, situations, and events
3. The meanings created through people's experiences and intentions regarding the place

All three components constitute the basic elements of the identity of a place. The example

that Relph gives in his book is the possibility of visualizing a town as the physical objects that it consists of, just like a photograph. An observer could observe people's activities within the built space: their movements and their patterns. But a person seeing these buildings and activities sees them as far more than this - they are beautiful or ugly, they are safe or threatening, they are home, enjoyable, alienated. In short, they are meaningful, just like *place* was described at the beginning of this section. The first two elements of identity are probably easy to appreciate, but it can be hard to grasp the significance of *meaning*. *Meaning* can be rooted in physical settings and the place's activities, but according to Relph, they are also, if not mostly, a result of human intentions and expectations of the place [Relph, 1976].

Relph does not find this threefold definition of identity *of* a place sufficient enough to identify the depth of the place. A place is also based on people's immediate experiences of the world, and to more thoroughly understand place he describes the identity *with* place and this is defined by the concept of *insideness*, meaning how much attachment, involvement and concern people has for the place in question [Relph, 1976].

*Insideness* as opposed to *outsideness* is more than anything what sets place apart from space and defines the particular system of physical settings, activities and meanings. To be inside a place is to belong and identify with it. If a person feels *inside* he or she is *here* rather than *there*. Relph argues that the more *inside a place* a person feels, the stronger will his or her identity with that place be [Seamon and Sowers, 2008]. On the other hand, a person can be separated from a place, and this is what Relph calls *outsideness* and he exemplifies this with the feeling of homesickness in a new place. The phenomenological point to his theory is that outsideness and insideness both is a fundamental dialectic in human life and with different combinations of outsideness and insideness different places take on varying identities for different individuals or groups and supports different experiences, qualities, meanings and actions for different humans [Relph, 1976; Seamon and Sowers, 2008]. In relation to UGAs this means that if a person feels *inside* an UGA, they would prefer to visit this UGA over others, and so the *insideness* and the relationship between UGA and residents become important for the residents' ability to benefit from the cultural ecosystem services that the UGAs provide.

## 3.4 Analytical framework

The theories discussed in this chapter have formed an understanding of the relationship between social sustainability and UGAs, and it is seen that UGAs hold the ability to provide cultural ecosystem services to residents who visit them. This precedes the answering of SQ1: *"In what way can access to quality urban green areas affect the local residents' social sustainability?"*. The purpose of this section is furthermore to clarify how the concept of social sustainability, the theory of ecosystem services and the theory of place will support the coming analysis and help answer the research questions of this thesis.

From the literature study, it is seen that both the concept of social sustainability and the theory of ecosystem services are consisting of several components; environmental, economic and social sustainability and provisioning, regulating, cultural and supporting services respectively. It is acknowledged that all components are closely related and interlinked,

but due to the scope of this study being human-oriented, only *social* sustainability and *cultural* services will be addressed in this study.

First and foremost, a list of the most important key points from the literature study in this chapter is presented as a short summary of this chapter:

1. Social sustainability is a dynamic concept, that changes over time and place and is, therefore context and geographical-specific. It is therefore important to address social sustainability according to the place, time and people in question.
2. Social sustainability is often described as *the well-being of humans*. This is a broad definition that includes a range of tangible and intangible parameters. Especially the intangible parameters are hard to assess and measure.
3. Many already existing social sustainability approaches focus on work, education and other ways to achieve economic growth. According to Jackson's SWB-index, this has a limited effect on *well-being* in Denmark, and therefore this study will aim to focus on social sustainability parameters with a more direct effect on well-being.
4. Collaboration between users and planners makes the planner a *facilitator*, and this is an important part of social sustainability because collaboration will strengthen *equity* and *inclusion* and because no one knows the residents better than the residents.
5. UGAs have the potential to provide the residents with a range of cultural ecosystem services that can have a positive effect on their well-being, but this is restricted by the residents' ability to access and stay in the UGAs.
6. Cultural ecosystem services can be altered by human intervention, and this gives evidence that the planning of UGAs is important in order to provide the residents with the cultural ecosystem services that affect their well-being.
7. Social sustainability and cultural services are formed by interactions with a *place* that are both unique and individual, meaning that the produced space in the UGAs is as diverse as humans are.
8. According to the theory of place, a place's *placeness* and the relationship that people form based on the UGAs identity is important, when the residents choose to visit an UGA.
9. According to Relph, a place's identity is based on several components: the physical settings, the activities, and the meaning given to the place. Furthermore, he adds the visitors *intention* and *expectation* of the place.

### Relationship between UGA and social sustainability

Derived from the literature study in this chapter, social sustainability are places that have the ability to provide the residents with cultural ecosystem services that affect their social sustainability and well-being. The cultural ecosystem services are e.g. recreation and aesthetics.

It is well known and well described in this chapter, that staying in UGAs has a positive effect on human well-being, and the more time spend the more well-being. This is illustrated in Figure 3.10 where the person in the green area is exposed to a range of cultural ecosystem services that affect his well-being in a positive way. The persons outside the green area can still potentially have a strong feeling of well-being, as what provides this

feeling is individual, but their potential well-being is not a result of the cultural ecosystem services that can be obtained in the green area.

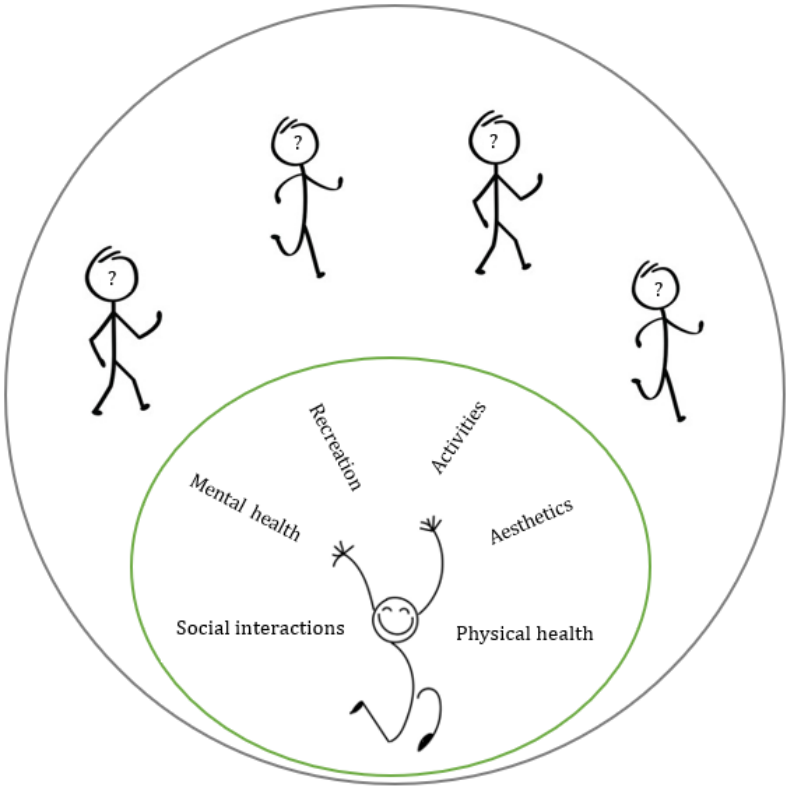


***Figure 3.10.*** This thesis' view on the connection between the physical place, UGAs, and the produced place formed by cultural ecosystem services [Created by the author]

From the SUSY Grøn report it is evident that the closer a person lives to the UGA, the more they tend to visit. This is an expression of the resident's physical accessibility. This relates to the residents' physical ability to visit UGAs, and indicates that proximity between UGA and home is an important factor when residents choose to visit an UGA, and therefore this study will address *accessibility* as an important factor for benefiting from the cultural services provided by the UGAs, and this is addressed in the coming analysis.

### The theories influence on the coming analysis:

The theories in this chapter were chosen with the purpose of clarifying the relationship between human well-being and UGAs in their local community. Human well-being is described by the concept of social sustainability, and since social sustainability is context- and geographical-specific this study will address the term in relation to the residents of Aalborg, as this is the geographical basis of the case study. This is also in relation to the data collection, meaning that the study also focuses on collaboration and inclusion of the people in question.

According to the theory of place, *placelessness* can prevent people from forming a relationship with the place, and since it is assumed that people prefer places to which they have a relationship, the UGAs in the case study will be examined based on their *placeness*, meaning how they differ from other UGAs. When residents prefer one place

over another this relates to their feeling of *insideness*. The two UGAs that form the extreme case study in this thesis, are chosen based on this feeling of *insideness*, as they are chosen based on being the residents of Aalborg's favorite (successful case) and least favorite (problematic case) UGA.

*Insideness* is furthermore an expression of people's attachment to a place, and the attachment is related to the identity of the place. Relph's description of identity *of* and *with* a place is used to examine the identity of the two UGAs in the case study. This will be based on the two UGA's physical settings, the activities performed in them and the meaning given to them by the visitors. A survey was performed with the residents of Aalborg with questions based primarily on this threefold definition of identity. By doing this, the analysis addresses both the physical space and the produced space, and also how these are connected and produced by each other. The connection is furthermore described by the residents *intentions* and *expectations* towards the UGAs, this is what Relph described as identity *with* a place, and this will show why the visitors prefer or don't prefer the UGA in question.

To help structure the analysis of the UGAs in the case study further, a range of parameters that relates to either social sustainability or cultural ecosystem services has been defined. Based on the literature study, these are all parameters, that affect the residents' well-being in a positive way:

| Element | Social sustainability | Cultural service |
|---|---|---|
| Equity | x | |
| Accessibility | x | |
| Participation/collaboration | x | |
| Spiritual and religious | | x |
| Health (physical and mental) | x | x |
| Security | x | |
| Education | | x |
| Sense of place | x | x |
| Inspiration | | x |
| Social interactions | x | x |
| Aesthetics | x | x |
| Recreation | x | x |
| Sensory experiences | | x |
| Cultural diversity | x | |
| Cultural heritage | | x |
| Physical activity | x | x |

***Table 3.2.*** Elements related to social sustainability and/or cultural services derived from the literature in this chapter

The table shows the parameters in the first column, and the last two columns indicate if the parameter relates to the concepts of social sustainability and/or the theory of cultural ecosystem services respectively. This comparison is made to identify cultural services that are also mentioned in the literature on social sustainability, as it is assumed that these are the services that could potentially be obtained from the UGAs and also affect the social sustainability of the visitors. The parameters mentioned in both the literature on social

sustainability and cultural ecosystem services are marked with blue in the table above, and are defined as parameters of social sustainability in relation to UGA. They will furthermore be used in Chapter 5 to examine the *identity* and the potential effect on well-being that the UGAs in the case area have.

Based on the literature study and the argument made previously in this section, *accessibility* will also be part of the coming analysis, as it lies implicit in this thesis view on the relationship between UGAs and cultural services (Figure 3.10) that to take part in the potential cultural services that the UGA provides accessibility is vital. It is furthermore assumed that accessibility affects who visits the UGAs and how often they visit. Accessibility is addressed, as mentioned, as the proximity between home and UGA, but also in relation to physical or mental challenges that potentially restrict the use of UGAs.

The UGAs ability to provide different cultural ecosystem services and stengthen social sustainability in the case area can be assessed through a variety of methods. An assessment of the UGAs, their potential for cultural services, and their impact on human well-being requires an integrated process including data collection (Chapter 4) in the specific case areas and analysis of this data (Chapter 5). The aim of this study is to identify UGAs potential for strengthening social sustainability and a way for this to be included in the municipal strategies (Chapter 6).

# Methods 4

Based on the field of study and the theoretical knowledge explained in the previous chapter, this chapter outlines the methods used for data collection and data processing. An analysis of social sustainability requires both qualitative and quantitative methods. The overall aim of the methods is to gather information about the case areas in order to answer the research question and the two remaining sub-questions.

The analysis is performed as a case study combined with method triangulation, where different methods are used to investigate the same indicators. This gives a holistic understanding of the phenomena within the case area. The case study will be focusing on both the physical environment and the individuals in order to analyze social sustainability on a local scale and based on experiences and preferences.

The analysis of social sustainability requires different kinds of data collection:

1. **Analysis of the baseline:** Assessment of the municipal strategies regarding the case area in relation to planning and social sustainability.
2. **Statistical analysis:** collection and analysis of relevant data, e.g. statistical analysis of the residents of Aalborg's favorite UGAs.
3. **Interviews:** conversations with residents and visitors of the UGAs e.g. focusing on the area's physical characters and their choice of UGA.
4. **On-site surveys:** Examination and documentation of the physical characteristic of the case area with a focus on social sustainability indicators.
5. **Asset mapping:** Mapping of the services and facilities in the case area, e.g. playgrounds, ball fields, and other facilities that can contribute to the social sustainability in the local area.

When the data is collected the material will contribute to an analysis of the different indicators of social sustainability and cultural ecosystem services in the case area from both a planning perspective and a residents perspective.

As part of the methodology *method triangulation* is used with the purpose of providing a better and more holistic understanding of the phenomena, and to enhance the credibility and validity of the different methods [Bhandari, 2022]. Especially for the methods related to gathering knowledge from or about people a range of biases could potentially affect the validity of the methods and the data. Obtaining data and opinions from members of the target group is a powerful tool and will be more accurate than trial-an-error tests if done correctly. The method triangulation is part of mitigating errors and bias, as data collected via different sources and with different approaches have each their own strengths and weaknesses [Bhandari, 2022]. Figure 4.1 visualizes the methods included

in the triangulation: an expert interview, a document study, a survey, and observations. The Figure also shows how these methods directly contribute to answering SQ2, which is divided into two focus areas *planning perspective* and *residents perspective*. The methods have a more indirect contribution to SQ3, which is a more practical sub-question that will be answered based on the analysis of SQ2.

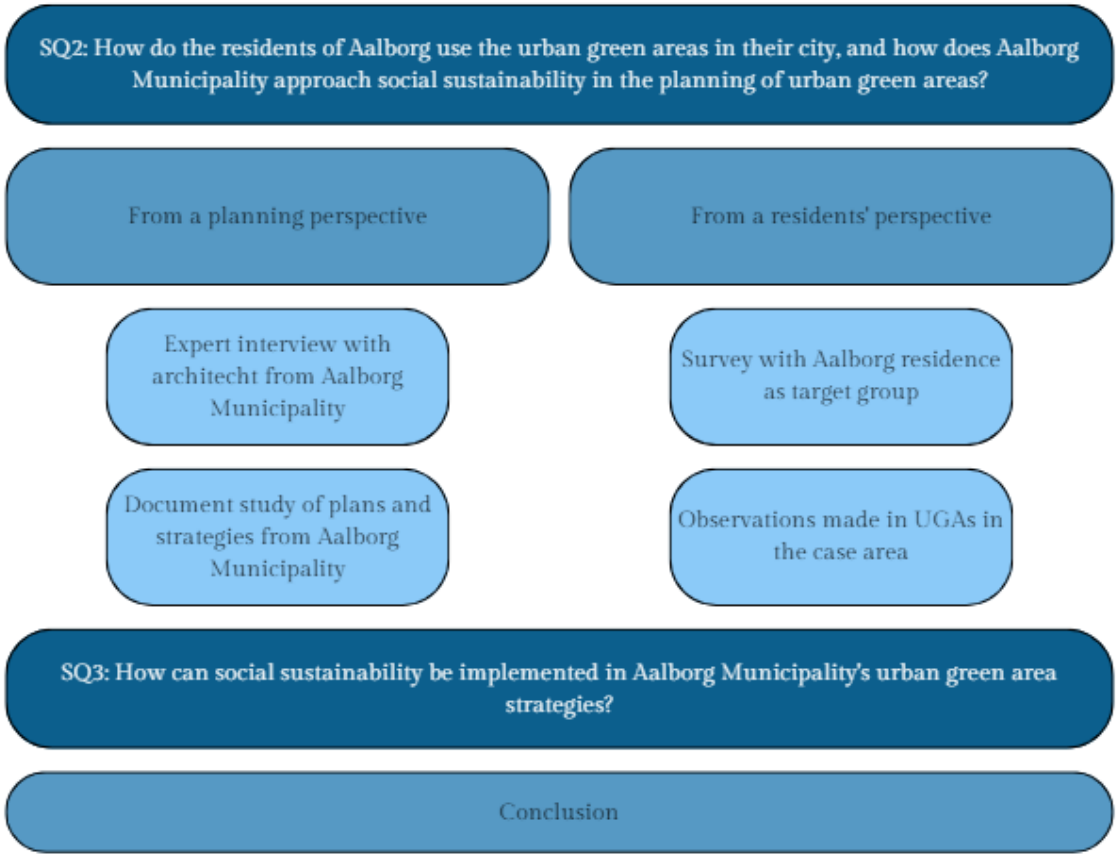


***Figure 4.1.*** Flow charts visualizing the components going into SQ2 and SQ3 and the method triangulation supporting the data collecting of SQ2 [Created by the author]

## 4.1 Analysis of the baseline

Initially, an analysis of the baseline of the municipal strategies in Aalborg was examined. This was done with the purpose of identifying how Aalborg Municipality approaches social sustainability in its planning process, especially in relation to UGA planning. This relates to the *planning perspective* of SQ2 and is analyzed via two different methods: expert interviews with two planners from Aalborg Municipality and a document study based on plans and strategies from Aalborg Municipality.

### 4.1.1 Expert Interview

Two expert interviews were conducted during this study. The first was a semi-structured key informant interview conducted with Bodil V. Henningsen [Henningsen, 2023], an architect from Aalborg Municipality. This interview was conducted on Monday the 20th of February 2023. After the interview, it was necessary to further clarify some of the questions, and therefore a semi-structured phone interview was conducted with Kirsten

Lund Andersen [Andersen, 2023], city gardener at Aalborg Municipality, this interview was conducted on Monday the 27th of February 2023. The transcript of the interviews can be seen in Appendix 7 on page 97.

The aim of the interviews was to gather general knowledge about how Aalborg Municipality already considers social sustainability when planning and designing UGA. The interview was held at the beginning of the data collection phase as it further contributes to general knowledge that partakes in forming the other methods for data collection.

For the development of the interview, inspiration has come from Steinar Kvale's seven interview steps [Kvale and Brinkmann, 2009]. These are specified in relation to the first expert interview with Bodil V. Henningsen below. The second interview is based on the same interview steps and questions as some of these were not answered adequately during the first interview.

1. **Determination of theme and purpose:** The overall aim of the interview is to investigate how Aalborg Municipality considers social sustainability when planning especially in relation to UGA, and also to clarify the problems related to planning for social sustainability as knowledge for the further analysis.
2. **Determination of structure and design:** This is a semi-structured interview with some themes and questions prepared in advance, but with the possibility to explore further depending on the conversation. The prepared themes and questions can be seen below and these were also sent to the interviewee prior to the interview. There are three different themes with a few predefined questions for each, leaving room for taking the conversation in different directions according to the answers.
3. **Conduction of interview:** With the prepared interview questions as a guide the first interview was carried out on Monday the 20th of February 2023. The interview was carried out in Danish due to both participants having Danish as their mother tongue, and the interview was recorded in agreement with the interviewee. The purpose of recording the interview is to gather all the details and to be able to revisit these later on.
4. **Transcription of interview:** After the interview it was transcribed based on the recording. The full transcription can be seen in Appendix 7 on page 97. From a linguistic perspective, transcription is translation from spoken language to written language, and this required a range of assessments and decisions because of the loss of body language, gestures, voice, and other physical elements. Since the interview contributed to an analysis of the municipality's work progress there is no need for a high degree of detail in the transcription. The transcription is therefore not verbatim and does not include expressions such as "eh", breaks, or gestures, e.g. laughing. When the interview is quoted in the research this has furthermore been translated to English by the author.
5. **Analysing the interview:** The data collected from the interview was analyzed in relation to the theme and purpose of this interview and was later used in Chapter 5 and 6 to answer SQ2 (Chapter 5).
6. **Examination of validity and generalizability:** To strengthen the validity of the analysis the interview was part of a method triangulation together with the document analysis (this method is further described later in this chapter). The reliability is

expected to be high since the questions are related to the interviewee's professional work.

7. **Reporting and discussion of content:** The data collected from the interview has been used to analyze how Aalborg Municipality addresses social sustainability in its current work and is used in the analysis in Chapter 5 sometimes used directly as quotes. Statements were analyzed in relation to the purpose and the other methods in the method triangulation, and this is later discussed in Chapter 6 in this report.

From the interview design above three topics with 3-4 sub-questions were defined, these can be seen below. These formed the base of the interview, but since it was a semi-structured interview there was room for conversation between the questions.

**Theme 1: the planning phase**

- **Q1:** What is the planning process behind planning an urban green area?
- **Q2:** What is the most important part of designing urban green areas in the eyes of a planner from Aalborg Municipality?
- **Q3:** What is the primary limitation when planning and designing an urban green area?

**Theme 2: social sustainability**

- **Q1:** In what way is social sustainability already taken into account when planning new, or redoing old, urban green areas?
- **Q2:** What is done to accommodate as many different social groups as possible?
- **Q3:** How are the accessibility and proximity to the urban green areas taken into account during the planning phase?
- **Q4:** How is social sustainability accessed and evaluated?

**Theme 3: citizen involvement**

- **Q1:** To what extent are the citizens involved in the planning of urban green areas?
- **Q2:** What is the hard part about involving the citizens in a planning process?
- **Q3:** What scale/level of detail can the citizens affect?

**Phone Interview**

The phone interview is a follow-up to the first interview, as some of the questions were outside Bodil V. Henningsen's field of expertise. This relates to the more specific ways in which the Municipality physically designs UGAs to support social sustainability.

Since the questions relate to the former interview and use the same interview guide as above, the preparation for the phone interview was minimal. There is also no record of the interview but notes were taken during the conversation to remember key points in more detail, these can be seen in Appendix 7 on page 97.

### 4.1.2 Document analysis

In addition to the expert interview, a document study was performed with plans and strategies from Aalborg Municipality. A document analysis is a systematic procedure for evaluating documents. The documents can take a variety of forms, but in this

document analysis, they all consist of city development plans or strategies made by Aalborg Municipality. According to Glenn Bowen, a document analysis is an efficient method in qualitative studies, as it is about data *selection* and not data collection [Bowen, 2009].

The document analysis consists of a total of five documents, two represent Aalborg Municipality's sustainability assessment, two are current strategies for city development whereof one relates to outdoor life, and one is a report on Aalborgs' identity based on data collected from the residents via survey and citizen meetings.

The documents used for the document analysis are the following:

1. *Verdensmålsstrategien*: Aalborg Municipality's sustainability development strategy from 2021
2. *Bæredygtighedsværktøj*: Aalborg Municipality's sustainability tool.
3. *Fysisk Vision 2035*: Aalborg Municipality's current main structure from 2021.
4. *Under Åben Himmel*: Aalborg Municipality's politic for nature, parks and outdoor life.
5. *DNA Aalborg*: A mapping of Aalborg's identity based on the residents in Aalborg (this includes both the data collected by Aalborg Municipality and the finished report.)

All five documents are part of understanding the baseline of social sustainability related to Aalborg Municipality's planning approach towards UGAs. The document analysis was conducted by analyzing the five documents for phrases that are either directly mentioned as being about social sustainability, or indirectly based on the parameters from the analytical framework in Chapter 3. Because of this study's scope, the document analysis has a natural focus on social sustainability in relation to public urban spaces and UGAs in particular.

## 4.2 Statistic analysis

Secondly, the residents of Aalborg's use of and view on UGAs in their city was examined with the purpose of identifying important parameters for social sustainability related to the case area. This relates to the *residents perspective* of SQ2 and is performed via an online survey.

It is *not* the aim of this analysis to investigate how the social sustainability parameters have developed over time, as this will require a big regression analysis and data that provides the opportunity to follow the population, the individuals, and the physical design of the UGAs through a long series of years. It is however the aim to identify what parameters are important to include when working with social sustainability in the case area.

### 4.2.1 Online survey

An online survey was conducted to gather data from the residents of Aalborg, the survey was performed via the online software *Maptionnaire*. There is a total of 16 questions designed primarily based on the three elements of *identity of a space* from the *theory of place* described in Chapter 3. Furthermore, people's perception of their accessibility to UGAs is investigated, as accessibility is vital to gain access to potential cultural ecosystem services from the UGAs that can strengthen social sustainability.

Figure 4.2 visualizes how the three elements from the theory of place and accessibility point to the different questions in the survey. Some questions relate to multiple elements and this is shown by the colored triangles on the figure. The first three questions are included to categorize the respondents in relation to "who". The result of the survey can be seen in Appendix 7 on page 108.

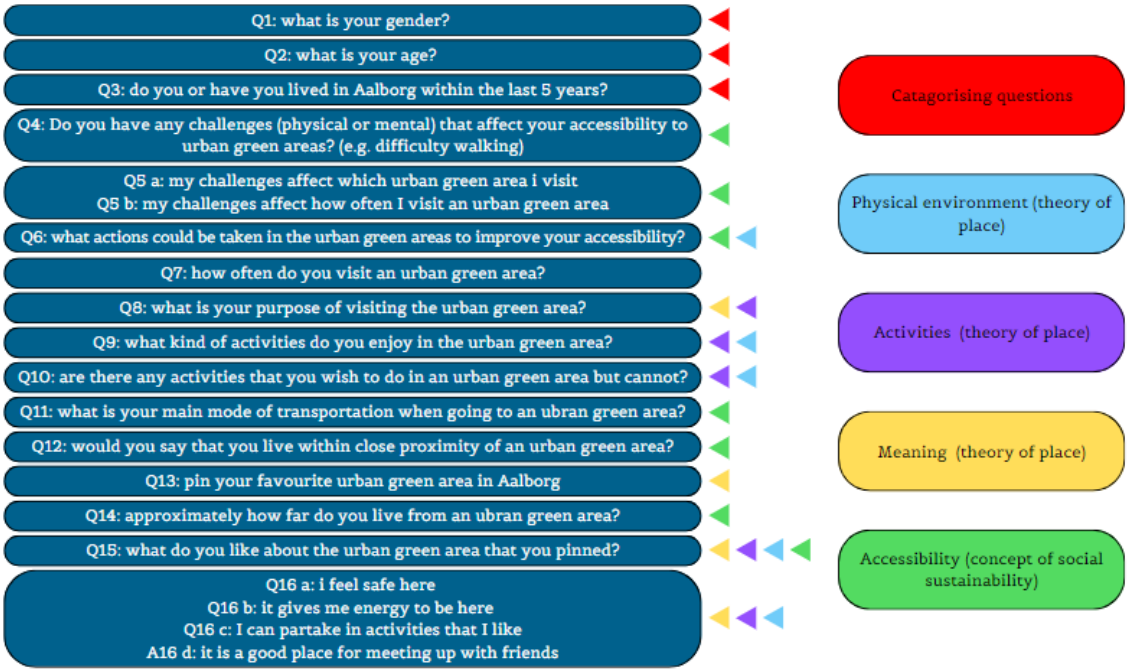


***Figure 4.2.*** Flow chart visualizing how the theory of place and accessibility points into the different questions in the survey [Created by the author]

### Aim:

The aim of the survey is to examine the residents of Aalborg's use of their local UGAs and their intentions and expectations when visiting an UGA. This is furthermore done, to identify important parameters of social sustainability in the case area.

The data is collected with the purpose of answering the *recidence perspective* of SQ2, and the survey function as the contribution from the Aalborg residents in the matter of social sustainability in their local UGAs.

### Target group:

This thesis is built around the concept of social sustainability, and it is therefore important to consider the term during the data collection as well. Ideally, the target group of this survey would be *"every single person living in Aalborg"* - this would have been the most inclusive target group considering the topic of this thesis is UGA within Aalborg. Public places should be a common good, just as representation via surveys should be. In planning it is important to secure this common good and make it accessible for every citizen group as far as possible [Hansen et al., 2015].

Some groups are often underrepresented in surveys, this is children and elderlies, the richest and the poorest, and also groups of people who, for various reasons, are more challenged

than others. It is problematic to generalize a whole population, in this study, the residents of Aalborg, based on a crooked random sample, and it can also make it difficult to make interesting comparisons between groups e.g. young people and elderlies [Hansen et al., 2015]. In this thesis, the accessibility of the UGA is of relevance and therefore it is important to include people with a lack of resources, e.g. people with disabilities, in the survey as they are often challenged in relation to accessibility. At the same time, it is often the most challenged members of society who can benefit the most from strengthening social sustainability and providing cultural services in their local community.

There is no unambiguous answer as to how equal representation can be secured in a survey, because even if e.g. elderly people are being targeted it does not matter much if respondents are still limited to resourcefully elderly people [Hansen et al., 2015]. The next sections describe the method for data collection in this survey and how equal representation is attempted.

#### Data collection:

The survey contained a total of 16 questions and was carried out as an online survey via the service *maptionnaire* in the time period from 13.03.2023 to 08.04.2023. The survey was made in Danish and English to include residents who do not speak Danish. Collecting data via online services was chosen because of the time period for this thesis.

The survey was posted on the author's personal Facebook, Instagram, and linked-in accounts. To remedy the problem of unequal representation in surveys, some specific Facebook groups were targeted. First of all some overall Facebook groups for residents of Aalborg, but also Facebook groups for the elderly or disabled in Aalborg. The survey was posted in the following six Facebook groups:

- Ældre Sagen Aalborg (The Federation on Ageing)
- Dansk Handicap Forbund Aalborg afdeling (Danish Handicap Association Aalborg department)
- Spørgeskemaer DK (Surveys DK)
- Hvad sker der - Nørresundby/Aalborg (What happens - Nørresundby/Aalborg)
- Hvad sker i Aalborg (What happens in Aalborg)
- Aalborg Kommune i billeder - år 2000 og frem (Aalborg Municipality in pictures - year 2000 and forward)

## 4.3 On-site surveys

Furthermore, observations was carried out on-site in the case area, with the purpose of examining the physical environment and the activities taking place in the two UGAs. This is also part of answering the *recidents perspective* on SQ2.

### 4.3.1 Observations

As a part of collecting data for the study, observations of the lived space in the UGAs were carried out. This allows the researcher to observe human behavior in their natural settings. Direct observations help understand why some areas are more visited than others. The

observations in this study are manual, and it is expected that human registration brings more than cold facts, as information can be added from the site. The observation method was inspired by Jan Gehl's *How to study public life?* [Gehl and Svarre, 2013].

The observations had a twofold purpose:

1. Identify and document physical structures in the UGA that is indicators of either social sustainability or cultural ecosystem.
2. Gather and document knowledge about the visitors of the UGAs and the activities that they engage in.

According to Gehl [Gehl and Svarre, 2013] there are five questions to be asked when during observations of the lived space.

1. **How many?** - A qualitative assessment of counting *how many* people do something. In principle, anything can be counted, but often *how many* people are moving (pedestrian flow) and *how many* people are staying (stationary activity) is registered.
2. **Who?** - When gathering knowledge about people's behavior, it is often relevant to be specific about *who* uses the various spaces.
3. **Where?** - To encourage pedestrians to flow smoothly and create the best conditions for inviting people to use the public space, it is important to know *where* people move and where people stay as this can uncover barriers.
4. **What?** - Mapping *what* happens in a city can give knowledge about different types of activities and the requirement these activities make on the physical environment.
5. **How long?** - the walking speed and amount of time people spend staying in one place can provide information about the quality of the physical framework, as people tend to walk slower and spend more time in places they like.

The observation method is inspired by Gehl's approach to city life observations. Good weather provides the best conditions for outdoor public life observations, and the weather is particularly sensitive when observing *stays*. Table 4.1 shows the three days where the case areas were visited. The first day was for inspiration and the observations were carried out over the last two observation days.

| Date | Weekday | Time period | Temp | Wind speed | Cloud cover |
|---|---|---|---|---|---|
| 7. April | Good Friday | 13:00-16:00 | 8°C | 7 m/s | Sunny |
| 21. April | Friday | 13:30-15:30 | 16°C | 3 m/s | Sunny |
| 22. April | Saturday | 10:30-12:30 | 13°C | 5 m/s | Sunny |

***Table 4.1.*** Days of observations and their respective weather conditions

During the observations *how many* and *what* were addressed at the same time by counting people doing different kinds of activities in the areas. People in the areas were then categorized by approximate age groups and how many they were in a group related to *Who*. *Where* is a bit more difficult due to the size of the areas making it difficult to track people and their movements through the area. This was addressed by identifying places where a lot of people were either staying or walking at the same time.

*How long* was not addressed during the observations because of the time frame of this study, but could be included in further research to identify places of quality within the UGA. The raw data from the observations can be seen in Appendix 7 on page 118.

## 4.4 Asset mapping

The methods used for asset mapping are structure analysis and mapping using a Geographical Information System tool. The aim of the structure analysis is to visualize data collected during observations in the UGAs. This is digitalized in the software ArcGIS Pro together with a range of maps showing different information about the UGAs.

### 4.4.1 Structure analysis

As part of describing the case areas a structure analysis was made based on the data collected during the two observation days (Table 4.1) above. The structure analysis shows the visitors' pedestrian flow and stationary activity, as described by Jan Gehl's as observations of *how many* in the previous section. This is drawn onto a map of the two case areas, which are presented on page 51 and 54, with the following colors:

- Moving = blue lines
- Staying = orange or yellow polygons

As part of describing the case area a structure analysis was formed based on the parameters for social sustainability defined in the analytical framework in Chapter 3 and described through the observations in the two case areas and the survey. These parameters were previously listed in this report's analytical framework and are also displayed in Figure 4.3.

It should be mentioned, that both the definition of the parameters, and their individual identification of the locations are based on the researcher's perception and impressions during the visits to the UGAs, and are therefore not necessarily 1:1 with reality.

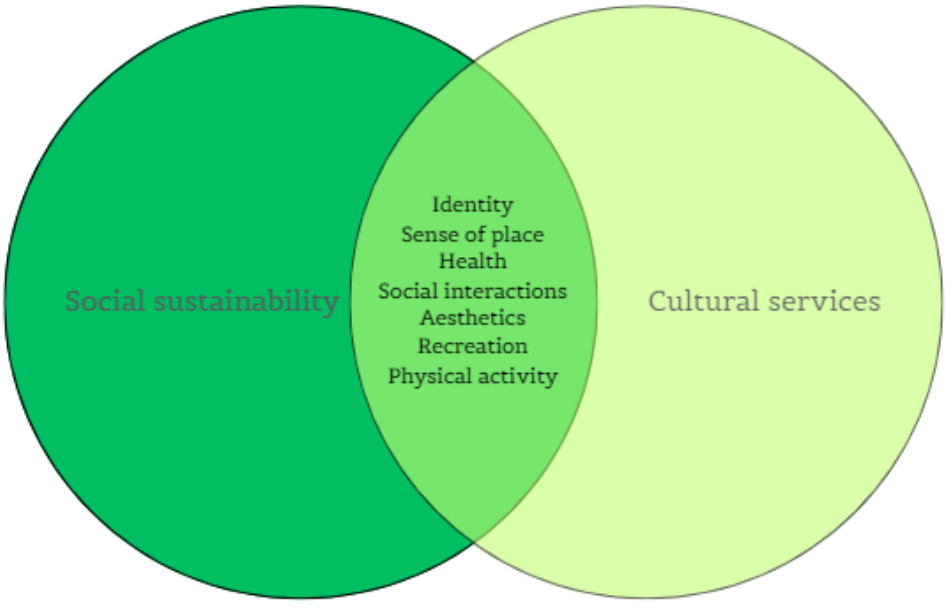


***Figure 4.3.*** Parameters of social sustainability derived from the analytical framework in Chapter 3 [Created by the author]

Most of the seven parameters are a result of a social construction within the area, meaning that they are individual and change over time. Below is a description of the different parameters, and how they are defined and studied in this study.

**Identity and sense of place:**

*Sense of place* relates to how someone perceives and experiences a place, much like how *identity* of a place as described in the analytical framework based on Relphs *theory of place* [Relph, 1976]. It can therefore be argued that the two concepts are challenging to address separately, and the analysis of the parameter *sense of place* will therefore be addressed in relation to Relph's *identity* as well.

Based on Relphs *theory of place* [Relph, 1976] identity is about people's perception of a place and is often related to positive feelings of attachment to that place. This relates to what Relph describes as *insideness* where one would rather be here than there. He also describes identity *of* a place as the opportunity to differentiate that place from other places. Relph describes identity as formed by the three components, 1) the physical environment, 2) the activities, and 3) the meaning given by the visitors.

Identity is highly related to *sense of place* that is one of the parameters for social sustainability defined in Chapter 3. Relph describes in his theory of place *sense of place* as the emotional bond people form to the environment. According to Teimouri paper *Social Sustainability with Urban Green Space (UGS) planning*, UGAs create a sense of place and an attachment to a place because they provide a space for social engagement. This is again what is also understood as *insideness* in relation of the theory of place.

Both *sense of place* and *identity* are social constructs made by the visitors and are therefore subjective and can change over time. This makes the two terms hard to identify only through observations in the area, and answers from the survey will therefore also be included in the identification of both *identity* and *sense of place* in the two areas.

People's perception of a place and their emotional bond to a place are highly related, and with the data available in this study being mostly quantitative an overlap between the two terms cannot be avoided in the analysis. Therefore the two terms will be analyzed together in the case analysis in Chapter 5.

The two terms will be analyzed with the following data:

1. Number of identifications of favorite UGA (Q13 in the survey) are used to show the emotional bond.
2. Answers from the survey that describes people's use and gain from visiting UGAs are used to analyze people's perception of the place and their social engagement.
3. Survey answers that can be interpreted as being related to one of the two case areas as a way of showing how the areas can be differentiated from other places.
4. Observations of *what* and *where* (based on Gehl's five questions described above) are used to analyze visitors' social engagement with each other.
5. Observations of *who* and *how many* visiting the case areas are used to analyze the emotional bond and the perception of the place.

**Health (physical and mental):**

It is evident that UGAs provide a range of perceived benefits for human health and well-being, these are overall improvements in the quality of life.

As mentioned good health is part of general *quality of life*, and access to UGAs has a positive effect on both physical and mental health. UGAs improve air quality, reduce traffic noise, and cool the city during warm days, and research also shows that access to UGAs can reduce stress, depression, and anxiety [Biasotti, n.d.].

Quality of life and health will be assessed together in the case analysis in Chapter 5, based on the following data:

1. Answers from the survey that indicate a positive effect on mental health directly or indirectly e.g. peace and quiet or being calm.
2. Answers from the survey that indicate a positive effect on physical health directly or indirectly, e.g. running or playing football.
3. Observations of the activities in the two case areas are used to identify visitors exercising.

**Social interactions:**

Social interactions are social encounters between two or more people, their interactions form the basis of social structure and are vital for analyzing the social aspect of the UGAs.

The analysis of social interactions is based on the following data:

1. Observations of *who* is used to analyze the demographic constellation of the social interactions.
2. Observations of *where* is used to analyze the geographic constellation of the social interactions.
3. Observations of *what* are used to analyze what kind of social interactions the visitors are having.
4. Answers from the survey indicating social activities or who the respondent is visiting the UGAs with.

**Aesthetics:**

The aesthetics are the most direct link between humans and nature as 'aesthetics' means *appropriation through senses*, meaning that it is through the aesthetics that we meet the world. In relation to nature it does not refer to something being *pretty* or *picturesque* but whether humans relate to the outside world in the sensory encounter with it [Braae, 2021].

The aesthetics of the two case areas will be analyzed through observations in the area and relates therefore to the author's perception of the term and the two case areas.

The aesthetics of the two case areas are defined through observation and survey answers that do not necessarily relate to the specific UGAs in the case study. Therefore it is important to mention, that the analysis is primarily based on the author's perception of the term *aesthetic* and the two case areas.

The aesthetics of the two case areas are analyzed based on the following data:

1. Observations of the physical environment in the case areas are used to analyze different physical elements of aesthetic value.
2. Observations of *where* the visitors are staying is used to identify potential quality spaces within the case area that could be of aesthetic value.
3. Answers in the survey indicating physical elements which the respondents enjoy in their favorite UGA or in UGAs in general.

**Recreation:**

Recreation means giving opportunity for rest and relaxation both physical and mental. This is seen in relation to spare time and hobbies and often takes place in nature [Den Danske Ordbog, n.d.]. Urban recreational nature areas will often provide different opportunities for creating experiential values for the visitors.

The opportunity for using the areas recreational is analyzed with the following data:

1. Observations of *what* is used to analyze the visitors' behavior in the case areas.
2. Observations of the physical structures in the case areas are used to identify potential areas for recreation.
3. Answers in the survey that indicate recreational use of UGAs.

**Physical activity:**

Physical activities overlap with both recreational activities described above. The two terms differ in that 'physical activities' relate to all kinds of movement that increase energy turnover. Nature provides a lot of opportunities for physical activities but the opportunity for physical activities can also be planned for in the case areas. Furthermore, can physical activities have a positive effect on health, that is also described as a parameter above.

The physical activities are analyzed with the following data:

Therefore the physical activities in the case areas are defined through observation of the visitors' behavior and the physical environment and include:

1. Observations of *what* the visitors are doing in the case areas is used to identify different physical activities.
2. Observations of *where* the visitors are doing their activities are used to identify places that invite to physical activities and places that do not.
3. Observations of the physical environment are used to identify places that are ideal for physical activities, e.g. football fields or outdoor fitness equipment.
4. Analysis of Q9 and Q10 in the survey, as these questions relate to physical activities in the UGAs.

**Accessibility:**

Even though accessibility is not defined as a parameter in Figure 4.3 above, it is clear from the literature study and the analytical framework, that accessibility is important to secure equal access to the cultural ecosystem services, that the UGAs potentially provide.

Accessibility is assessed as the proximity between UGA and home, and also the residents' physical ability to visit the UGAs that could be restricted due to walking difficulties or other physical or mental challenges.

Accessibility in the two case areas is analyzed based on:

1. Analysis of Q11, Q12, and Q14 in the survey, as these questions relate to proximity and transport.
2. Analysis of Q4, Q5, and Q6 in the survey, as these questions relate to possible mental and physical challenges that restrict the use of UGAs.
3. Observation of *who* is used to analyze whether some visitors have visible challenges e.g. wheelchair users.

### 4.4.2 Geographical Information System

This section describes the different maps created in Arc GIS Pro for this report, they are all a part of visualizing data some of which are collected during the different methods described in this chapter.

The background map used for all maps is the ArcGIS Pro map *Community* provided by SDFE, Esri, HERE, Garmin, Foursquare, GeoTechnologies, Inc, METO/NASA, USGS.

#### Maps of Aalborg and the case areas

The map portraying Aalborg and the city's location in Jutland (Figure 5.2 in Chapter 5) and the two maps showing each of the case areas and their location in Aalborg (Figure 5.5, 5.6 and 5.7 in Chapter 5) is made with the background map *Community* within the ArcGIS Pro program and the location in Jutland/Aalborg is portrayed within *extended frame*. The black outline of the two case areas is drawn by the author. The same two drawings are used to portray both of the case areas' locations in Figure5.10.

#### Maps of the case area

The map describing the case areas geographical extend of the *Growth Axis* (Figure 1.1 in Chapter 1 and Figure 5.3 in Chapter 5) is made with a shape file containing the geographical limits of the Growth Axis provided by Aalborg Municipality.

#### Map of pinned UGA in question 13

The map showing the pins put by respondents of the survey in Q13 (Figure 5.4 in Chapter 5) is made with data from the survey made in the software Maptionnaire and exported to ArcGIS Pro.

#### Maps of residents within 300m of the case areas

A map showing a zone of 300m around the two case areas (Figure 5.11) was made with two polygons covering the areas of the two case areas, these were drawn by the author. A *bufferzone* of 300m was added to the polygons. This visualizes the geographical expansion of the 300m zone. The total number of residents living within the buffer zones was provided by Søren Nielsen from Aalborg Forsyning.

# Case study analysis 5

This chapter is the first part of the analysis, and aims to answer SQ2: *"How do the residents of Aalborg use the urban green areas in their city, and how does Aalborg Municipality approach social sustainability in the planning of urban green areas?"*. SQ2 is divided into two perspectives: the residence and planning perspectives. The residence perspective aims to answer the first part of SQ2 with data collected via survey, observation, and a structure analysis. The planning perspective aims to answer the second part of SQ2 with data collected via expert interviews and a document study. The chapter is initiated with a presentation of the case area.

## 5.1 The city of Aalborg

Aalborg is the largest city in Aalborg Municipality and also the *capital* of North Jutland [Aalborg Kommune, 2016]. In addition, Aalborg is the fourth largest city in Denmark with 119.219 (2021) citizens [Pilanto, n.d.]. Aalborg municipality is an attractive place to live, more than 1000 residents allocate to the municipality every year and this growth is expected to continue [By- og Landskabsforvaltningen, 2019]. Aalborg has changed a lot over the last half a century, and according to Thomas Kastrup Larsen, mayor of Aalborg Municipality, this is a *"small miracle"*. The city has a proud industrial past but is today also a fast-growing city, where both companies and citizens relocate to.

Aalborg is still an industrial city but is now also a specialized and fast-growing knowledge city with one of Denmark's eight universities located in the city which attracts a lot of younger people [Aalborg Kommune, 2016; Aalborg Kommune, 2015]. The transformation of Aalborg has resulted in a development of the identity of the city. Today the city is an attractive study city with student housing along the fjord. This development has strengthened private investments in the city and a growth in industry, buildings, and residents.


***Figure 5.1.*** Illustration of Aalborg's transformation from rich marked town to metropolitan for people [By- og Landskabsforvaltningen, 2019]

Aalborg is connected to Nørresundby north of the fjord via the Limfjord Bridge, the Limfjord tunnel, and the railway bridge. Supporting the industry in Aalborg is the large

Aalborg Øst harbor east of the city and the airport northwest of the city [Den store danske, 2017]. Figure 5.2 shows Aalborg's geographical location in Denmark.

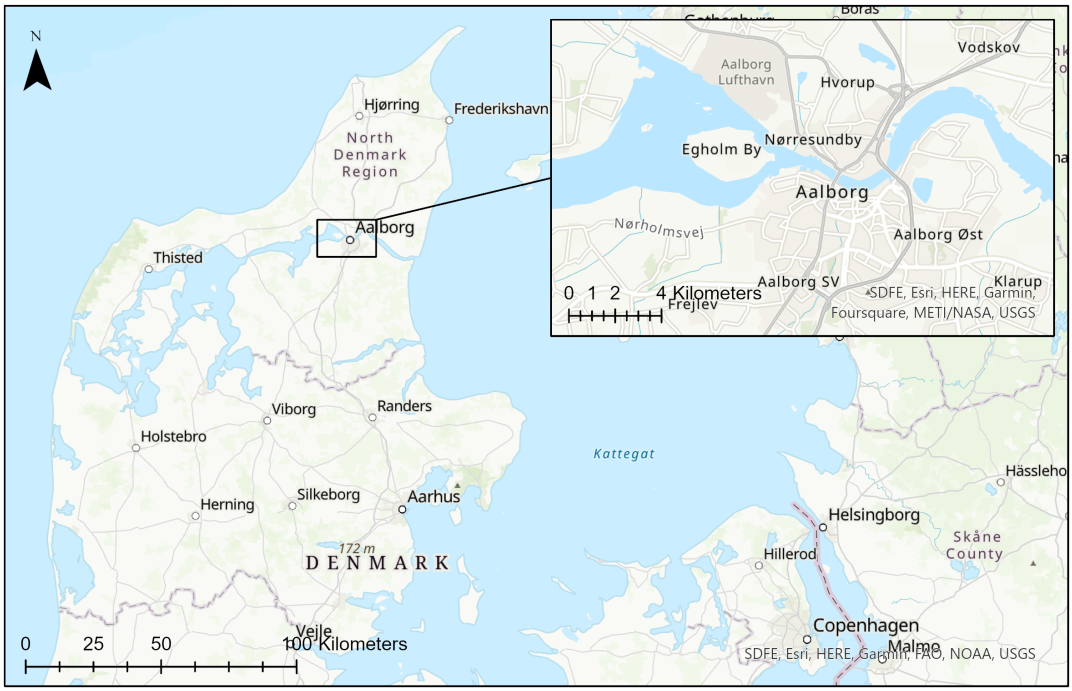


***Figure 5.2.*** Aalborg and the city's location in Jutland, Denmark [Created by the author]

## 5.2 Geographical delimitation of the case area

The case area is defined in multiple scales that support the case study in different ways:

1. **Metropolitan scale:** The city of Aalborg and the administrative border of Aalborg Municipality
2. **District scale:** The geographical propagation of the Growth Axis
3. **Neighborhood scale:** Two selected Urban green areas

The overall case area is the city of Aalborg and the administrative border of Aalborg Municipality. This scale is primarily used as the geographical source of data related to the methods described in Chapter 4. This scale also has a connection to Aalborg Municipality as they are the planning authority of Aalborg and are in charge of planning and designing UGAs and also potentially redesigning them in the future.

The next scale is the predefined area called the Growth Axis (Danish: Vækstaksen), further described in Chapter 1. This scale relates to the planning strategy of this area. This area is dominated by growth and industry, and according to Aalborg Municipality, the area is developed to have *'urban metropolitan character'* with diverse possibilities, round-the-clock life, and varied urban spaces [Aalborg Kommune, 2013]. The Growth Axis is connected to a geographical area across the city of Aalborg. It stretches from the airport in North West to the harbor in South East. The geographical area of the Growth Axis can be seen as the black outline in Figure 5.3.

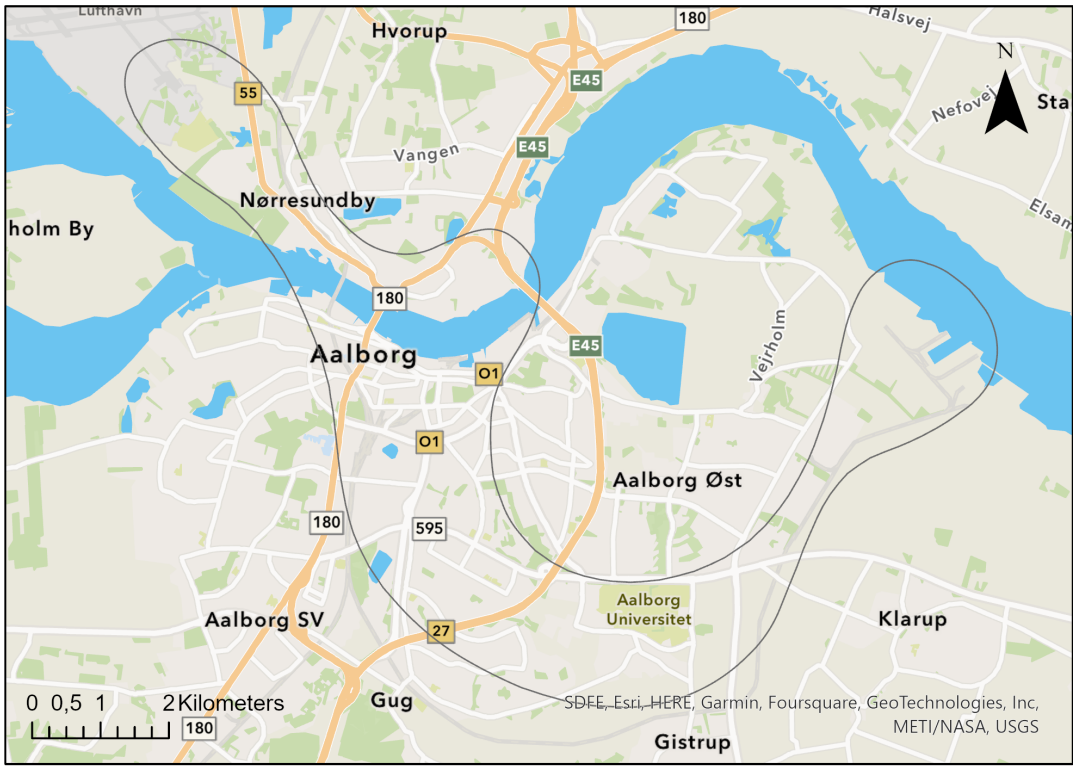


***Figure 5.3.*** The geographical extent of the growth axis in Aalborg Municipality [Created by the author]

The reason for choosing the Growth Axis as the district scale case area is due to the nature of the area. As mentioned, it is industrialized, densely populated, and in many ways the opposite of indicators of UGAs potential for strengthening social sustainability according to how it was described in Chapter 3. The Growth Axis strategy itself does not address a lot of predictions about UGAs, though it should be mentioned that the municipality's plan strategy [By- og Landskabsforvaltningen, 2019] does address this topic, and the geographical area of the Growth Axis is also covered by this strategy. The Growth Axis area is expected to have a lot of potential for planning for social sustainability and UGA development because of the high focus on industry and lack of focus on UGAs in the Growth Axis strategy. Due to the dense housing in the area, this study will not be focusing on establishing new UGAs, as space within a city environment is always in short supply, as described in Chapter 1. The focus will instead be on how existing UGAs can be redesigned in a way that supports the residents of Aalborg's well-being. Furthermore, the Growth Axis is a densely populated area, meaning that a lot of people will benefit from city development in this area. Mobility is the backbone of the Growth Axis, and the geographical area is the source of the +bus line, a *bus rapid transit* that connects the city East to West and will provide the area with high accessibility via public transportation for both residents and visitors.

The last scale is the very local scale; the urban green areas. As described via SQ1 in Chapter 3 UGAs hold a lot of potential for strengthening the social sustainability in a local community due to their ability to provide cultural ecosystem services to people staying there. This study aims to examine both the physical and produced space, and the UGAs do therefore function as the physical space of this study, but the people visiting the UGAs

will also be part of the case study and the data collection, as they form the produced space. Furthermore, the UGAs are administrated by Aalborg Municipality, and can therefore be influenced by different planning strategies. This is also in accordance with the definition of UGAs used in this thesis (defined in Chapter 3 section 3.2.1 on page 21).

## 5.3 Urban green areas chosen for the analysis

To limit and further define the *neighborhood scale* of the case study, two UGAs were chosen for the comparative analysis that aims to answer SQ2. The case study is performed as an *extreme* case study where one of the UGAs is a *successful* case and the other is a *problematic* case, as described in Chapter 2 Section 2.2. The successful and problematic case area is defined through Q13 in the survey (Method description in Chapter 4 sections 4.2.1), where the respondents were asked to pin their favorite UGA on a map of Aalborg. Whether an UGA is successful or problematic could be defined by many parameters, but is in this study based on declarations of the residents' of Aalborg's favorite UGAs, meaning that the UGA is successful or problematic in terms of the residents of Aalborg's preferences. Figure 5.4 shows all the respondents' pins of their favorite UGA (For more detail see Appendix 7 on page 120).

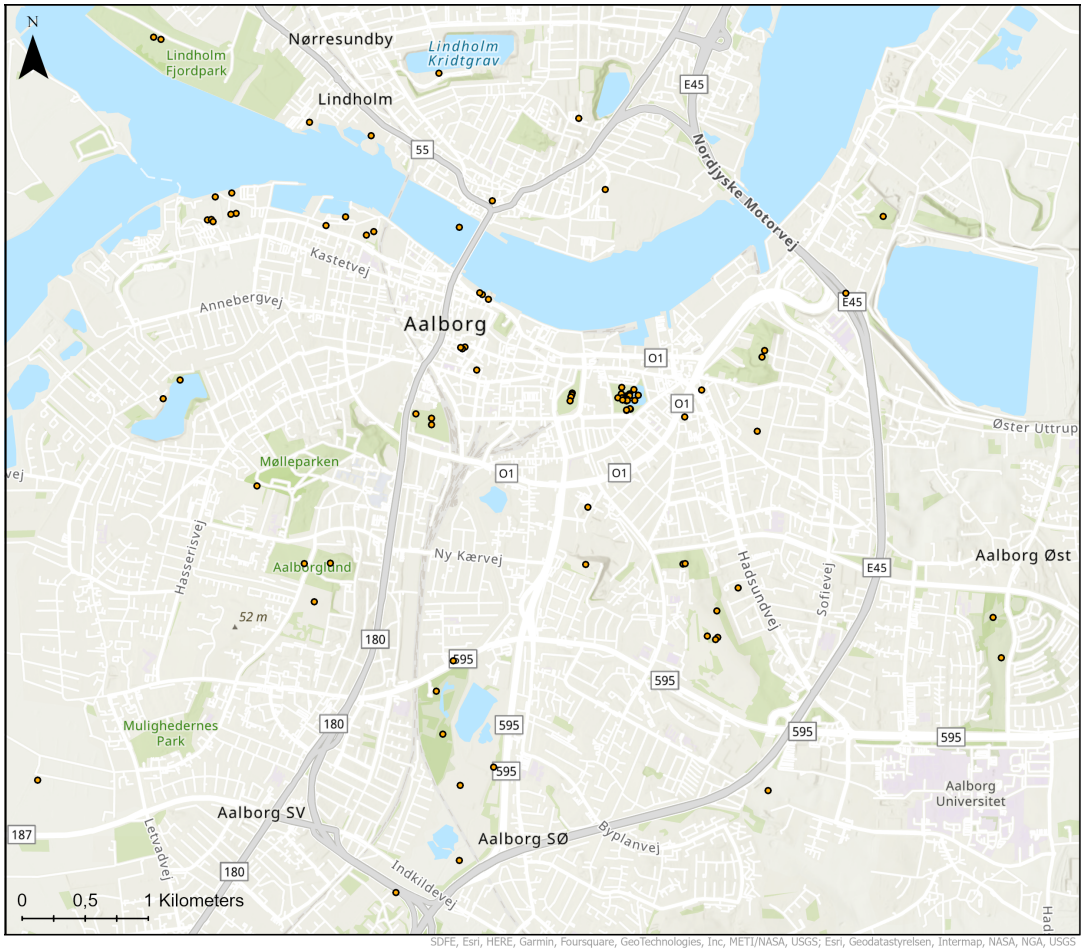


***Figure 5.4.*** Respondents' declaration of their favorite UGAs in Aalborg based on data from Q13 in the survey [Created by the author]

The residents were able to pick everywhere within the map, but the two UGAs for the comparative analysis had to live up to the geographical delimitation of the Growth Axis, and the definition of UGAs used in this thesis (Defined in Chapter 3, sections 3.2.1 on page 21). The UGA with the most pins was chosen as the successful case and an UGA with few declarations was chosen as the problematic case. The UGA with the most identifications as favorite UGA was Østre Anlæg with 20 pins, and Sohngårdsholm Parken was selected as the problematic case with only 2 pins.

**The two UGAs selected for the case study:**

1. Østre Anlæg (20 pins in Q13)
2. Sohngårdsholm Parken (2 pins in Q13)

Figure 5.5 shows the outline of Østre Anlæg to the left and the outline of Sohngårdsholm Parken on the right, the figure furthermore shows the pins put in the two UGAs in Q13.


***Figure 5.5.*** Respondents declaration of favorite UGA (Q13) for the two UGAs chosen for the case study. Left: the successful case, Østre Anlæg. Right: the problematic case, Sohngårdsholm Parken [Created by the author]

The strategy for choosing the two UGAs and getting the most potential from the analysis is to choose two UGAs that differ in terms of preference by the residents of Aalborg. By doing this the extreme case will be based on two UGAs on either end of the preference spectrum and they will form the basis for the comparative analysis that aims to answer SQ2. In the following sections is a presentation of the two UGAs based on observations of *how many, who, where* and *what* inspired by Jan Gehl and previously described in Chapter 4 Section 4.3.1. Furthermore, this chapter contains the comparative analysis based on the different methods for data collection described in Chapter 4 and the parameters for social sustainability defined in the analytical framework in Chapter 3.

### 5.3.1 Østre Anlæg - the successful case

Østre Anlæg is a green area located on the east side of the city only a couple of minutes by foot from Aalborg city center [Enjoy Nordjylland, n.d.(b)]. Østre Anlæg is one of the oldest parks in Aalborg and is centered around an old brickworks lake [By- og Natur forvaltningen, n.d. Enjoy Nordjylland, n.d.(b)] and has a view of St. Markus Church. According to Aalborg Municipality the old lake and many beautiful trees, and pagolas make Østre Anlæg one of the best-known and most visited UGA in Aalborg [By- og Natur

forvaltningen, n.d.]. Østre Anlæg covers an area of 6,5 ha [By- og Natur forvaltningen, n.d.] and there is a range of facilities in the park for the visitor to enjoy:

- Ball field
- Barbecues
- Beach volley field
- Benches
- Dirt paths
- Outdoor Fitness equipment
- Playground
- Public restrooms

During the observations, it was seen how Østre Anlæg can be divided into three different sub-areas in terms of *how many* and *what*. The eastern part with the lake and the church, the western part mainly consisting of large grass fields and sporadic vegetation, and the southern part consisting of several individually situated benches divided by bushes and providing small and more private areas for the visitors. A topographic map of Østre Anlæg and the UGAs location in Aalborg can be seen in Figure 5.6.

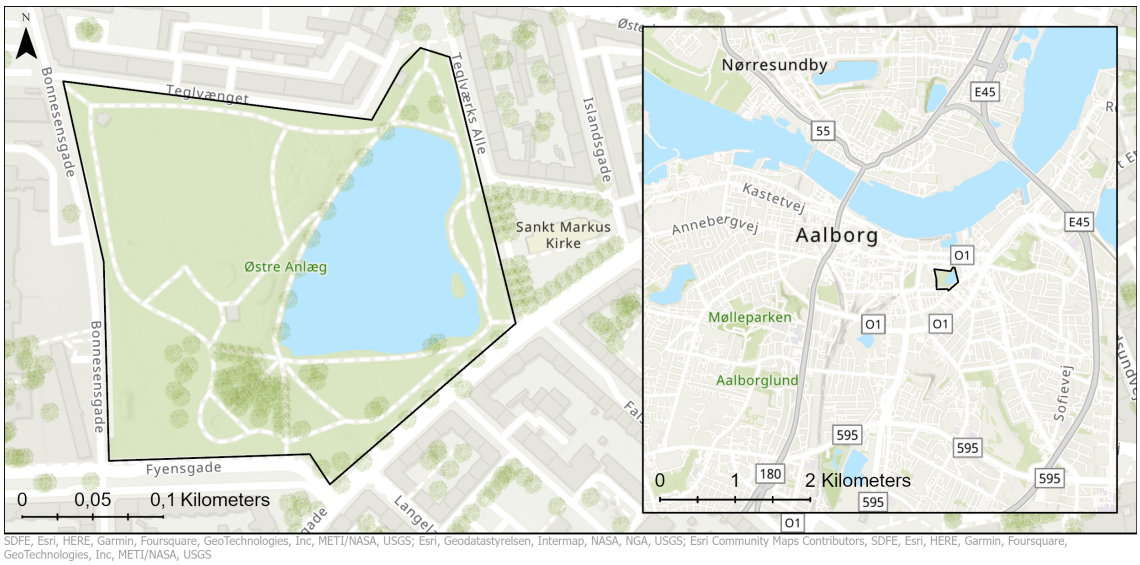


***Figure 5.6.*** Østre Anlæg and the UGAs geographical location in Aalborg [Created by the author]

During the observation days the number of visitors was estimated by counting visitors in the area, and as can be seen from Table 5.1 more than 260 people visited Østre Anlæg on the first observation day and 60 people visited on the second. As can be seen the 21st of April had about four times as many visitors than the 22nd. During the observations, a range of photographs was taken to show the visual aspect. These can be seen on the next page with yellow arrows pointing to the locations of the images in the UGA. The map also shows where most people *move* (blue lines) and *stay* (orange and yellow)

| Observation | 21st | 22nd |
|---|---|---|
| Moving (pedestrian flow) | 58 | 35 |
| Staying (stationary activity) | 205 | 25 |
| Total visitors | 263 | 60 |

***Table 5.1.*** Visitors of Østre Anlæg on April 21st and 22nd divided by moving or staying

The first observation day was one of the first warm spring days, and a lot of people were out to enjoy the nice weather. On this day 58 people were moving around in the UGA either on foot or biking, and 205 people were staying in the area, either sitting on the grass fields or benches or playing sports. Several large groups of young people stayed in the western grass field (picture b on the previous page), where they listened to music, had some beers, and played football or volleyball on the fields. The eastern area around the lake (picture c), was mainly dominated by smaller groups of people with a larger range in age, going from young adults to elderly people. The activities that they engaged in were primarily taking walks in the area, some had their dogs with them, and some were sitting on the benches around the lake or the southern grass field and enjoying the warm weather (picture d). Østre Anlæg also has several smaller and more private areas (picture a), most of which are situated in the southwestern part of the area. Picture h shows a range of picnic tables divided by bushes and the area also has a small pagola (picture e).

On the second observation day, there were about four times fewer visitors than the day before. The weather was about the same for the two days, but the observations were made earlier in the day. On this day 35 people were moving around in the area, and 25 people were staying, but on this day they all sat on benches. On the first day, 15 people played football, and four played volleyball, and they were surrounded by a lot of young people sitting on the grass field, but these large groups of young people were gone on the second day.

The picture on the previous page shows where people tend to *move* and where they tend to *stay*. Staying is furthermore divided into two categories *yellow* and *orange* this is because of the great difference between the two observation days. The orange color indicates areas where people staying on both observation days, while the yellow indicates areas that were only occupied by visitors on the first observation day. Most of the people visiting on the second day were in the area around the lake and the church either strolling or staying on the benches in that area. This goes to show, that there is a difference between where different visitor groups are staying during their visit, and this relates to their *intentions* and *expectations* towards their visit, but also that Østre Anlæg can facilitate different visitor groups at the same time without them interfering with each other. The blue lines on the picture on the previous page indicate paths that were frequently used by people walking, running, or biking. There is a connection between the blue lines and the places where people tend to stay in Østre Anlæg. The blue lines lead to all the yellow and orange markings, and can furthermore be an indication of where people are traveling through the area to another destination, as they are mainly the larger paths and stretches from the entrance in the southeast corner to the entrance in the northwest corner.

Two areas in Østre Anlæg were not frequently used during the observation days even though there were a lot of people in the area, especially on the first day. In the middle of the area is a playground (picture g), however on both observation days only a couple of families with children used the playground, on the first day a total of seven people were in the playground area, and for the second day the number was eight people. Furthermore is an outdoor fitness area (picture f) and only one person was observed using the equipment over the course of the two days.

As can be seen from Table 5.1 more people were moving than staying on the second

observation day, in contrast to the first day. This goes to show a steady flow of people through the UGA, some of whom might just be walking through the area on their way somewhere else. Going through the area when going somewhere else is also assumed to be the purpose for people biking in the UGA, this was two persons on the first observation day and four on the second.

### 5.3.2 Sohngårdsholm Parken - the problematic case

Sohngårdsholm Parken is a 6,2 ha green area laid out in front of Sohngårdsholm Castle in 1960 [Enjoy Nordjylland, n.d.(a)]. Sohngårdsholm Parken is characterized as a landscape garden with trees, large grass fields, and meandering dirt paths. Close to the castle is a flower garden with perennial beds that blooms in the summer and a reflecting basin of water. The park is also known for its unique fruit oasis with a great collection of different sorts of apples [Enjoy Nordjylland, n.d.(a)]. The UGA is located southeast of the city center, and in the area, visitors can enjoy the following facilities:

- Benches
- Dirt paths
- Flower garden
- Playground
- Public restroom
- Sohngårdsholm Castle

The landscape in Sohngårdsholm Parken is hilly and larger areas of the UGA are open grass fields. The UGA also has several smaller areas with trees or larger vegetation. A topographic map of Sohngårdsholm Parken and its location in Aalborg can be seen in Figure 5.7.

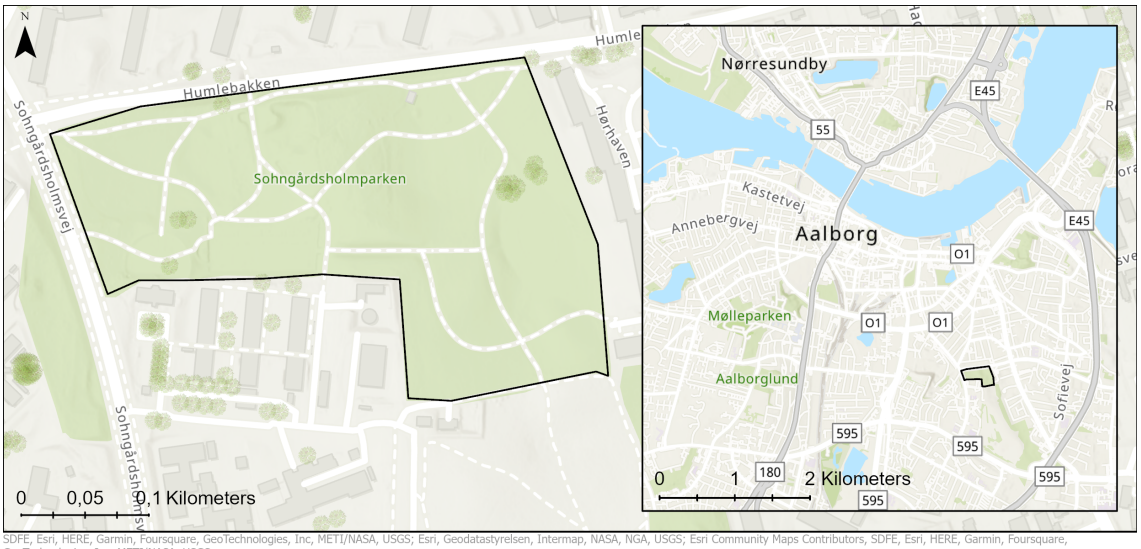


***Figure 5.7.*** Visual presentation of Sohngårdsholm Parken and the UGAs geographical location in Aalborg [Created by the author]

During the observation days, a range of photographs was also taken in Sohngårdsholm Parken, these can be seen on the following page. For Sohngårdsholm Parken there was no clear difference between where the visitors were *moving* and *staying* between the two observations days, and therefore *staying* is just visualized with orange marking on the pictures and *moving* is visualized with blue lines.









The number of visitors during the observation days was also estimated for Sohngårdsholm Parken, and the result can be seen in Table 5.2. For Sohngårdsholm Parken the number of visitors was almost the same for the two observation days with the second day being the busiest. A range of photographs was also taken in Sohngårdsholm Parken, these can be seen on the following page.

| Parameter | 21st | 22nd |
|---|---|---|
| Moving (pedestrian flow) | 16 | 10 |
| Staying (stationary activity) | 8 | 16 |
| Total visitors | 24 | 26 |

***Table 5.2.*** Visitors of Sohngårdsholm Parken on April 21st and 22nd divided by moving or staying

Sohngårdsholm Parken has a playground (picture c) by the northeast entrance, on the first observation day three people were at the playground, but on the second observation day, the playground was the most visited part of the UGA with 15 people staying in the playground area, where children played and the adults were sitting at picnic tables. On the first observation day, four out of five *staying* visitors (apart from on the playground) were sitting in the flower garden (picture a), from where you can enjoy the weather and the view of the castle (picture e), however during the observation days the flower beds where empty and the reflection pool was closed off.

During the observation days, some people were strolling through the area either in small groups or alone (picture b), on the first observation day eight people were observed walking around in the area, and on the second day, the number was seven. For both observation days, many *moving* visitors were walking their dog, six out of eight on the first day and two out of seven on the second day. As can be seen from the picture on the previous page, the blue lines indicating where most of the *moving* visitors were observed, are linked to the facilities like the playground and the flower garden. The blue line also connects the southeast entrance with the northwest entrance and could indicate, that there is a flow of people moving through Sohngårdsholm Parken to another destination. Most *staying* visitors were observed either on the playground or in the area around the flower garden, as shown with orange markings on the picture on the previous page.

The age of the visitors ranged from young adults to elderly people, and there was no clear division of where they were *staying* or *moving*. Based on the observation on the two days the dirt paths (picture h) are equally used by the visitors, and no part of Sohngårdsholm Parken is more dominated by visitors than others except for the playground on the second day.

Sohngårdsholm Parken also facilitates a couple of smaller and more private areas, this is e.g. seen in the vegetated area in the north (picture d) where a couple of picnic tables are placed in the clearings, and in the south of the flower garden where some of the areas have a roof covering (picture g). However, on both observation days, no visitors were observed using these smaller areas.

## 5.4 Comparison of the two UGAs

The comparative analysis of the two case areas aims to answer the residence perspective of SQ2. The analysis is based on the theory described in Chapter 3 and is based on Relphs identity *of* and *with* a place and the parameters of social sustainability from Table 3.2 in the analytical framework. The residence perspective of SQ2 is analyzed through observations of the case study and the survey, and the planning perspective is analyzed through expert interviews and document study. Throughout this section, the data collected via the survey will be presented visually. The first two questions in the survey are descriptive and used to analyze the answers based on the residents' gender and age.

- Q1: *what is your gender?*
- Q2: *what is your age?*

The purpose of these two questions is to analyze what type of respondent has answered the survey, and Q1 and Q2 are subsequently crossed with other survey questions during the analysis to describe the respondent based on gender or age. As can be seen from Table 5.3 and 5.4 there is a surplus of younger female respondents in this survey.

| Female [%] | Male [%] | Other [%] |
|---|---|---|
| 71 | 29 | 0 |

***Table 5.3.*** Distribution of the respondents' gender in percentage (Q1)

| 15-25 [%] | 25-34 [%] | 35-44 [%] | 45-54 [%] | 55-64 [%] | 65-74 [%] | 75+ [%] |
|---|---|---|---|---|---|---|
| 21 | 52 | 6 | 6 | 8 | 6 | 1 |

***Table 5.4.*** Distribution of the respondents' age in years shown as percentage (Q2)

Figure 5.4 clearly shows that Østre Anlæg is the most favorable UGA, not only of the two case areas but in all of Aalborg, and this goes to show that an overweight of respondents feels an attachment towards Østre Anlæg. This is what Relph described as *insideness* in his theory of place. In general, the residents will "rather be here than there". Østre Anlæg receives a clear first place when it comes to their favorite UGA in Aalborg. Sohngårdsholm Parken only received two pins in Q13, and it is therefore assumed that the residents feel less attached to Sohngårdsholm Parken than Østre Anlæg. Sohngårdsholm Parken is troubled by what Relph calls *placelessness* in his theory, where Østre Anlæg on the other hand is easy to differentiate in both the physical and produced space. From the residents who pinned Østre Anlæg as their favorite UGA in Q13, 35% mentioned the word 'lake' or 'water', while one mentioned 'church'. Besides the lake and the church, one respondent described Østre Anlæg as:

*"It is a small oasis in a busy city.. it calms you down"*

The less recognizable and differentiated from other areas, the more *placelessness* the UGA has. This also affects the UGAs identity, as *being a popular place to visit* also is part of Østre Anlæg's identity. However, According to the survey, this may not necessarily be a

positive trait for an UGA. One theme that recurs through the answers is *peace and quiet*, *rest and relaxation*, and *being shielded from the city noise*. It can be argued that many people gathered in one place can contradict this recreational activity as the place can be crowded and noisy, especially when large groups of young people gather to drink beers and listen to music like in Østre Anlæg on the first observation day. Some respondents indicate that they like UGAs that are more private and have small private areas, as these can make the UGA feel less crowded and mute some of the noises. Only one respondent indicated that they enjoy visiting an UGA with lots of people:

*"It has many qualities that unite the urban and the recreational. Lots of people and activities"*

Aesthetics are also a huge part of the UGAs *placeness* (as opposed to Relph's *placelessness*) and the UGAs' identity, as it is something that the visitors remember and highlight about the place. It is clear that the respondents enjoy the aesthetics of Østre Anlæg, and also that this is an important factor for them when visiting UGAs. As mentioned above several respondents answered 'lake', 'water', and 'church' in Q15, indicating that the most memorable and aesthetic part of Østre Anlæg is the area around the lake with the view of the church.

For Sohngårdsholm Parken the most aesthetic part of the UGA is the flower garden and the castle, but during the observation days the flower beds were half empty with no blooming flowers, and the reflection pool was closed off. This was probably due to the time of the year, but it goes to show that the aesthetic part of Sohngårdsholm Parken is primarily accessible during the summer. Furthermore, the area around the castle felt private and did not invite for strolling and spending time in the small garden in front of it.

The aesthetics are related to the physical space but have an impact on the produced space and the recreational use for the visitors. Both Østre Anlæg and Sohngårdsholm Parken have room for relaxation in a natural setting where the visitors experience a distance to the city and the traffic noise and bustle. Several respondents indicated that *relaxation* and *peace and quiet* is their purpose for visiting UGAs. The recreational and aesthetic nature of UGAs relates to the concept of *well-being*, as being in nature and relaxing has a positive effect on mental health. It is clear that this is also part of the residents' intention when visiting UGAs, as seven respondents address *quality of life* and their mental health in Q8: *"What is your purpose of visiting UGAs?"* using phrases like *"to improve my mental health"* and *"nature gives me inner peace and happiness"*. This goes to show that visiting UGAs has a positive effect on the visitor's mental health and well-being and also that this is part of why the residents visit them.

Through the literature study on UGAs in Chapter 3, it is clear that residents who visit UGAs frequently benefit more from the cultural ecosystem services that they provide, like recreational use and positive effect on mental health. Q7: *"How often do you visit an urban green area?"* examines the residents' frequency of visiting UGAs. The result can be seen in Figure 5.8, and as can be seen, more than 50% of the residents visit UGAs at least once a week, and 10% even visit every day.

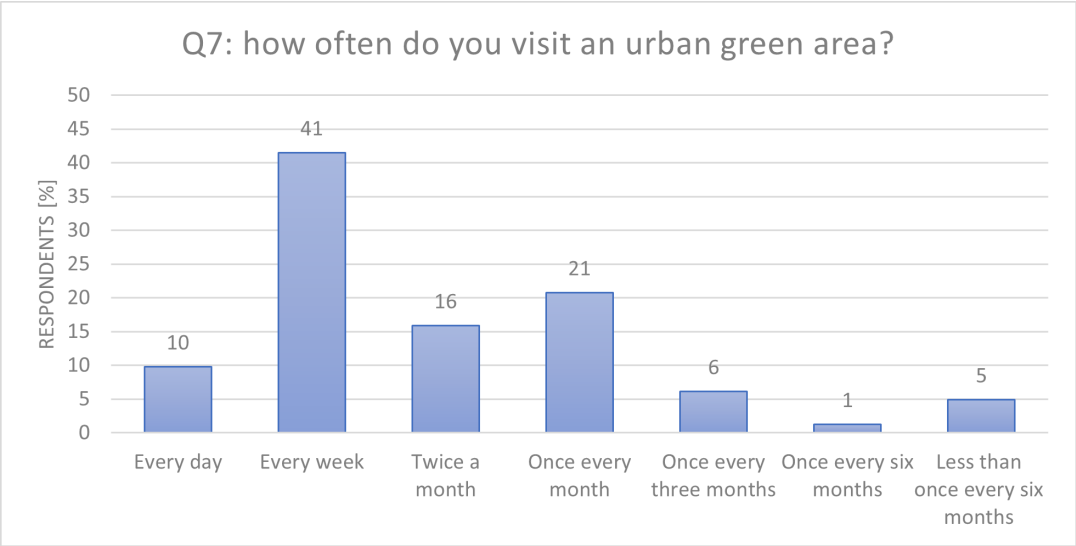


***Figure 5.8.*** Respondents' declaration of how often they visit UGAs (Q7)

Because of the potential for benefiting from cultural ecosystem services when staying in UGAs, it is from a social sustainability point of view desirable that the residents visit UGAs frequently.

If Q7 is crossed with gender, it is seen that female residents (orange, Figure 5.9) tend to visit more frequently than male residents (grey, Figure 5.9), and since there is an overweight of females in this survey (Table 5.3 it can be argued that Q7 would have fewer respondents in *'every day'* and *'every week'* and more respondents in *'once a month'*, *'once every three months'* and *less than once every six months* if the gender distribution was more true to reality. Since the frequency of visits affects the benefit of the cultural ecosystem services, it is desirable that the residents visit the UGAs as much as possible.

If the frequency is crossed with age, there is however no trend as to which age group visits the UGAs most often.

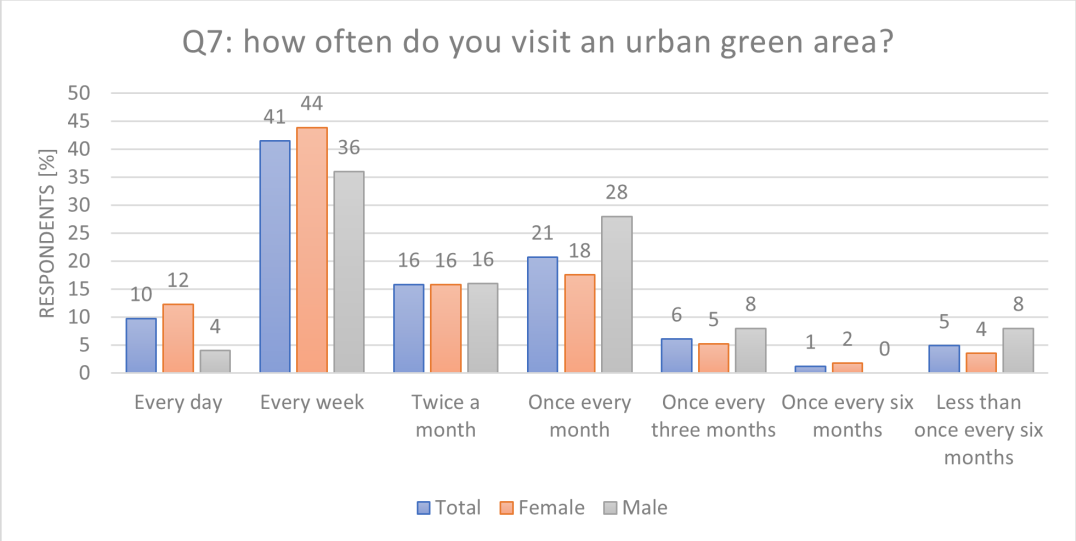


***Figure 5.9.*** Respondents' declaration of how often they visit UGAs based on their gender (Q7)

The SUSY Grøn report, described in the literature study, shows that the proximity between home and UGA affects how often people visit. Meaning that the shorter the distance the residents have between home and an UGA, the more often they tend to visit that UGA. Figure 5.10 shows the two case areas and their location in Aalborg (Østre Anlæg in the north and Sohngårdsholm Parken in the south). Østre Anlæg is located closer to the city center, and it is therefore assumed that more people pass Østre Anlæg in their daily life than is the case for Sohngårdsholm Parken. This affects the residents' attachment to the two UGA, and since Østre Anlæg is passed by more residents, more residents have a relationship towards the area.

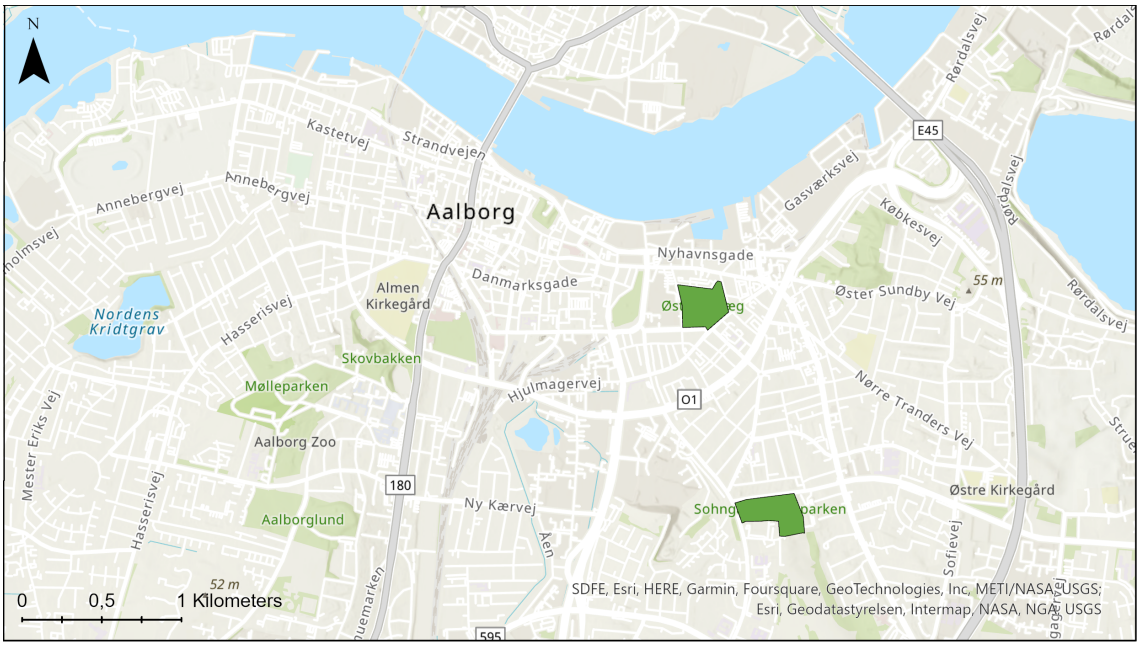


***Figure 5.10.*** The two UGAs, Østre Anlæg and Sohngårdsholm Parken's geographical location in Aalborg and in relation to each other [Created by the author]

The statement from SUSY Grøn report, also indicates that if more people are living in close proximity to an UGA, the more likely they are to visit that UGA frequently, and because of the emotional bond formed between residents and the UGAs that they visit, it is assumed that they will also be more likely to pin an UGA as their favorite in Q13 if they live within close proximity of it.

Based on Aalborg Municipality's ambition of residents living within 300m of an UGA of 1 ha Figure 5.11 was created to examine the total amount of residents living within 300m of Østre Anlæg (7.379) and Sohngårdsholm Parken (2.944). There are 2,5 times as many people living within 300m of Østre Anlæg than Sohngårdsholm Parken. Assuming that proximity defines which UGA people visit, this means that 2.5 more people should visit Østre Anlæg than Sohngårdsholm Parken. However, based on Q13 seven times as many people indicated Østre Anlæg as their favorite UGA compared to Sohngårdsholm Parken. When more than 2.5 times as many residents pinned Østre Anlæg than Sohngårdsholm Parken, this goes to show, that the population density around Østre Anlæg cannot be given full credit for the number of pins Østre Anlæg received. This goes to show, that something besides the proximity must affect the residents' willingness to visit UGAs and that this potentially has a higher attraction that the close proximity of 300m.

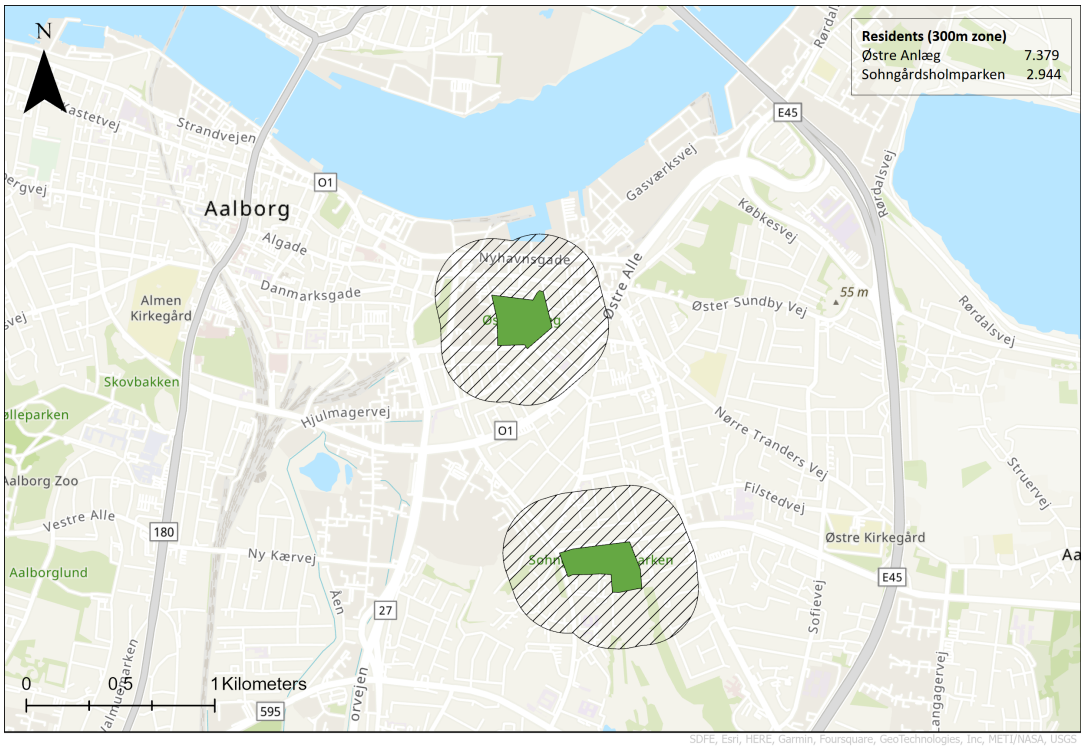


***Figure 5.11.*** Total residents living within 300m of the two case areas respectively [created by the author]

When looking at the number of residents counted during the observation days (Table 5.1 and 5.2) 263 people visited Østre Anlæg on the first observations day, and this is almost 11 times as many visitors than Sohngårdsholm Parken. On the second day, however, Østre Anlæg had 60 visitors and that is 2,3 times as many visitors that Sohngårdsholm Parken. This goes to show, that on the second observation day, the difference in visitors almost corresponded to the difference in population density within the 300m zone of the two areas. This goes to show, that people's favorite UGA is not necessarily the closest or within 300m of their place of residence. Some were willing to travel further to go to their favorite UGA on the first observation day. The reason why Østre Anlæg was the residents' favorite among the UGAs in Aalborg, must therefore be due to something other than the population density around the area.

In total, 20 respondents chose Østre Anlæg as their favorite UGA, 15 of which answered Q15 *"What do you like about the urban green area that you pinned (in Q13)?"* and 2 out of the 15 respondents indicated that proximity is part of why Østre Anlæg is their favorite UGA, meaning that 86% did not think to mention the proximity when answering this question. This is probably due to the proximity not being important for them, or because they do not live within close proximity of Østre Anlæg. In addition some respondents mentioned "not too many people, being away from cars" and "being a good place to meet with friends" in Q15. One respondent indicated the following:

> *"It is not the closest to where I live, but it is really green (...) and it has so much nature, like ducks and a lake. It combined everything, it's a very nice scenery in the city."*

Showing that this respondent is aware, that proximity is an important factor when visiting an UGA, but also that this respondent values something else in Østre Anlæg more than the proximity. According to the quote, it seems that the more important thing for this respondent is the experience of being in nature.

Two respondents picked Sohngårdsholm Parken and non of them indicated that proximity is the cause of this, however, the mean distance for these two respondents to Sohngårdsholm Parken is 400m. This is not within the 300m, however, it can be assumed that it is not far away. They both answered in Q15 that what they like about Sohngårdsholm Parken is that the area is large and has a lot of walking paths.

The self-proclaimed distance from home to favorite UGA was examined in Q14: *"approximately how far do you live from the urban green area that you pinned (in Q13)?"*. Figure 5.12 shows the result. 13% of the respondents live within 300m of their favorite UGA, and 38% live within the 500m zone. This shows that more than half of the residents are traveling more than the 500m zone to visit their favorite UGA. For the residents who pinned Østre Anlæg in Q13, the mean distance from home to Østre Anlæg is 1273m. Quite a lot more than the 300m or 500m zones, that the municipality focuses on.

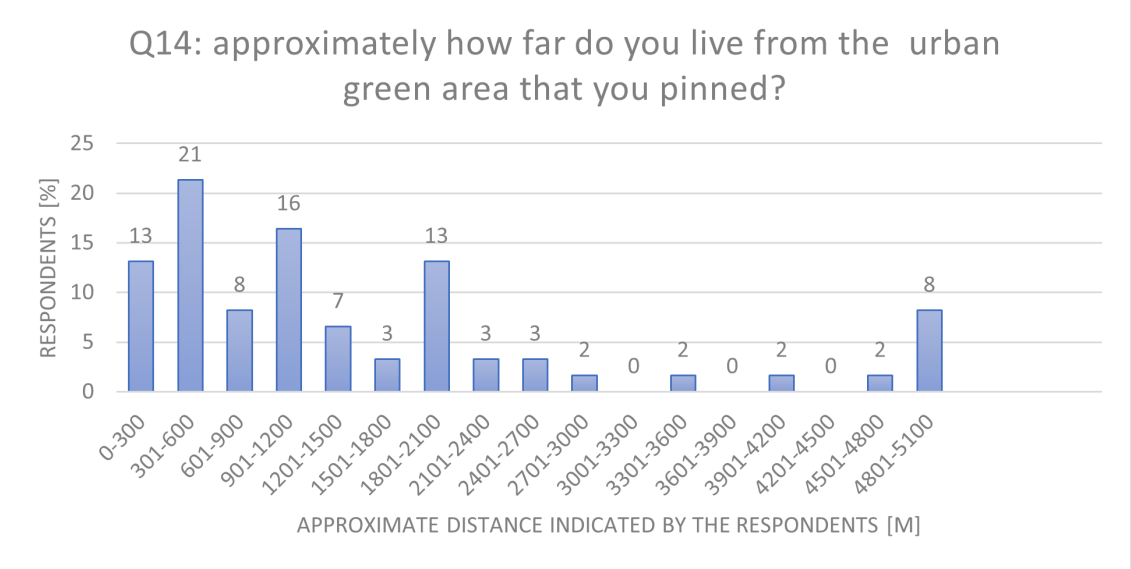


***Figure 5.12.*** Respondents approximate distance between home and favorite UGAs (Q14)

When the residents are willing to travel longer to visit their favorite UGA, this indicates, that other parameters are affecting their relationship to the UGAs than just the proximity. Based on Relph's definition of identity *of* a place the activities performed by the residents in the UGAs were also examined. This was done through both Q9: *"What kind of activities do you enjoy in the urban green areas?"* and Q10: *"Are there any activities that you wish to do in an urban green area but cannot?"*. Q9 shows that 38% primarily use the UGAs during transport from A-B and 27% use the area for exercise. This points to the previous argument of a steady flow in the UGAs based on the blue lines showing *movement* was primarily the bigger paths leading from entrance to entrance. This also indicates that most of the residents are *moving* and not *staying* when they visit an UGA. When looking back at the structure analysis where *moving* and *staying* visitors were counted during

the observation days in the two case areas (Table 5.1 and 5.2), this was not always the case. During the first observation day, there were four times as many *staying* than *moving* visitors in Østre Anlæg but twice as many *moving* than *staying* visitors in Sohngårdsholm Parken. On the second day, this picture reversed.

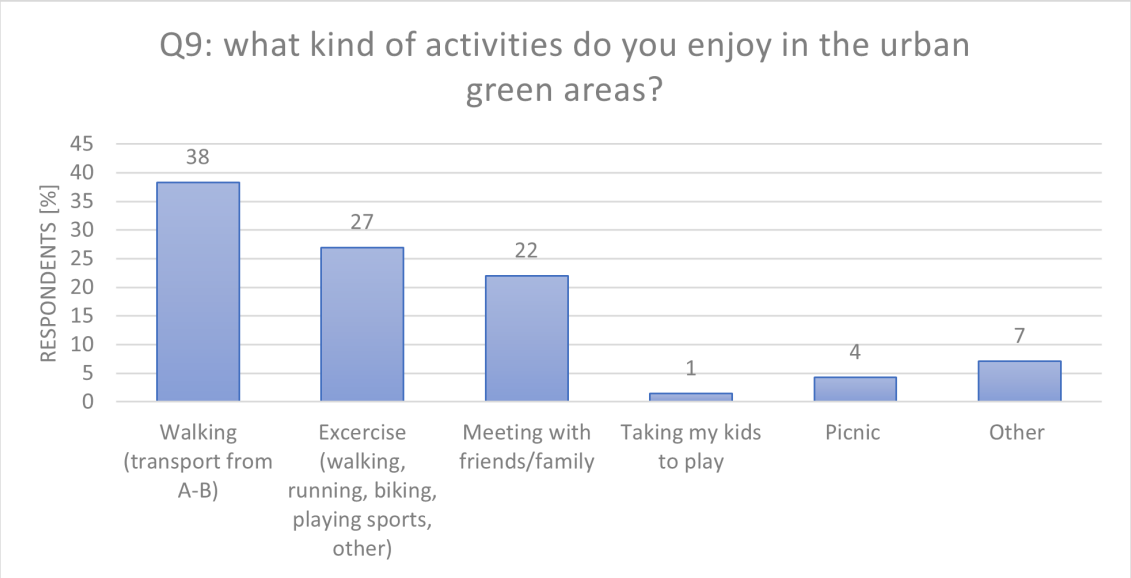


***Figure 5.13.*** Respondents declaration of the activities they partake in UGA (Q9)

As mentioned above 27% of the respondents indicated that their primary intention with visiting the UGA was *'exercise'*, showing that the residents' visit in the UGA also affects their physical health. Furthermore, during the observation, it was clear that Østre Anlæg facilitates a lot of different sports. There is a football field, a volleyball field, an outdoor fitness area, and dirt paths for walking, biking, or running. For Sohngårdsholm Parken there is no such sports equipment in the UGA, but it is possible to walk, bike, or run on the dirt paths, that are similar to the ones in Østre Anlæg. Table 5.5 and 5.6 show the distribution of residents performing different kinds of exercise during the two observation days. For both UGAs walking is the primary form of exercise, but it is unclear if the intention for walking is exercising, transport, or just strolling in the area, however, it can be argued that no matter the intention it affects the visitors' physical health.

**Østre Anlæg:**

| Observation | 21st of April [%] | 22nd of April [%] |
|---|---|---|
| Walking | 21,3 | 43,3 |
| Biking | 0,7 | 6,6 |
| Running | - | 5 |
| Football | 5,7 | - |
| Volleyball | 1,5 | - |
| Outdoor fitness | - | 1,7 |
| Total | 29,2 | 56,6 |

***Table 5.5.*** Percentage of visitors doing different activities related to exercise on the two observation days in Østre Anlæg.

**Sohngårdsholm Parken:**

| Observation | 21st of April [%] | 22nd of April [%] |
|---|---|---|
| Walking | 58,3 | 34,6 |
| Biking | 8,3 | 3,8 |
| Running | 8,3 | - |
| Total | 74,9 | 38,4 |

***Table 5.6.*** Percentage of visitors doing different activities related to exercise on the two observation days in Sohngårdsholm Parken.

While Q9 examined the residents' use of UGAs, Q10 examines which activities the residents want to do but cannot do within the UGAs. Only 13 respondents answered Q10, and two mentioned games or outdoor sports facilities, one mentioned a private place for bathing. The respondents mentioned no specific sports facilities, and it must be argued that Østre Anlæg already fulfills this preference, but also that there is room for improvement when it comes to sports facilities in Sohngårdsholm Parken.

The lack of responses to Q10 furthermore indicates that the residents get most of their intentions for activities in the UGAs fulfilled, or that their visit doesn't necessarily need an activity, like one respondent stated:

*"My visit in these areas does not need an active task, but functions as a free space away from the city noise"*

Q16 examines the respondents' opinion on different statements about their favorite UGA, and the purpose of this is to investigate why the respondents prefer that particular UGA based on Relph's identity *of* where the physical environment and the activities that it provides is examined (the first two statements), and the respondents feeling when being in the UGA (the last two statements). The result can be seen in Figure 5.14.

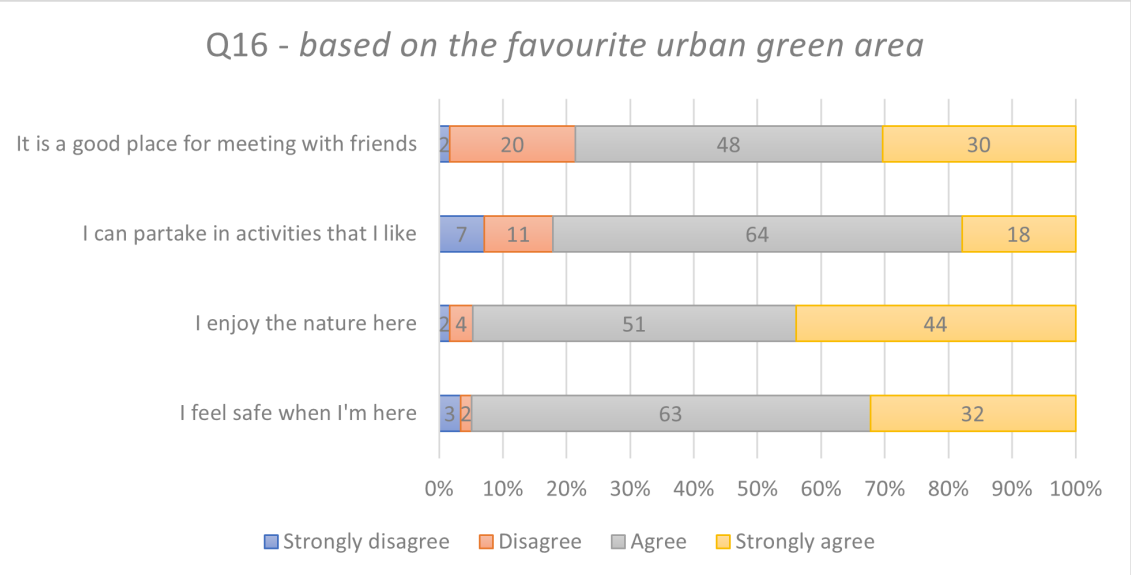


***Figure 5.14.*** Respondents' attitude towards different statements related to their favorite UGAs (Q16)

As can be seen from Figure 5.14 most respondents either *agree* or *strongly agree* with all four statements, but for the first two statements this is less so. 1/5 respondents do not think that their favorite UGA is a good place for meeting with friends or that they can partake in activities that they like. This indicates that these respondents' choice of favorite UGA is based on something else than social interactions and activities, and for these respondents, it could be the proximity that is most important or something entirely else.

The last part of Relph's trifold definition of identity *of* is the meaning given to the place by the visitors. This can also be explained by their *intentions* and *expectations* that have also been analyzed previously in this chapter. The residents' intentions when visiting an UGA were further examined in Q8 *What is your purpose of visiting the urban green areas?* the most typical answers were related to recreational use of nature (36%) and 'walking' (27%). One respondent stated:

*"I seek green areas in the city to get some fresh air and because nature gives me an inner peace and quiet"*

This goes to show, that most respondents visit the UGAs for the recreational aspect of being in nature, enjoying the weather and the view. The meaning given to the place is furthermore connected to the place's identity as described previously in this chapter. When Østre Anlæg is both a place with aesthetic views, places for relaxation and recreation, and offers a range of activities including a playground for the kids, the UGA can facilitate many different intentions and expectations, and therefore many different identities are being formed.

During the observations a lot of different types of visitors were observed in Østre Anlæg, this was in relation to their age, but also in relation to the activities that they enjoyed during their stay. For Sohngårdsholm Parken the visitors were more alike especially in terms of activities, indicating that Sohngårdsholm Parken does not invite to a lot of different activities. The visitors in Østre Anlæg were characterized by groupings, both the large groups of young people on the grass field but also smaller groups of people spread out in the area. For Sohngårdsholm Parken most visitors were either alone or in pairs of two persons, with the families on the playground being the exception. This indicates that Østre Anlæg to a greater extent facilitates social engagements, this is also reinforced by the larger crowd in Østre Anlæg. It must therefore be assumed, that residents with the intention of partaking in activities like playing football or socializing in larger groups would prefer to visit Østre Anlæg for this.

### 5.4.1 Analysis of the accessibility to urban green areas

In addition to the parameters of social sustainability defined through the theories in Chapter 3 also the residents of Aalborg's *accessibility* to the UGAs is analyzed. This is done because it is clear that the frequency of visiting UGAs affects how much the residents can benefit from the cultural ecosystem services, that the UGAs provide, and it is therefore desirable that residents visit these areas as much as possible. In the last section, the accessibility based on proximity was partly examined, however, not all residents have

the same opportunity to go to an UGA, this can relate to proximity, but also to physical or mental challenges. At the same time, it can be argued that since visiting UGAs affect both physical and mental health, people suffering from different challenges might benefit from the cultural ecosystem services the most or have the highest need for these benefits.

Earlier in this chapter the proximity from home to UGA was addressed, but the perceived proximity is not necessarily the same distance for all residents. According to Q12 in the survey, more than 8 out of 10 respondents feel that they live close to an UGA, as Figure 5.15 shows. When looking at the mean distances, we see that the respondents who answered yes in Q12, have a mean distance from home to an UGA of 1279m, and the respondents who said no, have a mean distance from home to an UGA of 2738m. This indicates that the 300m and 500m zone defined by the Municipality might not be the best indication of proximity, as the resident who answered "yes" give the perceived proximity a means distance of almost 1300m.

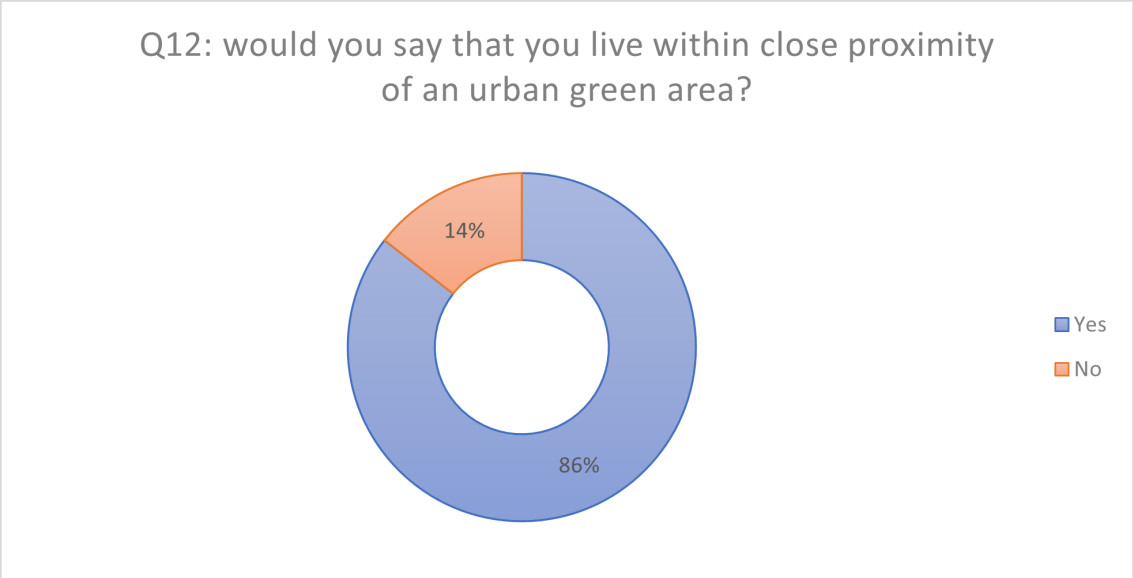


***Figure 5.15.*** Respondents' declaration of the proximity between home and UGAs (Q12)

Table 5.7 shows the perceived proximity from a gender perspective, we see that female respondents, who said that they live within close proximity of an UGA (Q12) have a mean distance of 1389m from home to UGA, while male respondents have a mean distance of 1020m from home to UGA. This indicates, that the female respondents in general view a longer distance as being within close proximity, and are therefore according to the theory willing to visit UGAs more frequently even if they are located a bit further away.

| Gender | Perceived proximity | Self-proclaimed distance [mean] |
|---|---|---|
| Female | Close | 1389 m |
| Female | Far | 3225 m |
| Male | Close | 1020 m |
| Male | Far | 2666 m |

***Table 5.7.*** Relationship between perceived proximity and self-proclaimed distance based on gender (Q2)

Compared with the gender distribution of Q7, it is also seen that female respondents tend to visit UGAs more frequently than male respondents, and this gives evidence to the previous statement, that they will travel a longer distance to visit UGAs, and still describe it as being *"within close proximity"*. The same kind of analysis can be done based on the two case areas. The residents who pinned Østre Anlæg (Q13), tend to view a longer distance as *within close proximity* than the residents who pinned Sohngårdsholm Parken. The result can be seen in Table 5.8, 'n' indicates the sample size meaning the number of residents within this category on favorite UGA and perceived proximity of it.

| UGA | Perceived proximity | n [%] | Self-proclaimed distance [mean] |
|---|---|---|---|
| Østre Anlæg | Close | 67 | 1033 m |
| Østre Anlæg | Far | 23 | 2233 m |
| Sohngårdsholm Parken | Close | 100 | 400 m |
| Sohngårdsholmparken | Far | 0 | - |

***Table 5.8.*** Relationship between perceived proximity and self-proclaimed distance based on the two case areas (Q13)

No respondents, who pinned Sohngårdsholm Parken in Q13, answered "no" to living within close proximity, which can indicate that the proximity between home and UGA is of importance when favoring Sohngårdsholm Parken, but not as much when favoring Østre Anlæg, and this is probably because, based on the survey answers, Østre Anlæg fulfills more intentions and expectations for visiting UGAs than Sohngårdsholm Parken does. However, it should be mentioned that only the analysis of Sohngårdsholm Parken is based on only two respondents because it is the *problematic case*.

Accessibility also relates to transportation to and from the UGA. More than 3 out of 4 respondents' (76%) main mode of transportation when visiting an UGA is walking and 13% take their bike. As can be seen in Figure 5.16 this leaves only 12% for all other transport forms.

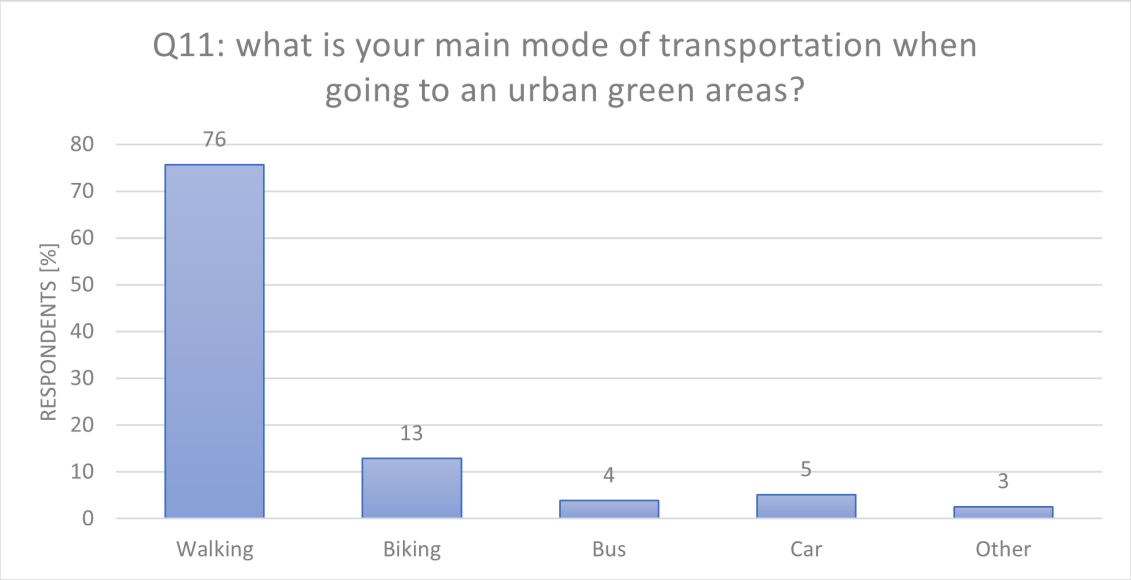


***Figure 5.16.*** Respondents' main mode of transportation when visiting UGAs (Q11)

When most of the respondents are walking to visit UGAs this limits the distance that they are willing to travel to get there, but at the same time, in Q9: *what kind of activities do you enjoy in the urban green areas?* 38% said walking from A-B and 27% said exercising, and it can therefore be assumed that the walk to and from the UGA in some cases is part of the activity. Only 4% said "bus" even though public transportation is one of Aalborg Municipality's strategies, and as mentioned previously, the Growth Axis is the basis of the coming +bus line, meaning that accessibility via public transportation might increase in the future.

The questions above relate to the physical accessibility to the UGAs, but this can be affected by other things than just the distance and the transport form.

Q4, Q5, and Q6 relate to respondents with physical or mental disabilities that limit their use of UGAs. The purpose is to investigate these respondents' accessibility to UGAs and why this limitation appears based on the physical elements. Since social sustainability is a common good, equal access is important, but residents with some mental and physical challenges do not experience the same accessibility to UGAs as others. Due to the limited number of respondents in this survey, and especially respondents who answered *yes* to having a mental or physical challenge that might restrict their accessibility to UGAs, it is not possible to generalize based on this survey, but the respondents' view of their own limitations are still valid.

As can be seen in Figure 5.17 8% of the respondents are limited in their use of UGA because of a physical or mental challenge, and for more than four out of five of these respondents this affects how often they visit an UGA, and/or which UGAs they visit (Figure 5.18).

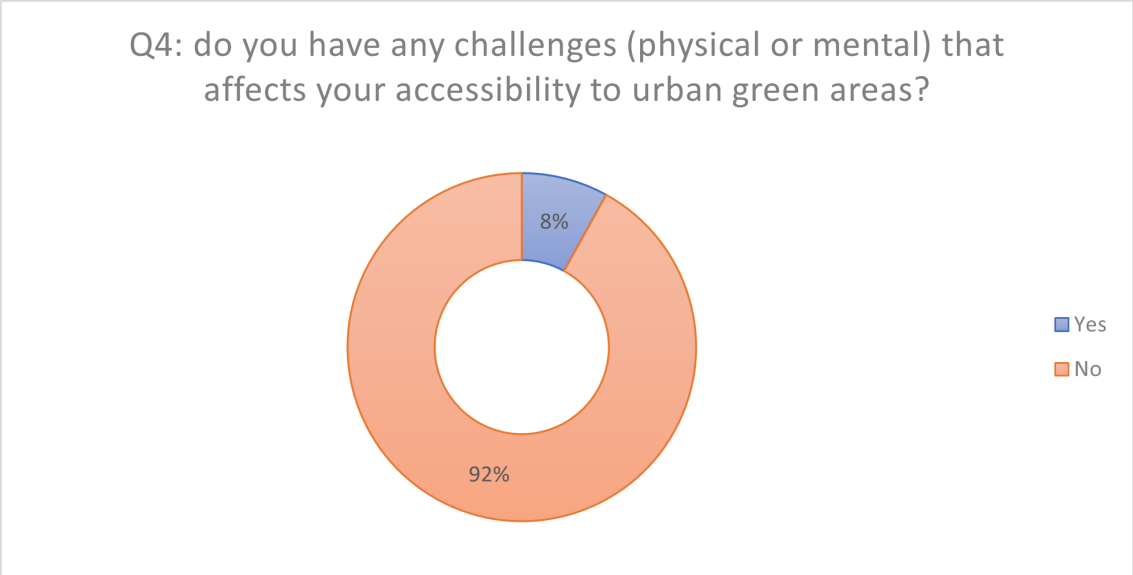


***Figure 5.17.*** Share of respondents whose accessibility to UGAs is affected by a physical or mental challenge (Q4)

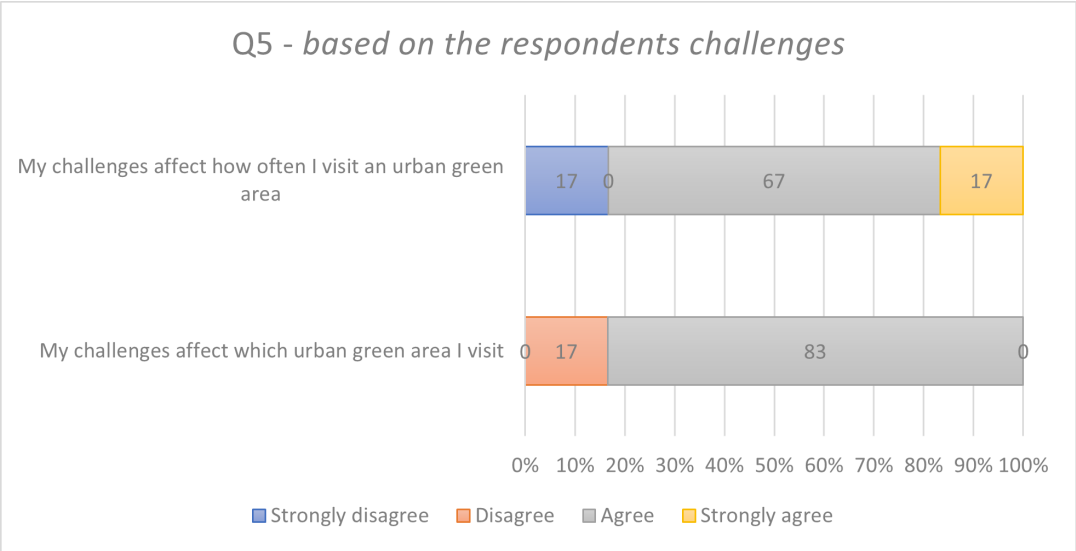


***Figure 5.18.*** How the respondents are affected by their challenge (only respondents who answered 'yes' to Q4) (Q5)

Q6 in the survey examined what actions could be taken in the UGAs to provide higher accessibility for the residents with these challenges. Five respondents answered Q6, and what would make the UGAs more accessible for them are harder and more even surfaces like pavement and flat terrain. One respondent also stated the following:

*"Overview of facilities, toilets and easy access with public transportation."*

When 8% of the respondents are limited in their use of UGAs, this compromises their ability to benefit from the cultural ecosystem services that the UGAs provide, and this could affect their general well-being. It is important to increase the general accessibility whether it is based on proximity, *insideness* or physical or mental restrictions, as it will provide more equal access to common goods and potentially increase the social sustainability in the area.

### 5.4.2 Summary

The previous sections analyze the difference between the two case areas and the residents of Aalborg's use and preferences towards their local UGAs. At the same time, it aims to answer the residents' perspective of SQ2. It is clear that the residents of Aalborg enjoy visiting their local UGAs with more than 50% visiting every week. Based on the observations and the survey, the activities that the residents enjoy the most is taking walks and other forms of exercising and socializing with friends. At the same time, many respondents indicate that what they enjoy about visiting UGAs is the aesthetics and the recreational use of the area that invites for relaxation away from the built environment.

It is clear that the biggest difference between the two case areas is Østre Anlæg's ability to facilitate a range of different activities, and the distinct aesthetics of the area with the lake and the church. Because Østre Anlæg is divided into three sub-areas with different physical environments and especially different produced environments, the area can offer a wide range of different facilities for different visitors at the same time without them interfering with each other.

Østre Anlæg consists of the grass field that supports socializing in large groups and playing sports, the area around the lake with the aesthetic view of the church and paths for walking, and several smaller and more private areas for being shielded from other visitors. Sohngårdsholm Parken does not have the same ability to provide its visitors with a range of different physical environments, and it must therefore be assumed that the area also does not facilitate a lot of different produced environments.

In a way, you can say that the *who* and the *what* of Sohngårdsholm Parken are comparable to the *who* and the *what* in the eastern part of Østre Anlæg around the lake - but without the same aesthetic expression of the area. These are not places dominated by social interactions, but they are assumed to be dominated by people with the intention of using the area recreationally while getting a bit of fresh air, light exercise, or walking their dog. This limits the range of people who will get their *intentions* and *expectations* met when visiting Sohngårdsholm Parken, while Østre Anlæg supports different intentions and expectations, and since the area is divided into different sections, these can be played out without interfering with each other.

## 5.5 Aalborg Municipality's planning approach

This section aims to investigate how Aalborg Municipality works with social sustainability, and how it is included in plans and strategies on a general level and in relation to UGA planning. In relation to this also different challenges related to UGA planning will be analyzed. This is examined via data from the expert interviews and the document study. Two of the five documents *Verdensmålsstrategien* and *Bæredygtighedsværktøj* relate directly to sustainability, and they will be used initially to examine how Aalborg Municipality addresses social sustainability. Two other documents are strategies and plans, and these will subsequently be used to identify traces of social sustainability, according to the definition in Chapter 3, in relation to the municipality's strategies for UGAs, and the last document examines Aalborg DNA based on data collected from the residents.

### 5.5.1 Baseline of social sustainability planning in Aalborg Municipality

According to Bodil V. Henningsen from Aalborg Municipality [Henningsen, 2023], the municipality works with social sustainability in many contexts but the term is often to be read between the lines and not directly addressed in the plans and strategies. This means that the municipality does not have a definition of the term itself or how they work to incorporate it into the planning processes. When analyzing the five documents, it is however, clear that Aalborg Municipality focuses on the human benefits from access to nature and the importance of making nature more accessible for the city residents. Already in the preface of the Municipality's current main structure *Fysisk Vision*, they state the following:

> *"Rich nature in the cities has a positive influence on humans' mental, physical, and social health. Therefore it is important to create more nature and more green areas through city development"* [Aalborg Kommune, 2021]

Aalborg Municipality has developed a sustainable development strategy called *Verdensmålsstrategien*. The strategy addresses all three sustainability pillars within the four overall policies of *climate, resources, inequality* and *biodiversity*. Social sustainability as it is defined in the analytical framework of this study is addressed in the policy of *inequality* and shortly in the policy of *biodiversity*. Within the policy of *inequality*, Aalborg Municipality states:

> *"The world's inequality is rising at the moment - also in Denmark. Despite that, Denmark is one of the most equal societies. (...) The relatively high economical equality gives the opportunity to think about equality in a broader perspective, that not necessarily is based on economics, but is about access to the community's resources in a broader understanding, e.g. access to education and health. Verdensmålsstrategien*

This is the same argument as presented by Tim Jackson in Chapter 3; economic growth will have an insignificant effect on well-being in Denmark. Therefore, Aalborg Municipality assesses these focus points as being more important and significant: health, inequality, loneliness, dissatisfaction among children and young people, inequality in the democratic process, segregation, unequal terms between the countryside and the city, and inequality in social mobility.

When comparing the section on inequality with the parameters of social sustainability defined in the analytical framework of this study, there is an overlap in health (both mental and physical) and securing equal access to common goods. The *biodiversity* policy mainly addresses environmental sustainability, but access to UGAs is mentioned twice, stating:

> *"It is important to create green urban spaces, so also citizens living in Aalborg city can meet the nature and green areas in their everyday life close to where they live. In the city, we create space for nature. This gives better health and well-being. However, we have to secure mediation of our nature to citizens of every age across the municipality. Verdensmålsstrategien*

This statement addresses the citizen's health and how health is an indication of well-being or social sustainability as defined in the analytical framework. The statement also addresses the importance of UGAs being within close proximity of the residents, and this point is also supported by Aalborg Municipality's aim of securing a maximum distance of 300m or 500m to recreation green areas for all city residents. At the same time, the statement resonates with a point made by Kirsten Lund Andersen [Andersen, 2023] during the phone interview:

> *"One thing is physical accessibility (easy access from home), a wide range of options, and how this is made accessible via mediation - these are the three prerequisites.* [Andersen, 2023]

Stating that the mediation of what city nature can offer is equally important as physical accessibility via short distances and many different options for recreational areas. According to Andersen, this is important because people are more likely to use the UGAs if they know more about them, or e.g. was taken to similar places by their parents as children. It relates to familiarity, not necessarily of a specific place, but a similar place in terms of what it can offer and how to use it and access the cultural services that the place provides.

In addition to *Verdensmålsstrategien* the *By og Land* department has created a sustainability tool called *Bæredygtighedsværktøj*, which functions as a "simple way to work with and visualize the sustainability in a plan or project". The *bæredygtighedsværktøj* contains a total of 23 recommendations for sustainability, whereof four are for social sustainability, and furthermore, projects' ability to live up to the 17 SDGs are addressed with a list of "relevant action areas" for each SDG. Again, this tool relates to all three sustainability pillars, but *social* sustainability, as it is defined in the analytical framework, is found in the list of relevant action areas of SDG 3 *Good health and well-being*, SDG 5 *Gender equality*, SDG 14 *Life below water*, and SDG 15 *Life on land*. The focus points related to social sustainability within these SDGs are the following four:

1. Increased access to nature and green areas (SDG 3)
2. Activities out in the open (SDG 3)
3. Attractive, green meeting places and facilities for everyone (SDG 3 and 5)
4. Nature must be closer to the citizens and citizens must have more knowledge about nature (SDG 14 and 15)

Furthermore, *Bæredygtighedsværktøj* actually defines social sustainability as being about:

> *"Doing something actively about the increasing inequality and to ensure the cohesion across social and geographical distinctions. It is also about health and life quality and about equal access to social offers. At the same time, we must secure diversity and create a good link between physical framework and the social life for everyone."* [Aalborg Kommune, n.d.]

This definition is not related to UGAs, but points to several cultural ecosystem services that the UGAs can provide according to the literature study. However, *'Green and recreational facilities'* is only mentioned twice in the recommendations for securing social sustainability in the *Bæredygtighedsværktøj*. Furthermore, when comparing the recommendations with the parameters of social sustainability defined in the analytical framework, they also overlap twice within one recommendation:

> *To secure general* ***well-being for everyone****, e.g. by securing local communities and* ***social activities*** *among others through green and attractive meeting places and city places for everyone across ages, social backgrounds, and interests, etc.*

The recommendation mentions *well-being for everyone* and *social activities* for securing social sustainability, and these two parameters are also found in the analytical framework of this study.

Both *Verdensmålsstrategien* and *Bæredygtighedsværktøj* address social sustainability in relation to city development in Aalborg Municipality on a conceptual level. They acknowledge the importance of addressing social sustainability, human well-being, and health, and also to some extent, that this can potentially be achieved through access to green and recreational areas in the city. The two strategies contain recommendations for the future of the city but they refer to the *end goal* and not the process, as there is no assessment on *how* these goals should be achieved best possible, resulting in no guidelines or specific solutions to secure these recommendations are successfully achieved. The *bæredygtighedsværktøj* is furthermore meant to be recommendations in the preliminary phase of the planning, and no evaluation of the project is made in terms of social sustainability. This was also addressed during the expert interview, where Henningsen [Henningsen, 2023] stated the following:

> *"If we should measure anything, it has to be measurable, and what are the success criteria for social sustainability? (...) This is part of the challenge.*
> [Henningsen, 2023]

Just like at the beginning of this section, this goes to show, that one challenge for the municipality is that social sustainability is not defined in terms of success criteria either, and can therefore not be evaluated when looking back at a finished project.

In *Verdensmålsstrategien* and *Bæredygtighedsværktøj* there is a limited focus on UGAs and public places in general. As mentioned, the municipality acknowledges the importance of social sustainability, but maybe it is not a focus point when planning and designing UGA for the residents of Aalborg. The current main strategy, *Vores vision*, and the policy for nature, parks, and outdoor life, *Under Åben himmel* should show whether social sustainability is a focus point when planning UGAs.

In general, there are two types of intentions with nature; *nature for the sake of nature* or environmental sustainability and *nature for the sake of humans* or social sustainability. *Vores vision* states that *nature for the sake of nature* is a priority in the open land, and *nature for the sake of humans* is a priority in the cities. However, in both strategies, there tends to be more focus on *nature for the sake of nature.*

*Under åben himmel* revolves around four visions:

1. Space and access to nature and outdoor life
2. Rich nature and a diverse outdoor life
3. Mediation and knowledge about nature and outdoor life
4. We are united in creating rich nature and a diverse outdoor life

*Mediation and knowledge about nature and outdoor life* point to the statement made by Andersen, that knowledge about UGAs and their potential is equally as important as physical access. The last vision *we are united in creating rich nature and a diverse*

*outdoor life* focuses on *collaboration* between the municipality and different industries, organizations, and volunteers. This reconciles with the point from the analytical framework, that collaboration and citizen involvement is important when securing social sustainability. These two visions relate primarily to the work process, however, they do not focus on *nature for the sake of humans* or any of the social sustainability parameters defines in the analytical framework of this study.

The first two visions relate more directly to the planning and the goal for nature in Aalborg Municipality, e.g. the first vision aims to secure access to nature and outdoor life, and states:

> *"Our parks and nature have a special meaning for a lot of people, and the green areas are well-known places in the city across generations. The areas are pervasive elements in our lives, and maybe our future grandchildren will visit the same old trees, as we visit now."* [Aalborg Kommune, 2018]

To each of the four visions is a bullet list of goals that the municipality aims to achieve and a bullet list of *how* they will achieve this. The *how* was found to be lacking in the first two documents addressed in this document study, making these overall and general in their perspective on both social sustainability and UGAs. When it comes to *nature for the sake of nature* several of the *'how's* are specific ways to reach the goals, e.g. to make space for nature and outdoor life the municipality will increase the number of trees in the city by 3-5% each year, and to secure rich nature and a diverse outdoor life they will fight invasive species and map the biological diversity in five designated forests. These approaches are specific in terms of *how* they will achieve the overall goal within the visions, and are e.g. based on numbers, amounts, specific areas, or specific time periods.

However when it comes to *nature for the sake of humans*, the *'how's* are a lot more general and overall just like in the two sustainability documents assessed previously in this section. This is not surprisingly based on Henningsen's statement used as the opening line of this section, and since the literature study defined social sustainability as the least theoretical of the three pillars making it hard to conceptualize the term.

During the document study the two visions *space and access to nature and outdoor life* and *rich nature and a diverse outdoor life* were analyzed in terms of quantity of *nature for the sake of nature* and *nature for the sake of humans* based on the social sustainability definition in the analytical framework. Not only are the *'how's* related to social sustainability more general and overall but there are also fewer of them compared to environmental sustainability. For the first vision *rich nature and a diverse outdoor life*, the bullet list of goals that the municipality aims to achieve contains seven bullets that relate to environmental sustainability and five that relate to social sustainability. For the second vision, the numbers are eight and four respectively. When it comes to *how* they will achieve this the first vision includes six ways for creating environmental sustainability and five for social sustainability. For the second vision, the numbers are 18 and nine respectively (the assessment of *nature for the sake of nature* and *nature for the sake of humans* in relation to the two visions can be seen in Appendix 7 on page 121). This goes to show, that for the first vision, there is only a slight overweight in goals and *'how's* for

environmental sustainability compared with social sustainability. However, for the second vision, the *'how's* are twice as many for environmental sustainability. Even though there is a focus on social sustainability, as it is defined in the analytical framework, especially in the first vision, the *'how's* are worded in an overall and general way without guideline as described previously in this section.

### 5.5.2 Planning for urban green areas in Aalborg Municipality

This subsection aims to analyze the planning approach related to UGAs in Aalborg Municipality and to identify challenges related to this.

According to Henningsen [Henningsen, 2023], *space* is one of the largest challenges in city planning, and therefore it is seldom the green areas that are the intent for city development. Many of the green areas in Aalborg are not planned in relation to their geographical propagation, this is instead related to historic events, e.g. Østre Anlæg is where the previous Fyensgade Barracks was located during the second world war and the years after. The historic elements of the UGAs can become a part of their identity even many years later if these elements are carried on in the planning process. When dealing with a built environment it can be challenging to find space for new UGAs, making it important to design the already existing UGAs in an appropriate way that fits the residents of the city.

While the plans and strategies described in the previous section were worded in a shallow and general way that did not provide many guidelines for securing social sustainability in general or in relation to UGA planning, the municipality has made a report called *DNA Aalborg* [Fonden Teknologi Rådet, 2018]. As mentioned in the analytical framework collaboration is an important part of social sustainability, and DNA Aalborg is a mapping of the identity of Aalborg based on data collected from the residents of Aalborg. DNA Aalborg is based on a survey and citizen meetings where the citizens could address different topics of their liking, including the UGAs in Aalborg.

Among the participants in *DNA Aalborg* there is a general concern about the city development in terms of the building percentage and lack of UGA. Many participants acknowledge that Aalborg currently has many UGAs, but they are concerned about these areas being replaced by residential areas, and that access to nature is no longer as big a priority as previously.

Aalborg Municipality concludes the following in its DNA Aalborg report:

> *"It is also clear that the citizens have their eyes fixed on the importance of not "being lost" in the growth agenda at the expense of the municipal core tasks. (...) The citizens point to the importance of prioritizing diverse cultural offerings and consideration of nature and green areas as a part of the framework for a good everyday life"* [Fonden Teknologi Rådet, 2018]

While this goes to show a general concern among the residents about the future UGAs in their city, this report does not address the residents' preferences for their local UGAs.

### 5.5.3 Summary

The previous section analyzed Aalborg Municipality's social sustainability approach especially when planning UGAs. Aalborg Municipality has two sustainability strategies, that primarily address social sustainability as physical and mental health and *quality of life*. This means that there is not a lot of overlap between the parameters from the municipal strategies and the parameters of social sustainability defined in the analytical framework of this study.

It is clear that Aalborg Municiplaity's strategies express access to UGAs as being important, as it can positively affect the physical and mental health of the residents. The strategies furthermore clarify the importance of close proximity between home and UGA as this increases the residents' frequency of visits.

However, it is not so clear in the strategy how they practically will address social sustainability or the ecosystem services that UGAs provide during the planning and designing phase. In the plans and strategies, there are no specific plans as to how this can be achieved. From both the expert interview and the document study it is seen that the primary focus on cultural ecosystem services in the strategies are *physical and mental health* and *quality of life*, and the importance of the UGAs being within close proximity of the resident's homes.

The municipal strategies address social sustainability in terms of goals, and not in terms of the process of achieving these goals. This means that there are no specific recommendations or guidelines on how to achieve social sustainability in general or from UGAs. Furthermore are the sustainability tools meant to be used at the beginning of a project, there is therefore no way to look back and evaluate whether social sustainability was achieved successfully.

When it comes to planning green areas within the urban environment, there are two main challenges according to Henningsen [Henningsen, 2023]:

- **Space:** The dense city requires space for a lot of different things to satisfy everyone's needs, and when the cities become more dense space becomes even more scarce.
- **Money:** Green areas are rarely the intent when doing city development, and most investors want to invest in housing, factories, or other industries that can give returns.

When there is no space or money for designing new urban green areas, this leaves behind the old green areas. These are often not planned per se, but occurred as a consequence of a historic event, meaning that their structure and propagation are somewhat predefined. However, these can be redesigned to fit the preferences of the residents of Aalborg giving them *quality* UGAs instead of *more* UGAs.

# Discussion 6

This chapter is a discussion based on the previous data collection and analysis and aims to answer SQ3: *"How can social sustainability be implemented in Aalborg Municipality's urban green area strategies?"* with the purpose of identifying a way to unite the two perspectives on UGAs in strategic thinking on social sustainability in UGA planning. This relates to the residents' preferences, their accessibility, and the municipality's current social sustainability planning approach and aims to identify ways to include social sustainability in a potential future strategic planning approach.

Starting from the planning perspective addressed in the last chapter, it is seen that Aalborg Municipality addresses social sustainability in its strategies, but it can be argued that this is not sufficient enough to use the strategies as a tool to include social sustainability in general or in relation to UGA planning.

It is clear that the municipality is aware of the importance of social sustainability and that UGAs have a positive effect on the residents. The importance of these two concepts is mentioned several times in the strategies, however, it is not as clear how Aalborg Municipality practically works to implement social sustainability in its planning. Social sustainability is addressed as goals, and not in terms of the process of reaching these goals, as there are no specific suggestions or plans as to how to include social sustainability in planning either in general or in relation to UGAs. Based on the document study, it is assumed that it is not Aalborg Municipality's intent to address sustainability in overall and general terms, since, as mentioned in the previous chapter, this is not the case for *environmental* sustainability in the municipal plan *Under åben himmel*.

There is plenty of literature supporting the fact, that UGAs provide the residents with a range of cultural ecosystem services, and that these services improve the *well-being* of the UGA visitors. As explained in Chapter 3 social sustainability can be defined as the well-being of humans, but there seems to be no direct linkage between the two concepts in the municipal strategies.

Henningsen [Henningsen, 2023] mentioned in the expert interview, that social sustainability is often to be read between the lines and not directly addressed in the strategies. This supports the statement above, but it also means that the current planners at Aalborg Municipality might address social sustainability more specifically in their work when designing UGAs. However, it is not explained in the strategies how this is done, where the municipality's focus lie, or what their ambition for social sustainability is. This is a potential challenge when new planners start working at the municipality as they might not have the same training and understanding of the word, and can furthermore, not find a way of means in the strategies.

To be able to use the concept of social sustainability more actively in the planning based on the strategies, and to approach the term as a united workforce going in the same direction, it is recommendable to define social sustainability, both in relation to the word itself, but also as to how the municipality wants to address and work with the term strategically in the planning process.

This study addresses social sustainability, as something that can be obtained through cultural ecosystem services provided by UGAs. However, for this to be the case, it requires, that the residents visit the UGAs. Therefore, this study examines the residents of Aalborg's favorite UGAs and it can be argued that if the majority of the residents favor one UGA it must be of good quality and provide the residents with what they prefer and expect from it. Why they might favor this UGA, has been analyzed in this study via the term of social sustainability and the potential cultural ecosystem services that can be provided by UGAs.

Based on the argument above, the following sections will address the parameters of social sustainability from the analytical framework one by one and discuss their significance in an Aalborg context. The purpose of this is to provide a range of recommendations for implementing social sustainability in municipal strategies, this includes more specific ways to achieve social sustainability in relation to UGA planning. Because of social sustainability's context-specific nature, the recommendations are directed at Aalborg Municipality, but recommendations for making this analysis and assessing social sustainability strategically in e.g. other municipalities are also discussed later in this chapter.

**Identity and sense of place:**
As in the analysis identity and sense of place will be addressed together. The residents' perception of a place is closely linked to their use of it, and it is clear that Østre Anlæg is a favorite among the Aalborg residents. When both identity and sense of place are social constructs, that support either the *insideness* or *outsideness* of a place, it must also be an expression of whether it is a 'quality' UGA in the residents' eyes or not. Furthermore, it refers to the relationship that the visitors form with the UGA, and when respondents are willing to travel longer to visit Østre Anlæg, a quality UGA, it must be argued that the stronger the relationship the more the residents tend to visit that UGA. The identity or the sense of the place is therefore very significant both in making the residents visit that particular UGA but also in making them visit more frequently.

When identity and sense of place are about people's perception and experience of a place, it can furthermore, be argued that it is defined by different parameters, some of which are discussed as parameters of social sustainability according to the analytical framework in this study, e.g. the aesthetics of a place, and is therefore embedded in the discussion of the other parameters below.

**Health:**
Spending time in UGAs can affect both mental and physical health, and this was also reflected in the survey, where two respondents mentioned 'mental health', and if it is assumed that physical health and 'exercising' are within the same category, this was mentioned by 7 respondents. While not many respondents directly indicate that their

intention with visiting the UGAs relate to physical or mental health, many of them address this parameter indirectly, but when it is mentioned indirectly the respondents' intention with the activity could also lie within one of the other parameters.

Many respondents mentioned 'walking' and whether the intent is to do some light exercise or walking is seen more as a transport form through the UGA and to specific places within the UGA e.g. of aesthetic value is unclear. Furthermore, some respondents mentioned playing different kinds of sports, and this could be with the intent of exercising, but also with the intent of socializing with friends.

When it comes to mental health the picture is a lot more messy. Almost all respondents mentioned things like 'relaxation', 'getting some fresh air', 'enjoying nature', and 'enjoying the peace and quiet', all of which are expressions that could relate to mental health but also recreation.

This goes to show, that not many of the respondents put 'health' as their purpose or intent for visiting the UGA directly, but that most of them in some way indicated 'health' indirectly through their answers. Whether or not the intent was to improve their physical or mental health, does not matter in terms of the effect of doing these activities. Based on this, health is assessed as being indirectly embedded in the UGA visits, and it is therefore not significant to address it further in the planning strategy.

**Social interactions:**
According to Q9 22% of the respondents visit the UGAs to socialize. Socializing can be many different things and relate to different activities. Based on the observations, the primary form of socializing in the two case areas, apart from the first observation day in Østre Anlæg where several larger groups were together on the grass field, was one or two people strolling through the area. In the survey, several younger people expressed the intention of visiting for socializing with friends, but based on the observations it is assumed that this is primarily in smaller groups.

Socializing is therefore assessed as being an important factor for social sustainability in the UGAs for the Aalborg residents, but it is also seen that the socializing comes from the different kinds of activities that the UGAs provide, and the parameters are therefore, in relation to planning strategy, related to the kinds of activities that the UGAs provide, and it is therefore not significant to address socializing further if the area sustains different kinds of activities that the residents prefer.

**Aesthetics:**
One of the greatest differences between the two case areas was their aesthetics, and several respondents mentioned Østre Anlæg's church and lake as something they enjoy. Furthermore, several respondents indicated that the purpose of their visit is to enjoy nature, and it is therefore assumed that the aesthetics of the UGA is important for the residents of Aalborg. However, implementing a church or a lake as a strategy for a more aesthetic value of an UGA is not durable.

It can be argued that the baseline of aesthetics is quite high in UGAs because there is some degree of nature and vegetation, which people enjoy. 95% of the respondents answered *agree* or *strongly agree* when asked if they enjoy the nature in their favorite UGA, and it

is therefore assumed that nature has an aesthetic value in itself.

It is therefore argued, that strategic planning for aesthetic value in the UGAs is recommended in relation to the Aalborg residents. Whether the aesthetic value should come directly from the scenic view of nature or external factors must be addressed in further research on the topic.

**Recreation:**
Many of the respondents indicated that recreation or relaxation is the purpose of their visit to UGAs. It can be argued, that nature provides recreation in itself as it provides a peaceful environment away from the city noise. This can be reinforced by having larger trees along the edges to shield both the view of the built environment and the noise coming from the traffic.

Furthermore, from the survey it can be seen that several respondents prefer smaller and more private areas, it is assumed that privacy supports relaxation. Other respondents prefer sitting on benches to relax and enjoy the scenic view. As recreation is the intention of many of the residents, it is recommended to address recreation in the planning strategy.

**Physical activities:**
The analysis of physical activities shows that this mostly relates to *moving* within the UGA, either using the area as a transport route or walking or exercising.

However, during the observations many visitors were seen sitting on benches or on the grass. It can be argued that many visitors do not see this as an activity and that this relates more to the recreational use of the UGA.

At the same time, not many respondents expressed a need for other activities to do in the UGAs in Q10. This indicated that the facilities in the existing UGAs are sufficient to full fill their needs, or that the respondents don't seek activities when going to an UGA as one respondent expressed in the survey.

Facilitation of different kinds of physical activities is therefore recommended to include in the strategies, also because this is the base of socializing in the UGAs.

**Accessibility:** In the survey, there are some contradicting answers in relation to the proximity between UGA and home, as some respondents were willing to travel longer when the UGA lived up to their intentions and expectations, while others expressed *proximity* as an important factor when choosing which UGA to visit. However, when putting this together with the fact that the city becomes denser, and that space is not in abundance, quality UGAs could potentially remove the need for having more UGAs and take up more of the scarce space within the city. It can therefore be argued, that the focus should be on planning quality UGAs instead of more UGAs.

The analysis also addressed accessibility in terms of residents having trouble physically accessing UGAs. 8 % of the respondents indicated that their use of UGAs is restricted based on a physical or mental challenge, and that is an issue when it comes to securing equal access to public goods, as these respondents do not have the same access to the cultural ecosystem services provided by the UGAs, as the rest of the residents.

This study analyzed accessibility in terms of proximity between UGA and home, and the physical accessibility for people with different challenges that might have an effect on accessibility. However, public transportation also has an effect on accessibility, especially in continuation of the argument about residents being willing to travel longer, to visit quality UGAs. The district scale case area, the growth axis, is the geographical source of the first +bus line, meaning that when the line opens, the connectivity within the area increases, and this also applies to the green areas within the growth axis.

**Significance of the different parameters**
According to the literature study, all of these parameters relate to social sustainability in urban green areas, however, based on the analysis in this thesis, some of these are found to be more significant than others in an Aalborg context:

1. Aesthetics
2. Recreation
3. Physical activities
4. Accessibility

It is therefore recommended to focus on these four parameters in the UGA planning in Aalborg, as they are assessed as being the most significant of the parameters of social sustainability defined in the analytical framework of this study. The next sections presents a range of recommendations for including social sustainability in the municipal strategies, and these will be based on the four parameters above.

**Recommendations for social sustainability in the municipal strategies:**

1. Places for relaxation: recreation was the intent for visiting UGAs for many of the respondents, therefore it is recommendable to provide places where the visitors can relax, e.g. benches or small covered areas like pagolas.
2. Small and private areas within the UGA: several respondents indicated that they prefer some kind of privacy. This is part of making sure that the physical environment supports different visitor groups.
3. Hedgerows along the edges: to secure a feeling of being away from the city planting hedgerows along the edges of the UGA will shield both the view and the noise of the city.
4. Good and accessible path system: supports most activities in the area (strolling, transport from A-B, running, walking the dog) and social interactions as many of these are between people strolling in the area. Furthermore, if the path is not too elevated and made from a hard material, it will support the accessibility for people in wheelchairs or with walking disabilities.
5. Different kinds of sports facilities: several respondents indicate that they visit for playing sports, and this also supports socializing in the area for larger groups. From the survey, the most preferred facilities are football fields, basketball courts, and good running paths.

Furthermore, it is clear based on the survey, that the aesthetic of the UGA is important to the respondents, and this is also seen as one of the important differences between the two case areas. Several respondents mentioned Østre Anlæg's church and lake as something they enjoy, but implementing a church or a lake as a strategy for more aesthetic value in

an UGA is not durable. This study can therefore not conclude how to implement aesthetic value into municipal strategies, but it can recommend that this is addressed in future studies. As previously mentioned, nature itself has some aesthetic value, and it must be assumed that visitors of UGAs to some extent seek this kind of aesthetics. It can therefore be done by examining what type of vegetation the residents of Aalborg prefer, e.g. colorful flowers, forests, or more wild vegetation.

During the selection process, several parameters were opted out, and that has formed the scope of this study. If some of the other parameters had been chosen for this study, the focus could e.g. have been on 'safety' in the UGAs and whether some people tend to not visit or visit specific UGAs because they do not feel safe, and also what kinds of mitigation's there could be, e.g. more lamp posts. According to Q16 5% of the respondents answered *disagree* or *strongly disagree* when asked if they feel safe in their favorite UGA, and it can therefore be argued that this focus is relevant in Aalborg. Furthermore, it can be argued that some of the parameters that were opted out are indirectly represented in the study as well, e.g. *equity*, as equal access to common goods are addressed through *accessibility*, and *participation/collaboration* as it is recommended based on the context-specific nature of social sustainability that the analysis is made based on the target residents.

**Relevance for other planning authorities:**
Because of the context-specific nature of social sustainability, it was never the goal to make a generalizable study, even though it can be argued that similar cities could have the same tendencies regarding UGAs and the residents' use of these, e.g. in other Scandinavian countries or cities of the same size. This applies in relation to the result of the study, but the process of getting these results can be used in other planning authorities, like other municipalities in Denmark. Based on the process of analyzing the residents of Aalborg's intentions and expectations towards their local UGAs, and how to implement this in the municipal strategies for UGA performed in this thesis, these are the recommendations for other planning authorities:

1. Define social sustainability: to better work with and include social sustainability as an active term in the strategies and the planning processes, the term should be defined. This is both in relation to the word itself and also what it stands for in the local context.
2. Data collection: because of the context-specific nature of social sustainability, it is important to secure high citizen participation and collect data based on the residents within the planning authority.
3. Methods: in this study, the data on the residents was collected via survey and observations in the two case areas, and while these methods did add value to the study, it is recommendable to also use more inclusive and collaborative methods, this could be citizen meetings, giving the residents full control over smaller areas or specific elements or other methods for citizen participation that will place high on Arnsteins Ladder of citizen participation [Arnstein, 1969]. At the same time, it is important to secure that all citizen groups are represented in the planning process, e.g. younger people who tend to not participate in citizen meetings should be approached in other ways, e.g. online citizen meetings exclusively for the younger segment.

4. Survey: Based on the survey in this study, it is recommendable to include more direct questions about the residents *intention* towards visiting UGAs and also how far they are "willing" to travel to visit UGAs of better quality. Furthermore to examine how aesthetics are assessed the best, questions about the residents' preferences e.g. for vegetation should be included.
5. Strategies: When social sustainability is defined in the local context, it is recommendable to make this accessible to the planners by including specific targets, guidelines, or ways of achieving social sustainability in the plans, also for new planners in the future. These should be based on the data collected from the residents, and include specific ways to achieve social sustainability in the UGAs like the recommendations for Aalborg Municipality above.
6. Focus area: Based on the data collected from Aalborg, it is recommendable to focus less on the proximity between UGAs and the residents' homes, and more on good quality UGAs. What a 'quality' UGA is, must be defined in the local context based on the data collection (as per recommendation no. 2 in this list)

# Conclusion 7

This chapter concludes the findings related to the three sub-questions and the main research question of this thesis:

*"What potential do urban green areas hold for strengthening the social sustainability of the residents of Aalborg, and how can this be reinforced by the municipal planning process?"*

### Summary of the sub-questions

This thesis's first SQ *"In what way can access to quality urban green areas affect the local residents' social sustainability?"* was answered based on the literature study in Chapter 3. It is first and foremost concluded that staying in an UGA potentially provides a range of cultural ecosystem services, that has a positive effect on the visitors' social sustainability. It can therefore be concluded that local UGAs are important in a city environment, however, this requires that the residents visit the UGAs and spend time there.

SQ2 *"How do the residents of Aalborg use the urban green areas in their city, and how does Aalborg Municipality approach social sustainability in the planning of urban green areas?"* was answered based on the analysis in Chapter 5. The analysis was performed as a case study, and it was clear that Østre Anlæg was the most favorable UGA in Aalborg and the most well-visited. The analysis then aimed to understand why Østre Anlæg was preferred over Sohngårdsholm Parken. Based on the survey and observations, it can be concluded that Østre Anlæg has one great advantage: being able to support the intentions and expectations of a wide range of visitors simultaneously. This is due to the different physical places that invite for different activities: the aesthetic areas with the benches for relaxation, the grass field for socializing in large groups and playing sports, and the several smaller areas for socializing and relaxing in a more private setting. This is all performed in an area that at the same time brings the visitor closer to nature and shields them from the city noise.

The different physical spaces in Østre Anlæg give room for different produced spaces, where each resident can give the UGA its own identity and form their own emotional bond with it. And since there is a good chance that they can have their expectation met in relation to socializing, physical activities, aesthetics, and recreation because of the different physical spaces, there is also a good chance that this emotional bond is of a positive character, that gives the UGA what Relph called *insideness*, meaning that the residents want to spend their time here.

SQ2 was divided into two parts, the second relates to the strategic planning in Aalborg Municipality, and based on the expert interview and document study, there are several challenges related to using social sustainability as a term in UGA planning. First and foremost it can be concluded that there is a hole in the municipal strategies when it comes to incorporating social sustainability in physical plans. Because social sustainability is a context-specific term that changes over time and place, it is important to address the term in relation to the target group. As long as the municipal strategies refer to *social sustainability* as a 'goal' instead of a process with examples related to the residents of Aalborg, it can be challenging to make sure the UGAs live up to their full potential when it comes to providing cultural ecosystem services that affect the residents' social sustainability.

SQ3 *"How can social sustainability be implemented in Aalborg Municipality's urban green area strategies?"* is answered in the discussion in Chapter 6 and aims to identify ways to close the previously mentioned hole in municipal strategies when it comes to social sustainability. Based on the discussion, a range of recommendations was made for including social sustainability in more specific terms, including guidelines and examples on achieving social sustainability in an Aalborg context.

It can be concluded that the four most important parameters for social sustainability in an Aalborg context are:

1. Aesthetics
2. Recreation
3. Physical Activities
4. Accessibility

Based on the discussion in the previous chapter, it can be concluded that proximity becomes less important if the UGA is of good quality, and it can therefore be concluded that focusing on making the already existing UGAs of good quality can potentially have a greater effect than designing new UGAs. This will furthermore add to the solution of the scarce *space* resources in the built environment.

### Recommendations social sustainability in municipal strategies in Aalborg

**Focus point:**

1. Focus on aesthetics, recreation, and the physical activities that the UGAs provide.
2. Focus on accessibility for all residents to secure equal access to common goods.
3. Focus on *quality* UGAs instead of *more* UGAs.

**Specific examples:**

1. To provide the residents with places for recreation it is important to include benches around the area and small and private areas e.g. covered pagolas.
2. To support the recreational feeling within the UGA it is important that it feels like the opposite of the built environment, this could be achieved by planting large trees or bushes along the edges to shield from the view of the built environment and the noise from traffic.

3. To support the physical activities within the UGA good and accessible paths systems are important, as they provide the opportunity for running and walking in the area.
4. To secure high accessibility, the paths should be made with minimal elevation and from hard materials.
5. To support the residents' preferences for physical activities sports facilities should be established in the UGAs, e.g. football fields, volleyball fields, or basketball courts.

It can be concluded that *aesthetics* are an important part of visiting an UGA for the residents of Aalborg, but from the survey made in this study no conclusion can be made as to how this should be achieved. It is, therefore, recommended that further studies within this field investigate the residents' preferences in relation to aesthetics. It can, however, be concluded that nature in itself has an aesthetic value and that UGAs, therefore, have a high baseline of aesthetics. Nature could therefore also be the starting point for further studies on aesthetics.

## Using the recommendations in the planning of an UGA

It has been described previously that UGAs are rarely the intent for city development, and that one challenge is that they are often a product of historic events, meaning that they already have somewhat of a design in terms of location, propagation, and e.g. vegetation. However, this is not the case for the coming Stigsborg Bypark in Nørresundby right on the other side of the fjord from Aalborg. This UGAs is under constriction as this is being written, and is an UGA being built from scratch, as the area is an old industrial site where the buildings have been torn down many years ago.

To show how the recommendations for including social sustainability for the residents of Aalborg can be implemented in the design phase of an UGA, an example of Stigsborg Bypark has been made including the recommendations from this conclusion. This has a primary focus on aesthetics, recreation, physical activities, and accessibility, and is made by modifying a map of the coming Stigsborg Bypark. The map is presented in Figure 7.1 where the map on the left is the original map of the coming Stigsborg Bypark presented by C. F. Møller Architects and NIRAs, and the map on the right is the same map but modified to fit the recommendations of this conclusion. The original map was equipped with paths, trees and bushes, a football field, and three circles, which represent gravel-covered areas surrounded by dirt 'walls' with an opening on one side.

First of all several more paths are added to the area to secure better connectivity between the different sub-areas, e.g. to the football field and the waterfront. At the top edge of the UGA, a path was added surrounded by trees (green markings). This is done to create a barrier between the UGA and the industrial areas to the north and east. On the other edges, no trees are added as it is assumed that the residents in the apartments to the west enjoy the view of the UGA and that the visitors of the UGA enjoy the view of the fjord to the south. The higher connectivity gives better options for running in the area and higher accessibility for people with e.g. walking disabilities. To secure high accessibility the paths should be made from hard materials.

Flowers (red) were added to several areas, as these are found to be the main areas for *staying* and enjoying the area, e.g. the circles and the waterfront, and this will increase the

aesthetics of the area. Flowers were not added to the football field, as the analysis indicates that the visitors in this sub-area have other intentions with their stay. Furthermore, not many flowers were added by the fjord as it is assumed that this part of the UGA already has a high aesthetic value because of the water.

To secure a high recreational use of the area several benches (purple) were placed around the UGA. They are all described as benches, but some of these could advantageously be picnic tables. The benches are placed primarily in relation to the recreational areas, but also along the paths and in the vegetation around the circles, as this will provide more private areas for the visitors. Furthermore, an additional three smaller and more private areas surrounded by trees (green) and bushes (yellow) were added on the east side of the UGA. The small area in the south is surrounded by bushes instead of trees as some residents indicated that the view of the water increases the aesthetic value. This gives space for relaxation, and also better accessibility for people with e.g. walking disabilities as they have more options for resting throughout the area.

Furthermore, a water fountain (light blue) was added to the area, as several respondents indicated that water is of aesthetic value. The fountain was implemented in the northern part of the UGA, as the south part is assumed to have a higher aesthetic value already because of the waterfront. To give several options for physical activities a volleyball field was added in the north, and together with the football field this part of the UGA becomes a place that can facilitate several different physical activities.


***Figure 7.1.*** Left: Map of the coming Stigsborg Bypark from C. F. Møller Architects and NIRAS. Right: Map of Stigsborg Bypark modified based on the recommendations on social sustainability described in this conclusion [Created by the author]

## Reflections on the research

Social sustainability is a complex term to work with because the term is not defined within different scientific fields and because what adds to social sustainability is context- and geographically specific. This points to both the complexity of the people receiving these services, and the city environment from where they receive it. Because of this, it was defined how to work with the term in this study based on the theories and concepts described in Chapter 3.

The focus of this study was to identify social sustainability in relation to the residents of Aalborg with the purpose of incorporating this into the planning process. It was therefore not the aim of this study to make a case study that can be used to generalize (a critical case study). However, it can be argued that the approach can be applied in other similar cities in relation to size, and geographical location, e.g. other Scandinavian countries.

The theory of place was used to describe how humans interact with spaces, and it is found to be reliable and relevant to this research because of the human-oriented framework and because of Relph's reliability as a researcher. Furthermore, it is found reliable to assess social sustainability through the cultural ecosystem services that can potentially be achieved via staying in UGAs, as there according to the literature study is an overlap in parameters used within the three terms.

For the case study, two UGAs were selected based on the definition in Chapter 3, even though Aalborg contains a range of UGA with different sizes, ownership, and purpose and also non-green public areas, that could provide the visitors with cultural ecosystem services and social sustainability enhancement. For future research, an expansion of the case area to include more or different kinds of urban environments would give the analysis another perspective and a more holistic view of the social sustainability provided by the UGAs in Aalborg. It was the intention to investigate the most relevant UGAs for the research question and therefore two UGAs at either end of the preference spectrum were chosen. Other UGAs within the geographical scope of the Growth Axis and the UGA definition defined in this study were considered as the case area, e.g. Karolinelunden paired with Østre Anlæg because of their close proximity, as this would limit the difference in population density within the 300m zone and the UGAs distance to the city center. However, Karolinelunden has been closed off during the opening of Østreå stream, and the area is still characterized by being under redevelopment. It is therefore assumed that the area has lost some of its potential *insideness* and also that both the physical and emotional space will change after the reopening of the area.

In this study, it has been necessary to make some assumptions and limitations. Based on the literature study a range of parameters for social sustainability through cultural ecosystem services was defined. The analytical framework is considered valid and reliable as it is based on the literature study that includes newer research made by reliable researchers. However, if other parameters for social sustainability have been defined through the literature study the scope of this study would change, this is discussed in the previous chapter.

The interviews and the document study complement each other in examining the baseline

for social sustainability planning, and while they both could have been expanded to include more planners and more documents, the methods are seen as reliable as they come from sources within Aalborg Municipality and because they are part of the same method triangulation.

The same goes with the survey and the observations, but since these methods also are part of the same method triangulation, their validity is strengthened as one includes data, that the other lack, e.g. the minimum age for partaking in the survey is 15 years, but the observations include residents of all ages as long as they were in the case area during the observations. Furthermore, other questions and observation parameters would have changed the scope of this study, and as mentioned in this chapter, more in-depth questions about the residents' preferences for aesthetics could advantageously have been included.

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# Appendix

## Appendix 1 - Interview with Bodil V. Henningsen

This appendix shows the raw transcript of the expert interview performed with Bodil V. Henningsen [Henningsen, 2023] from the *Land og by* department at Aalborg Municipality, and the notes taken during the phone interview with city gardener Kirsten Lund Andersen [Andersen, 2023].

### Reading guide

**Kirsten Lund Andersen:** The interview with Kirsten Lund Andersen was conducted on the phone, and there is no recording of the conversations. The initial question was on what specific ways in which the municipality design UGAs to support social sustainability. During the interview notes were taken to better remember the points later on, and the raw data in the form of the notes taken during the interview can be seen later in this appendix.

**Bodil V. Henningsen:** The interview was performed in Danish, and this appendix shows the raw transcript written as it was said during the interview and therefore also in Danish. When referring to this interview during the report it has been translated to written language and English.

The interview sometimes shifted to a more unofficial tone, e.g. when showing the online tool Grønt Danmarkskort (the Green Map of Denmark) this has not been included in the transcript, as it is not important in relation to the research. When speech has been left out of the transcript this has been marked with "(...)". There are two participants in the interview: Bodil V. Henningsen (referred to as "B") and the author of this report (referred to as "L"). To distinguish the speech the author is shown with bold text and the interviewee is shown with cursive text.

### Notes - Kirsten Lund Andersen

Think broad, inclusive urban spaces that embrace many opportunities and functions.

Very observant of *spare time*. Planning of urban spaces for gender, ages, and what the humans are as individuals over a life cycle and as groups (inclusive urban spaces for different ages equal social sustainability). The waterfront and Vestre Fjordpark are highlighted as successful in terms of social sustainability.

If one is informed about 'nature', one is more likely to occupy this urban space. Mediation, information on what can be seen and how it can be used (nature restoration). One thing is the physical accessibility (easy access from home), and a wide range of options, and how this is made accessible via mediation (these are the three prerequisites). We know that communities and the skills to take part in these are formed the most when one is outside. Fewer conflicts, bigger areas, and one has no special preference to perform = free space.

Tools: decode the landscape, give access. Mediate a landscape. It is required that the planner can embrace others.

### Transcript - Bodil V. Henningsen

*B: Når du snakker byrum – det seneste jeg lige har arbejdet med, er Kennedy Plads – byrum handler meget om det sociologiske, altså hvem er det og hvad er det for nogle målgrupper, hvem skal vi invitere?*

*Det er rigtig meget social bæredygtighed. På Kennedy Plads er det simpelthen de hjemløse og de udsatte, som det handler om. Side om side med dem der er naboer, og dem der skal med +bus osv. Så vi beskæftiger os hele tiden med social bæredygtighed – det kan slet ikke undgås.*

*Boligstrategi for eksempel lige nu sidder jeg med i, det handler om at vi gerne vil have den mangfoldige by – det kan du ikke få noget til at sige, at man ikke vil have vel? Altså det gør alle. Og det er jo også social bæredygtighed.*

*Så vi arbejder med det på rigtig mange forskellige måder, og alt efter om du sidder her, de kollegaer jeg har her i byudvikling og byggeri. Jeg sidder under stadsarkitekten, og der hvor man specifikt arbejder med indretning af parker osv. det er under stadsgartneren, og prøvede at spørge vores kollegaer i by og natur under stadsgartneren, der sidder landskabsarkitekter og naturkyndige, men de havde simpelthen ikke tid og ressorucer lige nu. Mange af dine spørgsmål retter sig til konkrete parkrum, men jeg kan jo give dig det jeg ved ud fra arbejde med byens rum. Jeg arbejder jo også tæt sammen med Karen Louise osv. Jeg vil prøve at hjælpe dig undervejs, så godt jeg kan.*

*Hvis man tager det strategiske første og det vi arbejder med hos os, udover at vi bidrager indtil sundhedspolitik, og vi arbejder men en boligstrategi, så sidder vi her og laver en kommuneplan. Og her er der noget der hedder en hovedstrategi og en planstrategi.*

*Noget af det vi har snakket om nede hos os er, at hvis du kigger ind i vores planstrategi, der skal vi prøve at få alle vores strategier til at blive én. Det er klart, at vi arbejder derud af, og nogle er dygtige til sundhed og nogen er dygtige til parker. Men vores planstrategi, det er en strategi vi er forpligtet til at lave hver gang der kommer en ny byrådsperiode. Inden halvdelen er tiden af gået, så skal man komme med den (planstrategien). Det er den retning, det her nu valgte byråd, det er den retning vi vil arbejde i.* (...)

*Det er den planstrategi fra 2019, vi er så lige så lige startet på vores ny planstrategi, for nu har vi fået ny rådmand og nyt byråd.*

*Den (læs: planstrategien) behandler alle emner, og her i 2019 var vi begyndt at snakke verdensmål, så der står også et par verdensmål. Her er f.eks. et afsnit omkring grønne og blå kvaliteter, og hvordan arbejder vi med det, når vi arbejder med byudvikling og alle de ting, vi nu skal.*

*Der er faktisk også noget om klimaindsatsen, og så står der også rundt omkring noget om social bæredygtighed, sådan mellem linjerne rundt omkring. Men altså det står her under "steder med identitet" og det er det med social bæredygtighed, det er sådan lidt et "kært barn med mange navne" eller hvad man skal sige. For det kan puttes ind i rigtig mange*

*sammenhænge, og det bør det jo gøre i et velfærdssamfund, og det tænker jeg også det er sådan at man egentlig kan sige, at vi arbejder med det.* (...)

*Så har vi også vores fysiske vision – det er en del af vores hovedstruktur, som det hedder. Den er så nyere, den er fra 2021. Den har jeg ikke selv fået bladret igennem, men den bygger på alt det med den grønne by og den blå by, og det er her du kan læse rigtig meget om vores vækst akse. Det er også interessant for dig. Det er i hvert fald nyeste byplanlægning.*

*Når vi så siger social bæredygtighed, så har vi også, og det tror jeg også langt de fleste kommuner prøver at lave sig sit eget sådan bæredygtigheds-værktøj, fordi det skal vi også arbejde med. Der har vi også et værktøj, hvor vi prøver at sige, jamen vi har FN verdensmålene, så har vi egentlig også lavet selv 23 anbefalinger til bæredygtighedsindsats i By og Land forvaltningen her. Der står der også noget om social bæredygtighed, for det indgår også i FNs verdensmål. Så kan du ligesom se det sådan lidt fra oven af, inden vi dykker ned i det grønne.*

*Helt overordnet, hvis vi snakker grøn planlægning, så nogle af mine kollegaer i forbindelse med at vi har siddet og revideret vores kommuneplaner – der har man en masse retningslinjer for en masse ting – når vi så er ved det grønne, så er noget af de seneste vi er begyndt at arbejde med – og som vi skulle arbejde med – det er noget der hedder et Grønt Danmarkskort. Igen det er ikke noget som er knyttet op på Vækst Aksen, men det er hvordan vi udpeger arealer – apropos det her med at det er under pres og at vi har en biodiversitetskrise – det er nationalt, at det forholder sig sådan, men det er ikke så meget under den social bæredygtigheds hat. Der er udpeget i kommuneplanen – hvis du går ind og finder den på vores hjemmeside.*

(...)

*Der er udpeget nogle områder, det der hedder et særligt naturområde, økologisk forbindelse. Du kan se grøn danmarkskort opererer med fire kategorier, hvor af de to af dem er noget, der er potentielt, og de to andre – altså det er jo ikke fredninger, men det er jo tæt på. Det er noget man er begyndt at arbejde med, og nu – du havde udpeget Sundgårdsholm parker ikke (...). For eksempel så kan du se, det her er Kridtgraven oppe i Nørresundby, den er udpeget som særligt naturområde, og har også noget økologisk forbindelse signatur omkring sig, så det er et område, der kan vi ikke lige lave om på den retningslinje, så ville vi skulle ind og lave et kommuneplantillæg. Det er stadig os, der er myndighed, den er ikke fredet ligesom f.eks. den gamle golfbane, men den er i hvert fald udpeget og det er et retningslinje for, at det er det vi vil der. På den måde så har vi via vores planlov og alle de redskaber der nu er der, så har vi fået "fredet" nogle af de har grønne arealer.*

**L: Er det henblik på den mere miljømæssige tilgang, altså biodiversitet?**

*B: Det er jo natur. Det hænger ikke sammen med den sociale bæredygtighed direkte, men når det er sagt, så ved vi jo godt at tingene hænger sammen. Som du også er inde på.*

*Jeg kunne godt have lyst til at fortælle dig om, for eksempel har jeg lige været involveret i et projekt sammen med Juul og Frost, hvor de har fået noget støtte fra Real Dania, og de kalder det fremtidens urbane sundhedskultur. Det handler netop om at det her med sundhed, at det handler om social bæredygtighed og det handler om grønne arealer. Vi er*

*jo hele tiden opmærksomme på hvordan at der er nogle særlige kvaliteter i det grønne, som vi er nødt til at understøtte fordi det peger ind på sundhed, og sundhed er jo også en del af social bæredygtighed. Så den der treenighed er vi meget opmærksomme på.*

*Man kan så sige, at sådan en som jeg, siger jo tit og ofte til mine kollegaer at sundhed handler ikke kun om det grønne i vores byer og ligesådan også at i forhold til – hvad skal man sige – social bæredygtighed det handler heller ikke kun om det grønne. Det er på den måde, at vi er meget nuancerede, kan man sige, har et mere nuanceret blik hvor vi siger, at det er noget mere end bare det grønne, som vi skal have fokus på, hvis du vil optimere på social bæredygtighed og på sundhed generelt.*

(...)

**L: Mit første spørgsmål er jo egentlig sådan noget med hvordan planlægningsfasen sådan foregår. Det er selvfølgelig et meget bredt spørgsmål, så det jeg er mest interesseret i er det her med frihedsgraden, hvor meget kan man som planlægger beslutte i forhold til at man vil have fokus på det ene eller det andet. Måske helt overordnet hvordan i planlægger et grønt område.**

(...)

*B: Man kan sige, sådan en kridtgrav der, det er jo ikke en som vi har planlagt – de her meget store og karaktergivende og identitetsgivende grønne område vi har i vores byer – i hvert fald i Aalborg – det er noget som har en lang historie, og det kan være kulturmiljø nede omkring sundgårdshold slotte, det kan være råstofindvinding, som det er her, det kan være travbaner, kolonihaver og alt mulig. Men der er som regel altid en eller anden kulturhistorisk historie som ligger noget bagud, som gør at vi har akkurat det her område. Også Østre Anlæg, hvor der har været kasserne. Så hvis der i forbindelse med ny planlægning, også tænkes rigtig meget grønt – det er jo egentlig rigtig sjældent at det er dét, der er incitamentet til at vi skal lave byplanlægning.*

*Det er som regel nogle investorer og developer som vil udvikle et eller andet. Det er som regel dér, hvor planlægningsbehovet starter fordi vi har alle mulige rammer og et eksisterende landskab. Så det er for det første noget med, helt overordnet så tildeles man noget rummelighed, hvor meget må man planlægge for i vores bysamfund osv. og så har vi et byråd, som er den her part, som de forskellige aktører i byen udvikling har dialog med omkring byens udvikling. Det kan være, at der er nogle, der gerne vil have en stor erhvervsvirksomhed til byen, det kan være havnen, der har brug for udvidet areal, så ligger der en Øster ådal eller en å, hvordan spiller det sammen?*

*Som oftest er det ikke det grønne, som fordrer at man går i gang med noget planlægning, som ofte er det noget bebyggelse med noget anvendelse til noget, som siger nu bliver vi nødt til at ændre anvendelsesmuligheder et sted eller at indtage ny land til et eller andet formål. Der er det vigtigt at vi har et grønt danmarkskort til at udpege nogle vigtige eksisterende og potentieller områder, som der ikke må røres ved af en eller anden årsag.*

**L: Når I skal planlægge en ny, f.eks. Stigsborg Bypark, der er et grønt område i forvejen, men der var jo bare mark før.**

*B: nej, det var der ikke, der var en gammel kemifabrik. Stigborgs er byomdannelse.*

**L: Ja men nu her, efter kemifabrikken. Der er bygget et parkeringshus (...), og det var bare sådan en græsplæne.**

*B: det er faktisk helt essentielt der – det er byomdannelse, der var bestemt ikke natur før. Det har bredt sig, naturen, fordi der har været en overgangsfase hvor industrien blev nedlagt, men kommunen har lavet et byomdannelsesselskab. Der har været en kæmpe lang proces i forhold til hvad for en slags by det skal være vi bygger her i stedet for den industri, som nu er væk. Som jeg sagde tidligere, mit bud er, og det kan jeg jo ikke vide, at der ikke var blevet så stor en park. Men jeg ved at afgrænsningen af parken hænger sammen med hvor man har afgrænset en rest-forurening som er rigtig svær at komme af med. Ikke for at sige, at der ikke kunne være kommet park alligevel, og det ville der bestemt være behov for når man laver en hel ny bydel, hvor der før var industri. Men det er ligesom, man kan sige, akkurat den har sin særlige historie, og det er jo sjovt. På mange måder har vores forskellige store grønne indre parkrum en eller anden historie. Enten har der været produktion til vores cementfabrikker, alle de rygende skorstene, eksorcerpladser osv. Det er tankevækkende.*

**L: Gøres der noget for at opretholde områdets identitet så lang tid efter? (...)**

*B: Vi går meget op i identitet og kvalitet. Vi har også en arkitekturpolitik, så det gør vi. Sådan noget som kridtgravene er jo nogle fantastiske områder (...). Der er fantastisk, der udvikler sig et fantastisk dyre liv, fugleliv osv. Men det er også områder, der egentlige er farlige, der sker jo drukneulykker f.eks. så på den måde har de deres egen autonomi, som grønt område. Man kan ikke sådan omdanne det til et enormt lækkert badeland, men man kan nyde, som du siger, der er så mange kræfter knyttet dertil, der er stejle skrænter og frem for alt det her lækre vand osv. Så det bliver identiteten, men om vi gør noget særligt, vi tror egentlig det vi mest gør er at vi værner sådan, at der i forbindelse med at folk drages af den her særlig skønhed, rå skønhed, så undgå at der kommer til at ske utilsigtede uheld. Ellers så også at man kan nyde gavn af det, gå stier rundt om, tilbage til det her med sundhed og måske også social bæredygtighed. Man kan gå sig nogle gode ture i naturen, der er de oplagte.*

**L: Når I planlægger enten et nyt byområde eller omgør et gammelt byområde, vil du så sige, at der er mest fokus på at det er bæredygtighedsting i forhold til miljøet og biodiversiteten og vi skal have noget grønt, eller er der mest fokus på at det er for borgerne i byen – hvis man overhovedet kan sige, at der er mest fokus på den ene eller anden?**

*B: Grønt er i mange skalaer. Ude i det vestlige Aalborg har vi lavet et nyt boligområde, for ikke så mange år siden, ude i Engene (...). Der er mange skalatrin, når vi snakker det grønne. Der er dét, som er tæt på boligen. Det skal vi ifølge lovgivningen og lokalplanen, som vi laver. Folk skal simpelthen have noget grønt lige ude for døren, og i tilknytning til deres bolig. Så har vi det næste trin, hvor kan man løbe ud i et større grønt område osv. Det arbejder vi bestemt med, men det starter ligesom med bebyggelse, at der er nogen der vil udvikle til boliger eller til et andet formål, og hvad er der så af krav til grønt, altså til rekreation knyttet til at man kan bo her f.eks. Altså det er ligesom på den måde, at det starter. Der begynder mere og mere at komme et behov for, altså LAR, at man skal kunne rense eget overfalde vand på egen grund, go det stille krav til nogle udearealer og hvordan*

*de er indrettet for at man kan gøre det. Så der kom mange krav rundt omkring fra, men det er sjældent – når vi f.eks. snakker om stigsborg parker – det er sjældent at der kommer så kæmpestor en park i forbindelse med byudviklingen.*

**L: Ja, der er en naturlig begrænsning i byen.**

*B: Ja, for det handler jo også om penge. Det er jo klart at, selvom der kom en investor og sagde, jeg vil gerne fylde alt op i kridtgraven og bygge boliger derude på den der dejlige sø, der har vi så det grønne Danmarkskort og så mange andre ting, altså det kan man ikke bare. Det er hele tiden vekselvirkning med at det er vigtigt at kommunen har udpeget de vigtigste, større og sammenhængende grønne områder.*

**L: Hvis du skal vurdere en begrænsning i forhold til planlægning af grønne områder, eller en udfordring, hvad er så det der stikker ud?**

*B: Der er mange, der kan være mange, som vi har talt om. Der er et dilemma indbygget i at arbejde med bæredygtig byudvikling, for det aller bedste er at vi ikke indtager for meget ubrugt, bar mark af hensyn til biodiversitetskrisen, så ved vi at det handler om at de rigtige store – vildmosen osv. – det er simpelthen Amazon junglen, der skal vi holde pøllerne væk. Samtidig er det også vigtigt, at man – af mange årsager, men også af hensyn til biodiversitet og social bæredygtighed, mental sundhed – at man har grønne arealer i sin by og især i sin tætte by.*

(...)

*Den helt store udfordring, som der er på alle parametre lige nu, det er kampen om pladsen.*

**L: Og der taber de grønne områder måske lidt fordi de ikke økonomisk.**

*B: Det har de gjort en overgang, men jeg tror at man er mere og mere opmærksom. Der er paradigmeskift, og vi har jo lige været igennem et paradigmeskift, vil jeg mene. I forhold til at det grønne står meget højt på dagsorden. Det er grønt mig her og grønt mig der og biodiversitet.*

**L: Ja, for som jeg ser det, så har det paradigmeskift meget været i miljømæssig sammenhæng, netop i forhold til biodiversitet, som er et ord der er blevet brugt rigtig meget, og ikke så meget i forhold til den sociale bæredygtighed.**

*B: Det kan du have ret i, men jeg tror også, at mere og mere så hører vi om, folk snakker om det her med voksende ulighed osv. det er jo det her med de forskellige diskurser på forskellige tidspunkter, vi kan bare ikke løse alting på en gang.*

*Det er klart at der er sammenhænge. Men det der bare er i det, det er at money talk. Det gør det, når det er byudvikling, for tingene koster, og man har også sagt i mange år at det offentlige formår ikke at lave byudvikling alene, det kan man ikke. Man må gøre det sammen med nogen for at kunne have råd til det. Og der er det at hvis du er en investor, der går ind og vil kaste penge i at byudvikle, det gør du jo fordi du skal tjene på det og det er legitimt, kan man sige, fordi det er meningen med at være investor, det er kloge investeringer – det er penge.*

*Der er rapporter der vise, at der sker en værdi forøgelse, f.eks. i København, jeg tror*

*det var sønder boulevard, hvor der er lavet en rapport der viser at ejerlejlighed priserne blev øget efter at de havde anlagt sønder boulevard. Så man kan godt påvise at der sker en værdiforøgelse (...) men man kan omvendt sige, at det er grønt når det er tænkt sammen med byudviklingen i øvrigt, det er ikke grønt og grønt eget skyld. Så er det jo naturgenopretning og alt mulig andet vi snakker om.*

*Også når vi snakker strategisk byudvikling, har det være en kendt sag, for eksempel i Frankrig i mange år, at hvis du nu er kommune og har et areal, og gerne vil – lige i Lyon – vil by omdanne et større, gammelt industri område, så kan de lave noget der hedder en SAK dernede. Hvis man starter med at lave en bypark centralt på et af kommunens arealer, så kan du tiltrække investeringer på en helt anden måde. Så har de lov til i Frankrig, at så kan kommunen så til gengæld få nogle af de penge, som de andre tjener på værdiskabelsen. Men det er sjældent at du ser, at et privat selskab starter med at lave en park. Det er som oftest kommunen som er forgangs og som har det overskud til at gå i gang med det.*

**L: Er der nogle regler for, at der skal være x-antal kvm byrum – måske ikke grønt byrum – for antal indbyggere?**

*B: Det er der tilknyttet til lokalplanen, så er der nogle krav om f.eks. det kan være forskellig f.eks. 10% til opholdsareal til boligerne. Det vil der være krav om, og det kan være varierende. Vi har også en retningslinje, som jeg husker det, men den kan vi godt fravige, det kan være variabelt. F.eks. har jeg været med til at lave en lokalplan for nogle boliger tæt ved sundgårdsholdsparken, og der gik man lidt ned på hvor mange antal kvm opholdsareal der skulle være, fordi man havde en nærliggende stor park. Så det er ikke et absolut begreb, men der skal være opholdsarealer.*

**L: Kan du komme med mere konkrete eksempler på, hvordan i planlægger for den sociale bæredygtighed.**

*B: Nej, det indgår som parametre på så mange forskellige.*

**L: Ja, men jeg tænker også fysisk, f.eks. nogle ting man altid går efter, f.eks. vand eller er det en vurderingssag?**

*B: Ikke på grund af den sociale bæredygtighed, det kan jeg ikke sige. Man kan sige igen med hensyn til hjemløse osv. der har vores søster forvaltning gjort en indsats for at lave sådan en slags helle-steder for byens udsatte, og der går de ind med en målrettet indsats, men det er et afsluttet forløb, hvor de har fokus på noget.*

**L: Det er også et af mine spørgsmål, det her med om man gør noget for at imødekomme forskellige borgergrupper, her tænkte jeg også på f.eks. handicappede eller gangbesværede eller i kørestol.**

*B: Ja, det er tilgængelighed. Det er jo dét, social bæredygtighed rummer så mange ting. Hvis man akkurat tænker at det handler om tilgængelighed, så er der nogle retningslinjer for hvordan du skal indrette et byrum og parkrum sådan at der er ligeværdig adgang.*

*Hvis vi nu renoverer banegården, så den rampe der er i dag op til banegården, den er alt for stejl, så hvis man renoverer, så skal man leve op til de gældende retningslinjer og så ville man få en meget længere rampe for eksempel. Ligesådan er det i byrum overalt hvor*

*du går på et fortov, i hvert fald hvis det er renoveret for nyligt, det er nogle retningslinjer der udvikler sig hele tiden, lovgivning. Så kan du se der er nogle ledelinjer, som man skal følge, ligesådan er der i forhold til hvordan ramper, hvor stejlt må det være på de ny plusbus perroner.*

**L: Nu tænker jeg jo særlig i forhold til grønne byrum, hvor der måske ikke er fast belægning men græs eller lignende, det er en udfordring tænker jeg.**

*B: Alle kan ikke være alle steder, det kan du jo ikke, så bevarer det ikke sin karakter. Der skal jo være stier, og der vil der gælde de her tilgængeligheds-regler.*

**L: Er det en strategi, som Aalborg kommune arbejder med, at lave én bypark som f.eks. har fokus på tilgængelighed, så må de ligesom bruge den her bypark, og en anden som måske har fokus på børn, her er der legeplads og larm, og en anden bypark der har fokus på...**

*B: Ikke mig bekendt, nej. Det er jeg ikke stødt på. For det første det med tilgængelighed, her skal vi leve op til de retningslinjer alle vejene, og det tager vi hensyn til i det omfang man skal gøre det, når man renoverer.*

*Legepladser er der et ønske om at man også politisk har ligegyldig hvor du vælger at bo, så skal der egentlig være en legeplads. F.eks. det her med at midtbyen ikke kun er for butikker, her bliver der også indrettet flere og flere legepladser, f.eks. Frederikstorv og den lille lommepark ved Algade.*

*Mig bekendt så kan der jo godt være nogle tema-parker, men det er ikke i forhold til social bæredygtighed, det er nok i højere grad i forhold til sport, fritid og klubber osv. at der kan være temaer, men ellers så hvis akkurat der er den sociale bæredygtighed, så kunne det faktisk også være interessant for dig at snakke med nogle kollegaer som arbejde i vores socialforvaltning, det hedder den så ikke.*

(...)

**L: Ved du hvordan eller om man overhovedet vurderer social bæredygtighed, altså når man kigger tilbage? Hvordan ved man at man er i mål?**

*B: Vi laver en evaluering, men den går meget på det tekniske og på projektet, f.eks. lyset. Social bæredygtighed rummer det ikke også tryghed? Det gør det jo. Igen er social bæredygtighed med implicit i rigtig mange overvejelser og retningslinjer, men det vi måler på det er.. altså hvis vi skal kunne måle på noget, så skal det også være målbart. Og hvad vil du sige er succeskriteriet for social bæredygtighed, det vil hele tiden være forskelligt alt efter hvad du beskæftiger dig med, hvor du er osv.*

*Det er faktisk noget af det, der er udfordringen, og jeg har lige snakket med en der hedder Marie Stender, kender du hende? Hun er antropolog og forsker ved BUILD AAU. Marie Stender har sammen med By og Havn i forbindelse med tunnelfabrikken derovre i Nordhavnen i København, der prøver de at operationalisere begrebet social bæredygtighed (...) Vi er interesseret i det i forhold til vores boligstrategi, det her med at forstå, jamen hvordan kan vi snakke om social bæredygtighed, for det er så svært.*

**L: Og det er jo faktisk det, som jeg gerne vil undersøge i mit speciale, om man**

**kan konkretisere det på en eller anden måde med udgangspunkt i Aalborg.**

(...)

*B: Det vi er tættest på at måle på, når det handler om bæredygtighed, også social bæredygtighed, det er det her bæredygtighedsværktøj, som vi har her. Og det er i virkeligheden ikke så meget at vurdere på det bagefter, det er ligesom at kunne gå klogt i gang, det er det det er myntet på. Men den er svær social bæredygtighed.*

**L: Det er et meget fluffy term.**

*B: Ja, fordi det er noget som implicit arbejdes med i så mange sammenhænge og som har så mange navne på en eller anden måde, men altså hvis du udvælger dig nogle ting, så kan blive klogere på det. Altså f.eks. hjemløse, er det en særlig problematik du er nysgerrig på. Sådan er jeg sikker på, igen man kan sige med sundhed, det er også sådan et ord. Det er også fluffet, men der har vi en sundhedsprofil, her har man lanceret et værktøj, og så er det dét man relaterer sig til, og det går nok også hen og bliver sådan med social bæredygtighed, at så finder man noget at relatere sig til.*

**L: En form for værktøj**

*B: Ja, for du må bare besluttet, at så er det det vi ser på.*

**L: Det er jo det, som jeg godt kunne tænke mig at gøre i en Aalborg case. Altså hvad er det borgerne i Aalborg ser som værende dét de forventer af grønt område. For man kan jo også godt planlægge noget, som så ikke er det som borgerne i virkeligheden. f.eks. det her med sikkerhed og tryghed i en bypark, altså det er jo også fordi det er så individuelt som man vurderer som givende værdi.**

*B: Jeg tænker, at du også hurtigt kommer til kort, hvis du sætter social bæredygtighed lig med grønne område. Altså hvis det er det undersøgelse. altså fordi så udelukker du også en masse ting.*

**L: Som udgangspunkt sætter jeg det ikke lig med hinanden, det er mere hvad de grønne områder kan gøre for de sociale bæredygtigheder, så det er ikke fordi jeg synes de to ting er lig med hinanden, det er bare for at udvælge.**

*B: Og det synes jeg er skidegodt. Hvad er der at potentialer i de grønne områder, det er så super.*

**L: Ja for ellers kommer jeg jo aldrig i mål med at skulle kigge på alle de.**

*B: Nej, men det synes jeg er enormt interessant, og der tænker jeg den der Juul rapport kunne være fin for dig (...)*

*Der kommer man også lidt ind på hvad er det de grønne områder kan. Fordi det er bestemt noget med at i grønne områder har vi ligeværdig adgang, og social bæredygtighed handler vel også lidt om sundhed, ikke? Så det der med det mentale, som du kan brude de grønne områder til.*

**L: Et af de ting, jeg også havde tænkt at undersøge, er hvilke aktiviteter de**

**rummer. For der er jo det her med at nogen går en tur for motion og for at nyde det grønne, så er der nogen der tager ud for at grille og høre musik med vennerne, og nogle vil gerne spille volleyball, men det kræver også at det på en måde er faciliteret i de grønne områder.**

*B: Og du kan jo ikke facilitere én ting til al ting. Der må man jo hele tiden prioritere at det her det kan du så det her sted.*

**L: Arbejder i med borgerinddragelse i forbindelse med den social bæredygtighed, hvor man holder borgermøder, hvor der er fokus på – måske ikke på social bæredygtighed – men f.eks. det med aktiviteterne?**

*B: Igen jeg sidder jo i By og Land hvor vi laver planlægning, og vi skal lave borgerinddragelse. Derudover laver vi også en masse borgerinddragelser, og høringer og samarbejder osv. vi har i Aalborg kommune nogle samråd, som har en høringsret i forhold til politikere og der har jeg netop i samarbejde med samrådet ude i Svenstrup lige lavet et forslag til nyindretning af skolens udearealer, sådan at de også kunne bruges af borgerne i Svenstrup. Og det kan man sige er et samarbejdsprojekt med borgerne i virkeligheden, så et eksempel på at vi gør det rigtig meget og på rigtig mange forskellige måder.*

**L: Men det er vel også udfordrende, netop det her med at man ikke kan planlægge for alt, der kan jo sagtens sidde nogle borger der vil have dét, og nogle borgere vil have dét.**

*B: Det er det, du kan ikke gøre alle tilfreds, og det er jo egentlig heller ikke det der er meningen. Det er jo os, der må tage ansvaret som kommune. Men det er vigtigt at vi lytter og hører hvad der rør sig, og hvad der er efterspørgsel for, og så må vi – eller politikerne – tage ansvaret for at kalibrere. Altså der er også nogle der er rigtig gode til at råbe højt, og måske dem der havde aller mest brug for at blive hørt, ikke har kræfterne eller modet til at sige højt hvad de egentlig har brug for, så man kan sige, at lave en aktiv borgerinvolvering eller samskabelse er ikke garanti for at du har lavet noget, der er socialt bæredygtighed.*

**L: Nej, det kræver også at dem der har noget at sige, at de kan komme til f.eks. et borgermøde, at de kan komme derud.**

*B: Ja, at de overhovedet har lyst og overskud. Det handler om hvem er det man beskæftiger sig med, hvis du snakker social bæredygtighed, er det folk der har angst osv. jamen så får du nok ikke dem i tale, så det er vigtigt at man politisk tager ansvar og får indsigt i osv. og prøver at agere på de problemstillinger, som man støder på, hvad enten der er via borgerinddragelse eller på anden vis.*

*Jeg vil i hvert fald sige det sådan, at borgerinddragelse er ikke en garant for at du laver social bæredygtigt indrettede byrum, men det er garant for at dem du så tilfældigvis har samarbejde med, at de er blevet hørt.*

**L: I hvilken skala, kan de påvirke, kan borgerne påvirke noget i selve planlægningsfasen eller er det mere hvis de giver udtryk for at de vil have en legeplads?**

*B: Der bliver jeg dig svar skyldig.. f.eks. når vi laver legepladser, der er et driftsbudget og en anlægsbudget i Aalborg kommune, og der hvor vi laver legepladser der hvor vi må bruge skatteydernes penge til at lave legepladser osv. det er på kommunens egne arealer, så det er simpelthen parkerne eller By og Natur som på den måde er bygherrer og også ved hvordan de gør, men det er jo rigtig meget også i overensstemmelse med hvad man politisk har været ude og snakke med borgere om. Det kan jo være borgere, også i en oplands-by, som ikke har idrætsanlæg, ikke har legepladser osv. og mangler nogle områder, på den måde bliver der sat nogle penge af hvert år og det er en politisk prioritering, hvor er det man skal bruge de her penge. Det er også borger involvering, for der har vi jo været ude og stemme, ikke?*

(...)

*B: Det vi to vi snakkede om det er, at det er rigtig svært at finde ud af hvad er social bæredygtighed egentlig. Det der med at gøre det målbart og lave en strategi for det, det er rigtig svært, når vi ikke helt ved hvad det er. Her er det Marie Stender prøver at komme med sit bud, men vi har jo skrevet nogle ting her i vores bæredygtighed værktøj, hvor vi siger hvordan vi forstår det.*

(...)

Social bæredygtighed er også noget med alder, der har vi gang i et udviklingsprojekt, hvor man kigger på, når jeg bliver ældre kan jeg så blive boende i min bydel. Er den aldersvenlig? Så der er rigtig mange hatte til det der..

**L: Når I anlægger en grøn bypark, kigger i så på demografien i området, hvis det er Budolfi park, kigger i så på om det primært er børn eller ældre der bor i det område?**

*B: det gør vi til en vis grad. Budolfi kalder vi vist et byrum i vores, selvom den er meget grøn, så kalder vi det et byrum, Driveren for den byudvikling er også rigtig meget kulturhistorisk bebyggelsesmiljø, Aalborg vugge og der skal nogle penge til at renovere, så er det et godt eksempel på hvordan at de grønne kvaliteter kan vokse frem i samspil med den der rand-bebyggelse, det er der genereres penge, det er når du sælger bygge-retter, og ud af dem får du råd til at lave noget grønt.*

*Det er på den måde, det at lave en bypark i sig selv, får du ikke penge på, så det bliver nødt til at være i samspil med et eller andet. Der kigger man selvfølgelig på hvem er det realistisk set af borgere, hvilken type borgere bor her, der er de velbeslåede fordi det bliver nogle dyre lejligheder osv. så vi er jo også, bebyggelsesmæssigt så kommer vi også selv med nogle nye ingredienser til demografien, fordi det hele tiden er samspil. Man kan ikke se isoleret på Budolfi Plads og så sige at den skal ku kunne noget, det vil være i synergi med omgivelserne.*

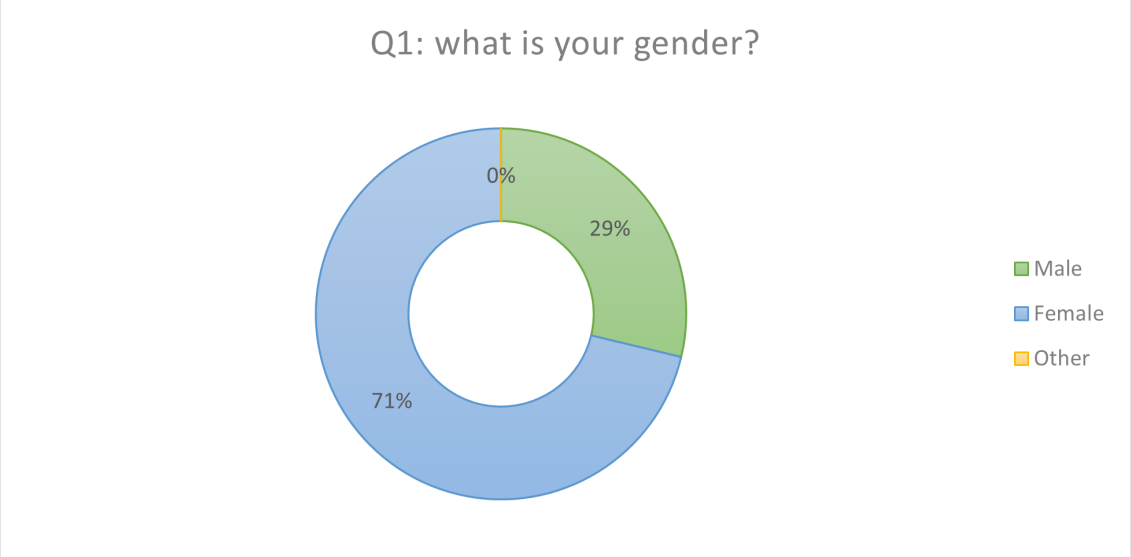
**L: Kigger i så på distance, hvis der et stort område hvor dem der bor, har langt til et grønt område?**

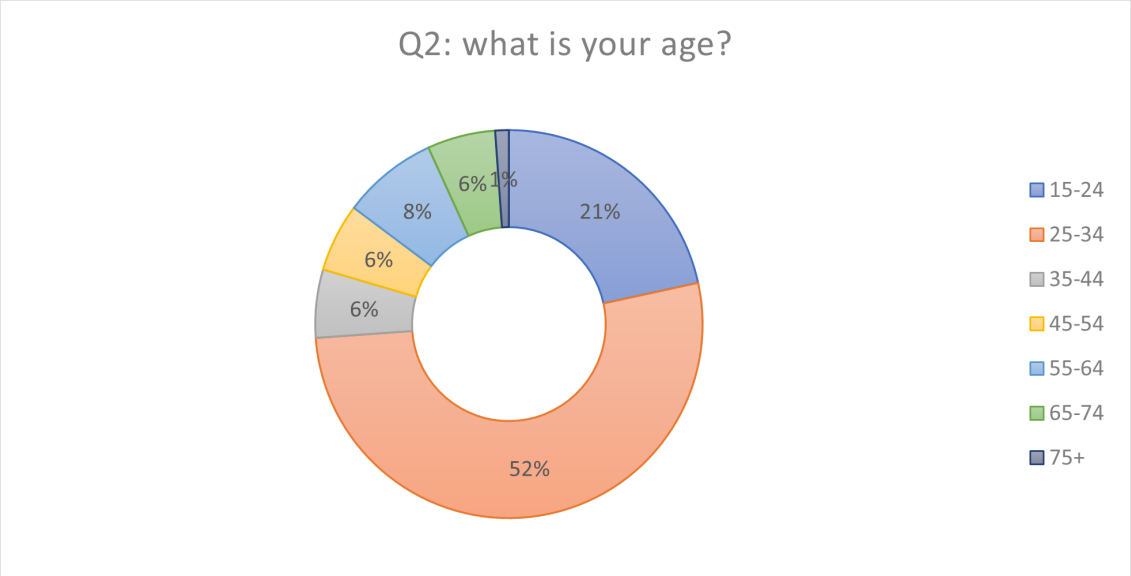
*B: Ja det gør man (...) der er en eller anden max-distance, som man siger, længere må der ikke være. (...) Jeg tør ikke sige tallet, jeg kan ikke huske det, men jeg håber du kan læse det et eller andet sted.*

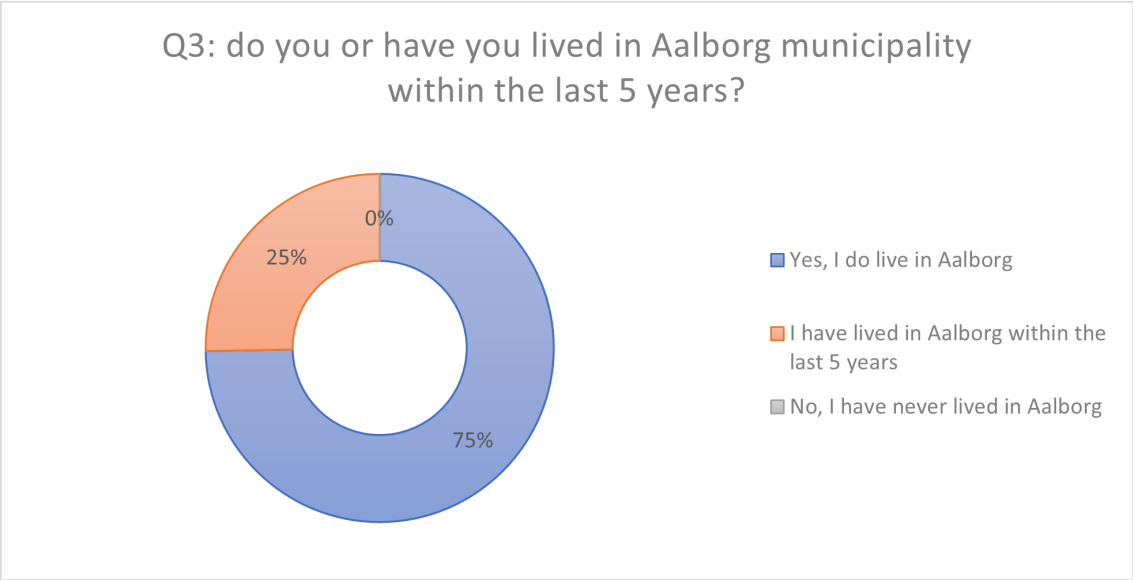
# Appendix 2 - Survey

This appendix shows the raw data from the survey. Quantitative questions are displayed as graphs or diagrams while qualitative questions are displayed in tables with all the residents' answers as it is written in the survey this includes answers in both Danish and English. The method for making this survey can be seen in Chapter 4 section 4.2.1.

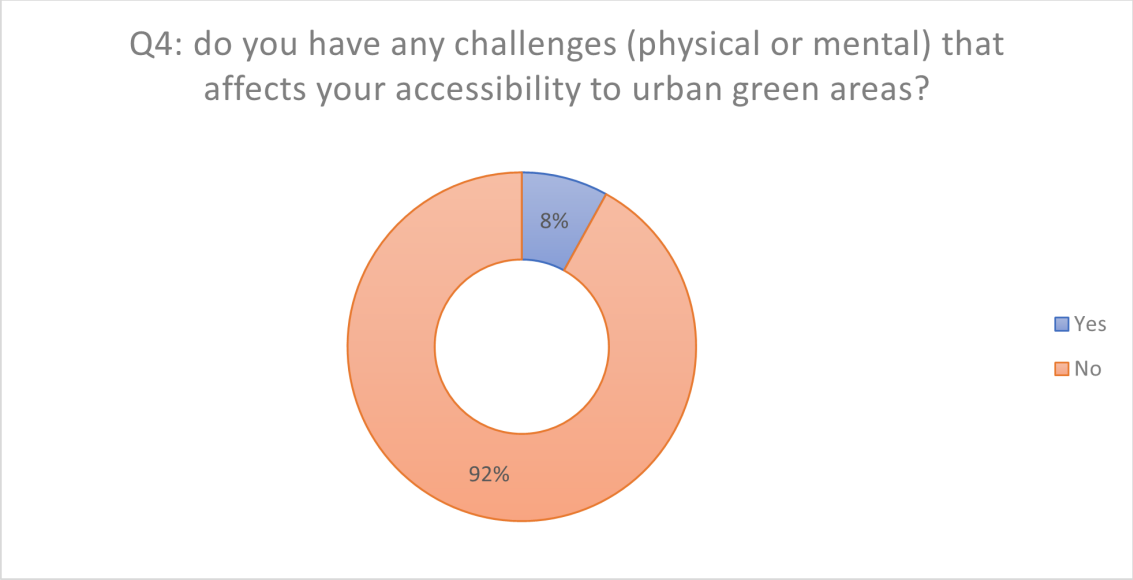
The first four questions are descriptive questions used for categorizing the respondents and analyzing their answers according to these categories.



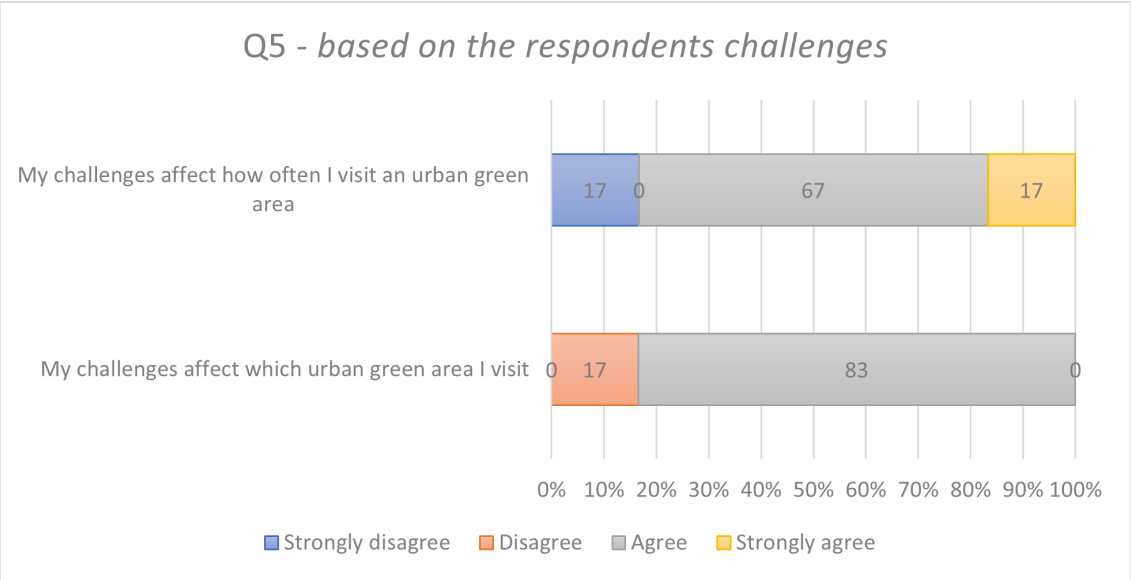






The target group of this survey is residents of Aalborg or people who have been residents of Aalborg within the last five years. Q3 is included to be able to sort out those who have responded to the survey even if this is not the case. If the respondent answered *'No, I have never lived in Aalborg'* on Q3 the survey will jump to the end page and the respondent will not be able to answer the following questions. If the respondent answered any of the two other options the respondent would be taken to Q4.

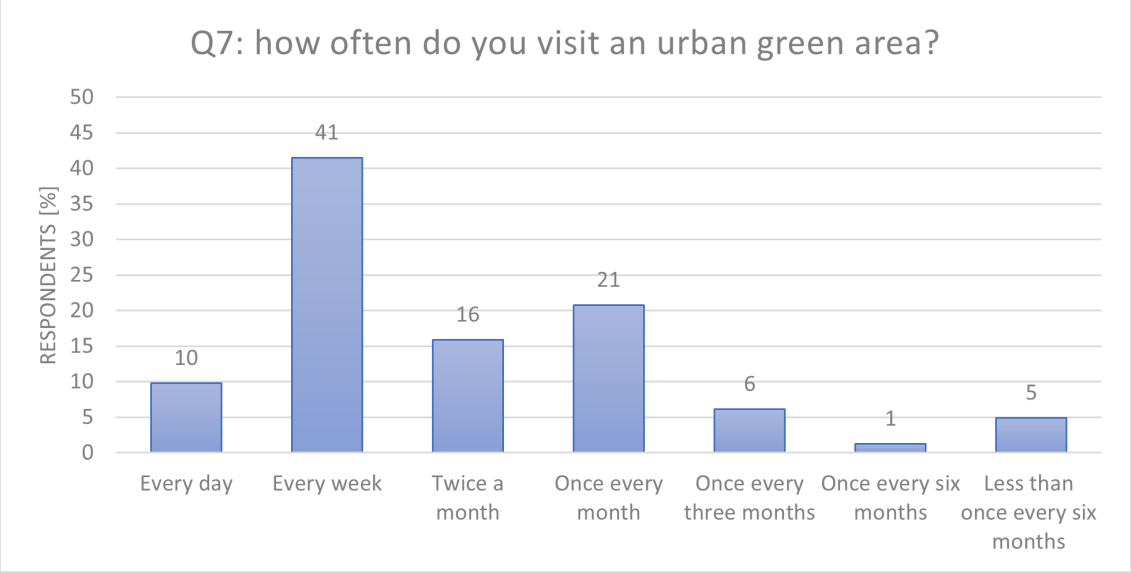



If the respondent answered *'Yes'* on Q4 regarding challenges with accessibility to UGAs, the respondent would be taken to Q5 and Q6 regarding these challenges. If the respondents on the other hand answered *'No'* on Q4, the following two questions would not be shown in the survey, since it has no relevance in that case.



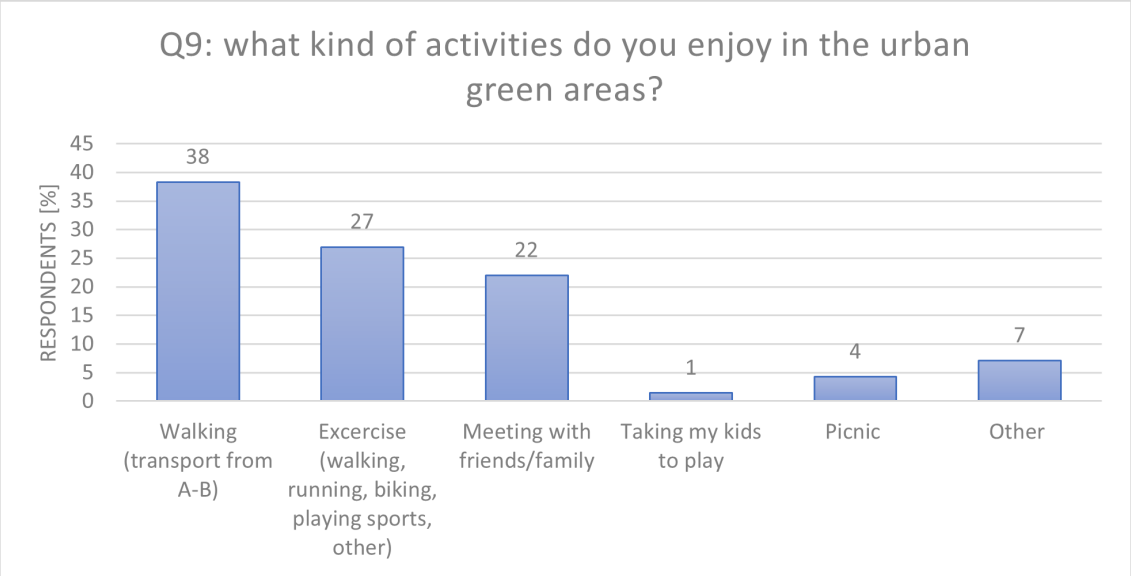

| **Q6:** What actions could be taken in the urban green areas to improve your accessibility? |
|---|
| Oversigt over faciliteter, toiletter, nemt at komme til/fra med offentlig transport |
| Mere jævn flisebelægning |
| Bedre tilgængelighed for kørestole |
| Hårdt underlag |
| Ingen bakker og flere siddepladser |

The next seven questions relate to the respondents' general use of UGAs and their view on these. The aim of these questions is to analyze the residents of Aalborg's use of UGAs and their accessibility to these.



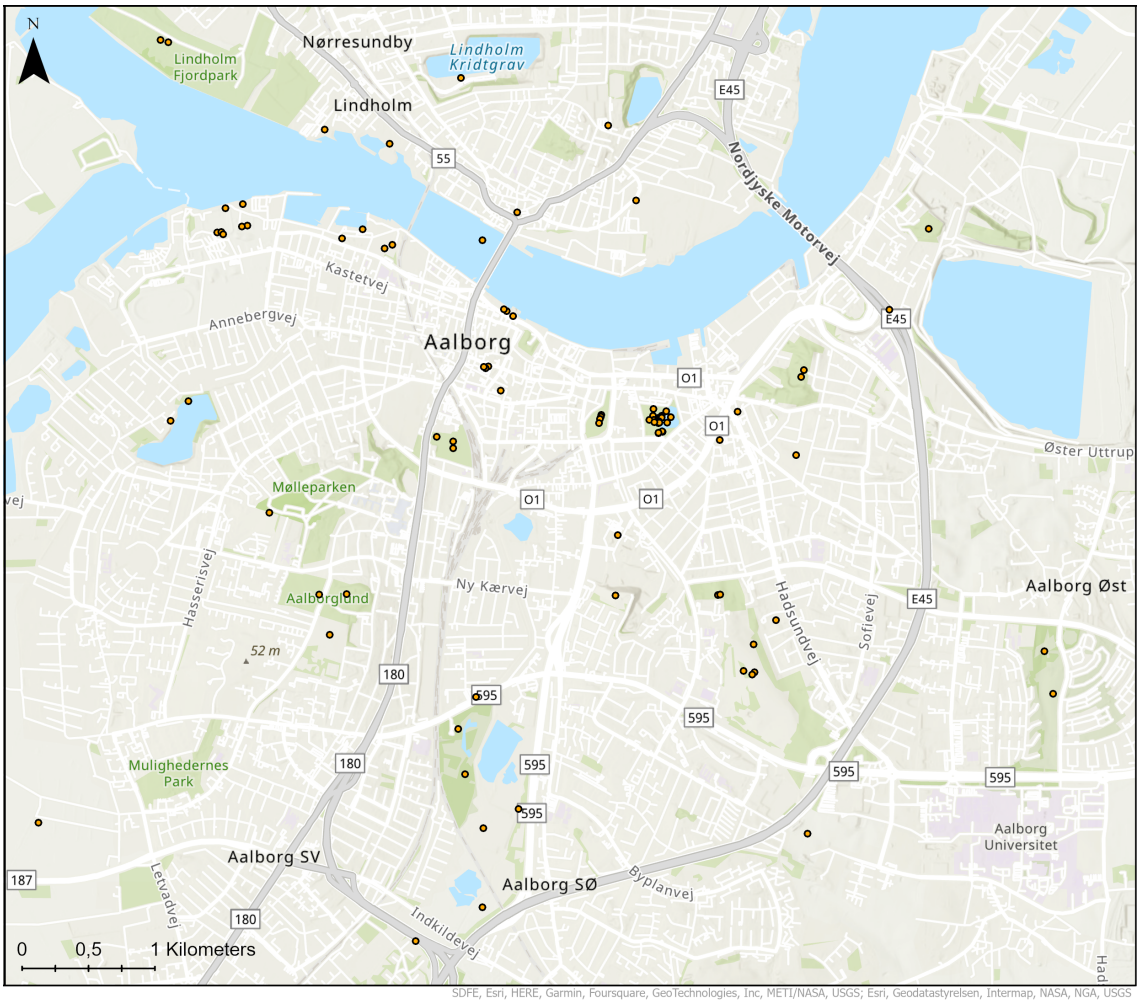
| **Q8:** What is your purpose of visiting the urban green areas? |
|---|
| Walking and running for sports activity |
| Gåtur i et dejligt område |
| Walking |
| Motion og livskvalitet |
| Gåtur |
| Ofte sammen med studiekammerater |
| Jeg går typisk igennem, hvis det er på min rute, fordi der er mere ro og flottere end at gå langs vejene |
| Gåtur eller løbetur |
| Gåtur |
| Gåtur, socialt samvær eller smutvej til ærinde |
| Går igennem det på vej til uni, går igennem det på vej til byen, nyder at der ikke er biler |
| Oftest i social sammenhæng, hvor jeg mødes med venner |
| Gå en tur og få luft fra byen og bilerne |
| Forbedre mit mentale helbred og få lidt motion |
| Relaxing, mild exercising like walking, enjoying the nature there and feeling better |
| Jeg søger grønne områder i byen for at få frisk luft og fordi naturen giver mig en indre ro og glæde |
| Gåtur |
| Da jeg boede i Aalborg brugte jeg de grønne områder primært om sommeren og mest til bare at slappe af (solbade/sociale arrangementer). Når man bor alene i Aalborg i små lejligheder, giver de grønne områder plads til at mødes mange mennesker når vejret er til det. Især under corona var de grønne områder i byen et godt mødested |
| Afslapning, gåtur |
| Natur, ro fra trafik |
| Gåtur |
| Prøver at besøge dem, når jeg er i Aalborg.. så finder jeg ro |
| PAssing through, running or just enjoying nature and getting my mind of things |
| Recreation, to enjoy nature, relaxing, exercise |
| Recreational or for running |
| Gåtur |
| Det nice |
| På min gangrute til arbejde |
| Afslapning "tømme hovedet" - eller at nyde en øl med venner |
| Nyder det |
| Luft i hovedet og en pause fra hverdagens stress og jag |
| Gennemgang for at komme fra A til B |
| Walking with my partner or friends |
| Taking a walk, winter bathing, enjoying the outdoor/natural light, biking to work |
| Elsker nature |
| For walks, enjoy the landscape |
| Gåtur i grønne områder |
| Gåtur |

| **Q8:** What is your purpose of visiting the urban green areas? [continued] |
|---|
| Gåtur eller hygge med venner og veninder |
| Recreational visit |
| Frisk luft, fri for bilstrøj, to til hovedet |
| Gåtur og nyder græsplæner, limfjorden og følger med i årstiden |
| Oftest var det i forbindelse med passage for at nå slutdestinationen |
| Nyde området og ind imellem også stilheden |
| Gå en tur og nyde vejret |
| Elsker at nyde naturen sammen med min hund |
| Rekreativt |

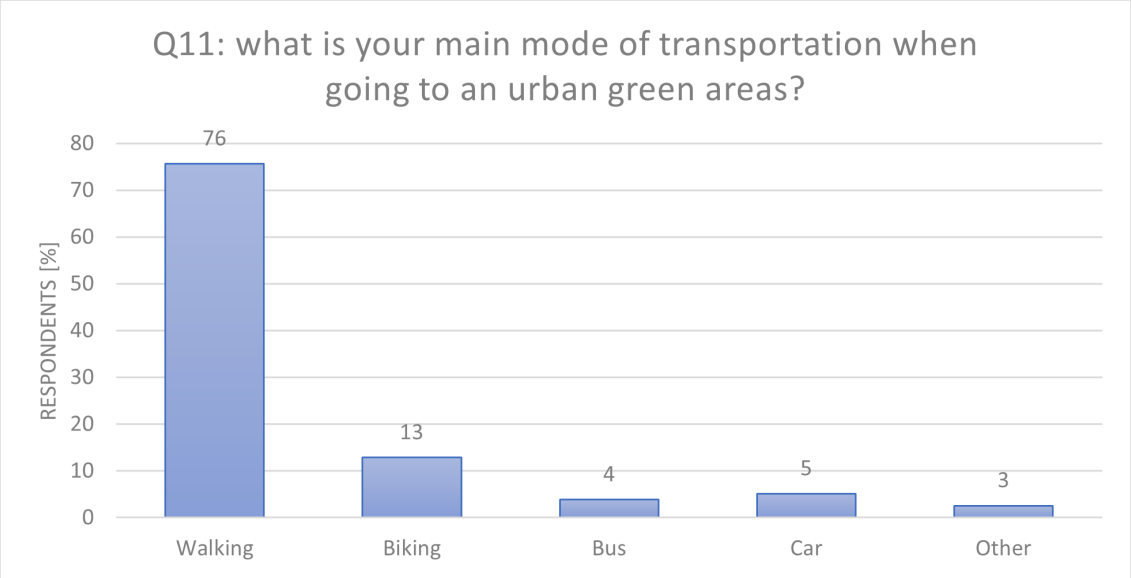


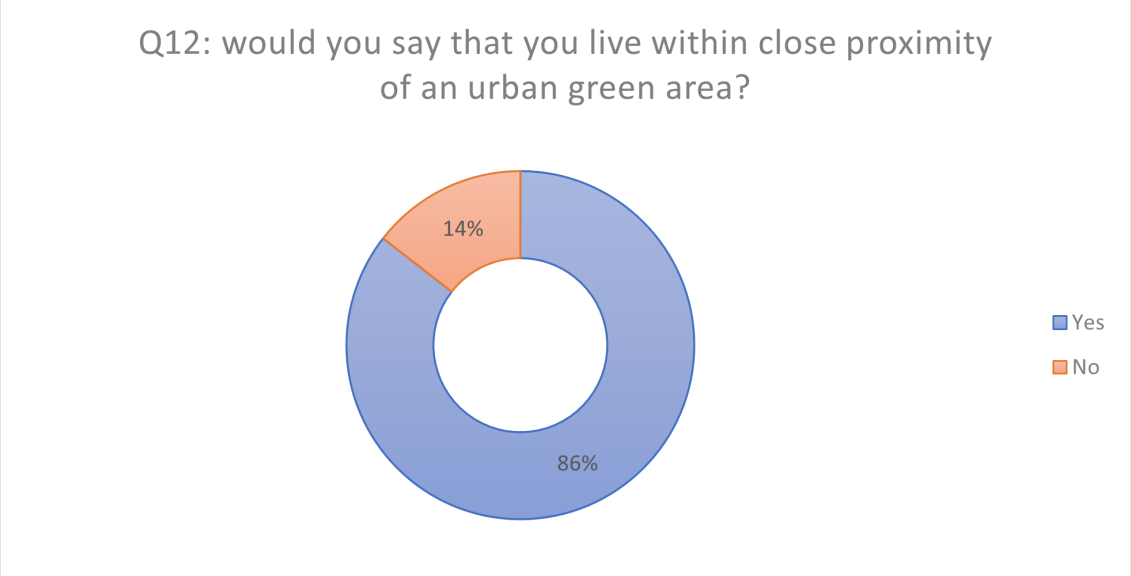

| **Q10:** Are there any activities that you wish to do in an urban green areas but cannot? |
|---|
| Sidde på bænk |
| Barbecue |
| Mine besøg i disse områder søger ikke et aktivt gøremål, men fungerer mere bare som et frirum fra byens larm og støj |
| Jeg bryder mig ikke om, at området benyttes til græsning af køer (Sofiendal Enge) |
| Spil |
| Hoppe i faldskærm |
| t would be cool with a free basket court! Outdoor free sports facilities in general |
| I feel its too cold to spend more time than just have a walk in a sunny day |
| I like to rollerblade and sometimes it's hard to find a good connected, quiet road network. The waterfront is broken up by cobblestones and other barriers. |
| Alternativer til Vestefjord park med henblik på badning. Et sted der er mere privatiseret |
| Tager mine børn med i Østre Anlæg |
| Nyde natur og se dyr, men kan ikke gå langt |
| Jeg synes løb godt kan blive en udfordring, da områderne ikke er så store og så skal jeg alligevel igennem alt det der udelukkende er urbant. Det kunne være fedt hvis de grønne områder var lidt mere sammenhængende. Måske bare med stier, der kunne gøres lidt "grønnere"? Måske træer lang og fint grus så alt ikke bliver så befæstet og gråt. |

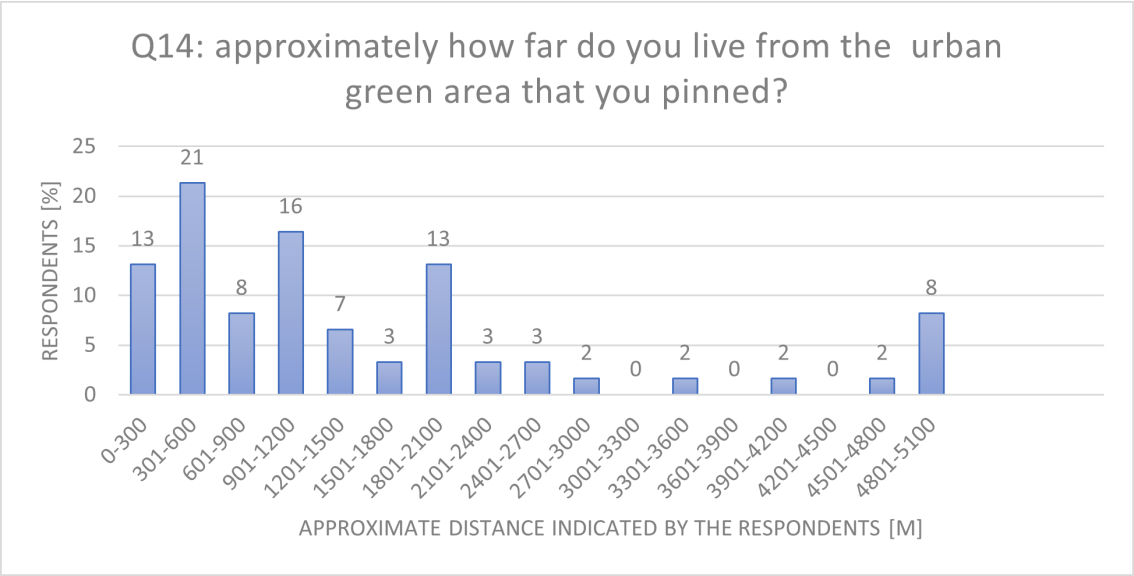
For Q13 the respondent was asked to pin their favorite UGA in Aalborg on a map. The figure below shows a screenshot of the web page when the respondent answered Q13 and how the mapping is performed. The aim of this question is to locate the residents of Aalborg's favorite UGA within their city. This question was also taken into account for the selection of Østre Anlæg and Sohngårdsholm Parken as the neighborhood scale case areas.




The last three questions in the survey relate to the respondent's favorite UGA (the one pinned on the map in Q13), and why this UGA is appealing to the respondent.

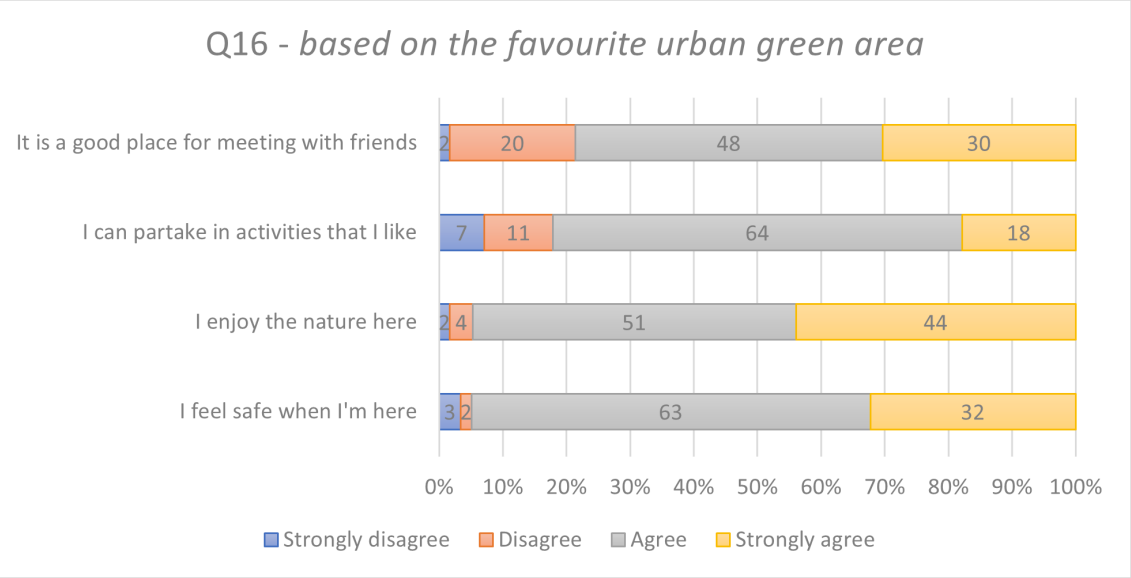

Q11: what is your main mode of transportation when going to an urban green areas?
RESPONDENTS [%]
80
70
60
50
40
30
20
10
0
76
13
4
5
3
Walking
Biking
Bus
Car
Other


Q12: would you say that you live within close proximity of an urban green area?
14%
86%
Yes
No




| Q15: What do you like about this urban green area? |
|---|
| Close proximity to my home |
| Det er mere naturligt og vildt end andre områder |
| Sports faciliteter |
| Der er ro og godt stisystem, jeg bor ved søen |
| Det er så dejligt at komme ud og se på noget grønt |
| Mængden af træer, vandmængder, god gangsti |
| Det er et åndehul midt i byen. Arkitekturen er både rå og "naturlig", det grønne er styret men ikke stingent |
| Udsigten |
| Vandet |
| Hyggeligt om sommeren |
| Væk fra byliv, og for langt til stranden. Så er venstre fjordpark mit yndligs grønne område. |
| Meget plads, få mennesker, mere vild natur. |
| Nem at tilgå med offentlig transport eller cykel. Vand, tæt på byen og toiletfaciliteter. |
| Forbedre mit mentale helbred og få lidt motion |
| Diversitet (sø, stier, kultur og grønt) |
| Der er stille og grønt |
| Det er flot, mange muligheder for forskellige aktiviteter som bliver brugt af dem der bor i området. Der er disc golf hvilket er super hyggeligt |
| It is not the closest one to where I live, but it is really green, a park (not like budolfi) and it has so much nature, like also ducks and a lake. It combines everything, it's a very nice scenery in the city. |
| Det er smukt, forskelligartet, det har en sø hvor forskellige dyrearter hører til. Det er utrolig hyggeligt. |
| Søen, fuglene, åbent område, stier |
| Boede tæt på Østre Anlæg og var det godt mødested med studie og venner. God placering. |
| Naturen, bænke man kan sidde på samt plads til børn kan lege |

| **Q15:** What do you like about this urban green area? [continued] |
|---|
| I Vestre fjordpark kan man være mere "privat". Eller det føles mere "okay" at smide tøjet her for at få lidt tan. Krævede dog mere planlægning at tage derud. |
| Det er nok et af de større sammenhængende områder, hvor man virkelig kan komme væk fra byen larm. Og så er der en fint sti rundt i Lindholm fjordpark og det er hyggeligt når fårene går løs. (Det er lidt langt at mødes med vennerne herovre,da det ligger et godt stykke væk. Medmindre formålet er en lang rask gåtur og snak) |
| Stor område. Blomster, legepladser, heste, gode gåture. |
| Flot udsigt, langt væk fra trafik |
| Det er en lille oase midt i en travl by.. Man falder altid til ro der. |
| Large, peaceful, the water makes it beautiful, lot of walking paths, tower to have a view |
| Flot område |
| It's a nice size, large for Aalborg I think. It has nice trails, a small play area, and horses |
| It is "wild", by the fjord and has free walking sheep |
| Det er ikke bare en park, som er en græsplæne, men der er også træer, en sø og mindre stier. |
| Minder |
| Alt |
| Frodigt og stort |
| Good running paths, not on a busy road |
| Stort, forskellige ruter at gå |
| Sejler kajak |
| Vandet, det vilde, fuglelivet, bademuligheder, bænke, har kendt området siden 1950'erne |
| Der er fred og ro, og så er det en kridtgrav, det er dejligt at være der om sommeren. |
| Tæt på |
| Frisk luft og at det ligger tæt på mig selvom jeg bor i en storby |
| It is often very sunny |
| It's green, there's a lake, a church and many trees |
| I like to be by the water. I am a winter bather, kayaker, and swimmer. I used to live closer (in Vestbyen), but now I live in Vejgaard and I miss how easy it was to get to the fjord (park) |
| Natur, fugleliv, grøn oase, godt til løb, blødt underlag |
| Det har en masse kvaliteter som forener det urbane og det rekreative. Masser af mennesker og aktivitet |
| Stort, gåstier, vand, have, steder velegnet til sociale events, solbadning og picnic |
| Jeg synes det er tæt på mig og der er ikke for mange mennesker, biler osv. Jeg synes det er et roligere sted |
| Der er grønt, masser af træ og planter. Som at være skoven i byen. |
| Der er gode gangstier. Dyreliv - fugle og rådyr. |
| Dejlige flotte omgivelser |
| Større område, gode stier, hyggelig atmosfære |
| God gangsti, dejlig udsigt til Limfjorden , god legeplads til mine børnebørn. På Skansen er der flot m blomster , fantastisk udsigt, |
| Flot |
| Gode stier til kørestol |
| Udsigt over vandet |
| Græsset |
| Nemt at komme ind og ud samt naturen er mere flad der |


Q16 - based on the favourite urban green area
It is a good place for meeting with friends
I can partake in activities that I like
I enjoy the nature here
I feel safe when I'm here
2
20
48
30
7
11
64
18
2
4
51
44
3
2
63
32
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Strongly disagree
Disagree
Agree
Strongly agree

# Appendix 3 - Raw data from observations

This appendix contains the raw data from the observations in the two case areas, this data has been used to create maps and during the analysis. Counting was only done during the observations on the 21st and 22nd of April, as the observation done on the 7th of April was more general and to get a background understanding of the areas. The first tables show how many moved and how many stayed, and the second table shows the division into different transport forms and different activities - meaning that the second table contains the same people as the first and not additional ones.

### Østre Anlæg

| Observation | 21st of April | 22nd of April |
|---|---|---|
| Moving (pedestrian flow) | 58 | 35 |
| Staying (stationary activity) | 205 | 25 |
| Total visitors | 263 | 60 |

***Table 7.1.*** Total visitors of Østre Anlæg on the 21st and 22nd of April divided into moving or staying

| Observation | 21st of April | 22nd of April |
|---|---|---|
| Walking | 52 | 21 |
| Walking the dog | 4 | 5 |
| Biking | 2 | 4 |
| Running | 0 | 3 |
| Wheelchair | 0 | 2 |
| Staying on bench or grass | 179 | 16 |
| Football | 15 | 0 |
| Volleyball | 4 | 0 |
| Outdoor fitness | 0 | 1 |
| Playing on the playground | 7 | 8 |
| Total visitors | 263 | 60 |

***Table 7.2.*** Total visitors of Østre Anlæg on the 21st and 22nd of April divided into different transport forms and activities

### Sohngårdsholm Parken

| Observation | 21st of April | 22nd of April |
|---|---|---|
| Moving (pedestrian flow) | 16 | 10 |
| Staying (stationary activity) | 8 | 16 |
| Total visitors | 24 | 26 |

***Table 7.3.*** Total visitors of Sohngårdsholm Parken on the 21st and 22nd of April divided into moving or staying

| Observation | 21st of April | 22nd of April |
|---|---|---|
| Walking | 8 | 7 |
| Walking the dog | 6 | 2 |
| Biking | 2 | 1 |
| Running | 2 | 0 |
| Wheelchair | 0 | 0 |
| Staying on bench or grass | 5 | 1 |
| Football | no | no |
| Volleyball | no | no |
| Outdoor fitness | no | no |
| Playing on the playground | 3 | 15 |
| Total visitors | 24 | 26 |

***Table 7.4.*** Total visitors of Sohngårdsholm Parken on the 21st and 22nd of April divided into different transport forms and activities

# Appendix 4 - Questions 13: pin your favourite UGA

| UGA | No. of pins |
|---|---|
| Vestre Fjordpark | 7 |
| Søheltenes Have | 2 |
| Fjordmarken | 2 |
| Jomfru Ane Parken | 3 |
| Budolfi Plads | 3 |
| Kildeparken | 3 |
| Nordens Kridtgrav | 2 |
| Stolpedalsparken | 1 |
| Skovparken | 3 |
| Anne Anchers Legeplads | 1 |
| Østre Ådalen | 7 |
| Karolinelunden | 4 |
| Østreanlæg | 20 |
| Signalbakken | 2 |
| Oasen | 1 |
| Vejgård Kirkegård | 1 |
| Vandbakken | 1 |
| Sundgårdsholmparken | 2 |
| Golfparken | 4 |
| Bundgårdsparken | 2 |
| Godskerens Legeplads | 1 |
| Rørdal Kridtgrav | 1 |
| Lindholm Strandpark | 2 |
| Lindholm Fjordpark | 2 |
| Lindholm Kridtgrav | 1 |
| Mølleparken | 1 |
| Not placed in a green area | 6 |
| Sum | 85 |

***Table 7.5.*** All pins placed in question 13 in the survey divided by different UGAs

# Appendix 5 - Raw data from document study

This appendix contains raw data from the document study and includes the document *under åben himmel* page 7-10 and 13-16, where *nature for the sake of nature* is marked with red, and *nature for the sake of humans* is marked with yellow. Phrases that are not marked either relate to both or non of the concepts.

## PLADS OG ADGANG
### til natur og udeliv

Visionen handler om at sikre, at der i kommunen fortsat er arealer til natur og udeliv. At der fortsat er mulighed for at opleve vores karakterfulde landskab og de storslåede udsigter over åbne vidder. Vi skal også sikre, at vi særligt passer på de arealer, hvor der allerede er kvaliteter. Vores parker og vores natur har en helt særlig betydning for rigtig mange, og de grønne områder er velkendte steder i byen, på tværs af generationer. Områderne er gennemgående elementer i vores liv, og måske går vores børnebørn i fremtiden ture til de samme træer, som vi selv besøger nu.

Vi skal passe på de rekreative områder, når der skal gøres plads til flere beboere i vores byer. Når byen får flere indbyggere, stiger presset. Samtidig lader det meste natur sig ikke flytte. Biologisk mangfoldighed, økosystemer, plantesamfund og træer kræver tid, plads og de rette forhold for at trives, og ofte er kvaliteterne knyttet til det enkelte sted. Kombinationen af lys, varme, vand og jordbund skaber forskellige vækstvilkår, som kan være med til at skabe helt særlige naturarealer, der ikke kan genskabes andre steder. Derfor må vi bevare vores gode naturarealer. Arealerne skal ikke begrænses og presses af andre aktiviteter bid for bid, men skal gives plads med langsigtede perspektiver. Træerne skal plantes, så de kan vokse sig store og frodige uden at blive forstyrret i tide og utide.

Vores vision handler også om at skabe adgang til vores natur for både dyr og mennesker. Derfor er netværket, forbindelserne og den blå og grønne struktur et vigtigt element til at sikre funktionaliteten af arealerne. Vi ved, at gode adgangsforhold for alle øger besøgene. Når arealerne bruges, øges sundheden. Sammenhæng og adgang skabes dels gennem stiplanlægning, men i særdeleshed ved at binde de eksisterende arealer sammen og passe på, at de ikke deles yderligere op. I Danmark er det overordnede mål at skovarealet er 20-25% af Danmarks samlede areal inden 2060. På nuværende tidspunkt er 8% af Aalborg Kommunes samlede areal dækket af skov, og Aalborg Kommunes mål er at opnå 12% skovdækning inden 2060.

## VI VIL

- Bevare og udvide arealer, så vi skaber sammenhæng mellem natur og landskab.
- Øge mængden af og alsidigheden i vores naturområder.
- Øge det naturbeskyttede areal fra 13% til 17%.
- Skabe og sikre gode adgangsforhold til vores natur og vores rekreative områder.
- Forbedre muligheden for at bevæge sig i og imellem vores naturområder og vores rekreative områder.
- Give plads til mere natur, flere træer og mere beplantning i byerne.
- Udvide de eksisterende skove og udvikle nye skovområder.
- Frede vores mest værdifulde natur- og parkområder.
- Sikre at borgerne har nærhed til natur og rekreative områder.
- Skabe mere natur og rekreation i forening med klimasikring.
- Arbejde for at boliger skal have grønne rekreative arealer i umiddelbar nærhed og have:
  - Max 300 meter til et rekreativt grønt areal på min. 1 ha.
  - Max 500 meter til et rekreativt grønt areal på min. 5 ha i tæt bebyggelse.
  - Alle oplandsbyer skal have et grønt rekreativt areal på min. 5 ha.

## SÅDAN GØR VI

- I planlægningen arbejder vi for en samlet vurdering og prioritering af arealer for at sikre de grønne værdier og strukturer.
- Vi tydeliggør landskabets identitet gennem planlægning og forvaltning.
- Vi øger antallet af træer i byen med 3% hvert 5. år.
- Vi arbejder strategisk med artsvariation og gode vækstforhold for byernes træer.
- Vi udnytter arealer med potentialer til midlertidig beplantning og natur for at skabe dynamik.
- Vi anlægger 40 ha ny skov om året, hvor vi prioriterer skovudvikling med stor artsrigdom i bynære områder, ved mere sammenhængende skov og i forbindelse med grundvandsbeskyttelse.
- Vi planlægger rekreative forbindelser, så der skabes sammenhæng mellem natur og rekreative områder i by og land.
- Vi sammenbinder stier i et overordnet rekreativt stinet og etablerer et netværk af rekreative pendlerruter.
- Vi udbygger og sikrer adgangen fra skoler og institutioner til rekreative områder.
- Vi udbygger de rekreative sammenhænge i samarbejde med lodsejere.
- Vi imødekommer klimaforandringerne og giver plads til udvikling af nye naturarealer i ådalene og langs kysterne.
- Vi udnytter vandet som en rekreativ ressource, gør det synligt og mere tilgængeligt.

## RIG NATUR OG ET MANGFOLDIGT UDELIV

Aalborg Kommune byder på en bred vifte af værdifulde naturoplevelser og rekreative muligheder. Rig natur og et alsidigt udeliv handler ikke kun om tilgængeligt areal, men også om indhold. Derfor arbejder vi hele tiden med, at øge naturindholdet, funktionaliteten og mulighederne for at komme ud i det fri. Planlægning og forvaltning er med til at sikre, at kvaliteten af naturen højnes, samtidig med at vi imødekommer de mange forskellige behov for udeliv.

Byernes natur har traditionelt sin plads mellem bygninger og belægninger i parker og grønne områder. Natur i byerne skaber et attraktivt nærmiljø og et bedre klima. Ved at arbejde med områder, der kan give sanselige oplevelser som at se de skiftende årstider, og ved at finde ro, skabes steder, hvor vi har lyst til at være. Muligheden for at opleve naturen som en del af hverdagen har stor betydning for vores trivsel, og derfor noget vi arbejder målrettet for.

Naturen består af en række naturtyper, som kommunen har en forpligtigelse til at tage vare på og forbedre tilstanden af. På nationalt plan har vi mange gode naturområder som f.eks. Lille Vildmose og De Himmerlandske Heder med høj naturkvalitet, der huser en række sjældne og truede arter. Det vilde dyre- og planteliv er afhængigt af varierede og robuste levesteder.

Det generelle billede i Danmark er, at naturen er presset. Omfanget af arealerne er blevet mindre, og arealerne mere isolerede. Det er en udfordring både for naturindholdet og for vores adgang til områderne. Derfor er det vigtigt, at naturområderne er store og hænger sammen, så dyr og planter kan spredes og trives.

Skoven er den naturtype, som kan rumme den største mangfoldighed af dyr og planter. En forudsætning for mangfoldigheden er, at skovene får lov at udvikle sig naturligt. Men benyttelsen af de kommunale skove, og særligt de bynære, til forskellige friluftsaktiviteter er stor, og brugen skal derfor altid afvejes.

## VI VIL

- Øge den biologiske mangfoldighed.
- Øge naturkvaliteten på de naturbeskyttede arealer, i skovene, på kirkegårdene, i byens parker og på andre af kommunens arealer.
- Lave målrettede indsatser til gavn for sjældne og truede dyre- og plantearter.
- Følge naturens udvikling.
- Sikre at 50% af de naturbeskyttede arealer er i god tilstand.
- Opdatere natur- og landskabsfredningerne.
- Øge antallet af gamle træer.
- Tilbyde gode muligheder for et attraktivt, aktivt og alsidigt udeliv.
- Skabe rammer der fremmer fysisk, mental og social sundhed.
- Bidrage til mulighederne for leg, motion og samvær i byens rum.
- Udpege og sikrer 5 stilleområder.
- Afveje beskyttelse og benyttelse af de enkelte parker, naturområder og skove.
- Sikre at indfaldsvejene til byerne skal være grønne med et højt naturindhold.
- Ikke bruge pesticider af hensyn til grundvand og natur.

## SÅDAN GØR VI

- Vi prioriterer sårbare arter, som har brug for en særlig forvaltning.
- Vi udarbejder en plan for naturen, som sætter mål for udviklingen af de naturbeskyttede arealer.
- Vi overvåger vores naturbeskyttede arealer, så de kortlægges løbende en gang hvert 6. - 10. år.
- Vi tilpasser løbende plejen på Aalborg Kommunes naturbeskyttede arealer med det formål at øge naturkvaliteten.
- Vi forvalter arealer på naturens præmisser og tilpasser tiltagene med respekt for naturens egne dynamikker.
- Vi rådgiver lodsejere og dyreholdere om naturpleje, støtteordninger og naturindhold.
- Vi udarbejder en fredningsstrategi.
- Vi vil revidere indholdet i de gamle natur- og landskabsfredninger og vi vil fortsat årligt udarbejde en ny plejeplan for relevante fredninger.
- Vi udvikler og driver vores skove og parker for at skabe gode rekreative rammer, beskytte miljøet og udvikle naturindholdet, herunder fastholdelse af certificering af skovene.
- Vi forvalter 200 ha skov med særlige driftsformer målrettet biodiversitet.
- Vi overvåger udvalgte indsatser og laver effektovervågning.
- Vi kortlægger den biologiske mangfoldighed i 5 udvalgte skove.
- Vi registrerer og udpeger træer med potentiale til at blive gamle med fokus på veterantræer.
- Vi bekæmper invasive arter og standser spredningen.
- Vi laver natur- og miljøvenlige løsninger af øgede regnvandsmængder og udnytter de rekreative muligheder deri.
- Vi planlægger med udgangspunkt i de eksisterende værdier og potentialer, når arealer ændres.
- Vi arbejder med fokus på rekreative, kulturelle og oplevelsesmæssige værdier.
- Vi vil sikre meget grønt, når der planlægges nye bebyggelser.
- Vi arbejder målrettet med at skabe rekreative arealer, som rummer forskellige funktioner.
- Vi sikrer rammer, der skaber muligheder for sociale aktiviteter, tryghed og mødesteder i byen og i boligområderne.
- Vi registrerer og klassificerer vores rekreative ruter.
- Vi sikrer, at stierne tilpasses områdernes karakter, sårbarhed og kvalitet.
- Vi styrker sammenhængen mellem vores rekreative områder og deres omgivelser.
- Vi sikrer, at kloakering af kolonihaver er færdig i 2030.
- Vi sikrer, at vores idrætsanlæg er tidssvarende og velfungerende.
- Vi vurderer miljøfremmede stoffer i forbindelse med anlæg og drift.
- Vi samarbejder med borgerne om at rydde op og holde rent.