

*A Participatory Vision for Hobro's
Sustainable Harbour Transformation*

Reclaiming the Waterfront

| | | |
|---------------------------|---|-----------------------------|
| Project | <i>Reclaiming the Waterfront: A Participatory Vision for Hobro's Sustainable Harbour Transformation</i> | |
| Report 1 of 2 | <i>Method, theory, analyses and design process</i> | |
| Education | <i>Urban Design, Aalborg University</i> | |
| Project module | <i>MSc in engineering, Urban Design</i> | |
| Periode of project | <i>03.02.2025 - 28.05.2025</i> | |
| Submission date | <i>28.05.2024</i> | <hr/> Sidsel Aagaard |
| Supervisor | <i>Tina Vestermann Olsen</i> | |
| Number of pages | <i>135</i> | <hr/> Katrine Nygaard Brink |
| Appendix | <i>18</i> | |

Abstract

This master's thesis explores how urban development can be informed by user involvement in the context of Hobro's harbourfront. The goal is to create urban spaces that are not only resilient and functional but also rooted in local identity.

The thesis is divided into two reports. The first outlines the theoretical framework, methodology, analysis, conclusion, and reflection. The second presents the design outcome: a strategic development plan for the harbourfront, a detailed design proposal for a selected area, and recommendations for future user involvement.

Through user engagement, site analysis, and iterative design, the thesis proposes a development strategy that integrates adaptive coastal infrastructure with cultural and recreational spaces, emphasizing the value of inclusive planning and community engagement.

Special thanks to...

We would like to extend a special thank you to our supervisor, Tina Vestermann Olsen, for guiding us through both major and minor challenges during our master's thesis. Your generosity and support have been deeply appreciated.

Additionally, we would like to express our sincere thanks to Hobro Byforum, Mariagerfjord Municipality, the participants in our focus group, and the citizens of Hobro we spoke with throughout the project. Without your input, we would not have gained the same level of insight and development.

Contents

| | | | |
|-----------------------------------|----|-------------------------------|----|
| 01.0 Prologue | 7 | 03.0 Methodology | 29 |
| Reading Guide | 8 | Methods | 30 |
| Motivation | 9 | The Integrated Design Process | 31 |
| Defining the Assignment | 10 | Co-creating Landscapes | 32 |
| Relevance for Society | 11 | Iterative Co-Creation Method | 34 |
| Problem | 12 | | |
| Definition of Words | 13 | | |
| 02.0 Theoretical Framework | 15 | 04.0 Discovery | 37 |
| Sustainability in Urban Design | 16 | Context | 38 |
| The Doughnut | 18 | The City | 41 |
| The Doughnut in Urban Development | 20 | Municipal Plans | 42 |
| How, When, and Where | 22 | The Project Area | 46 |
| The Role of the Designer | 24 | The Past | 48 |
| Concluding Remarks | 26 | Districts | 50 |
| | | Infrastructure | 52 |
| | | Green and Blue Structure | 54 |
| | | Climate Related Challenges | 57 |
| | | Facade | 59 |
| | | Conclusion | 60 |
| | | Reference Studies | 62 |

| | | | |
|--------------------------------|-----|-----------------------------|-----|
| 05.0 Participation | 67 | 07.0 Epilogue | 103 |
| Time Schedule | 68 | Guiding the Process | 104 |
| User Involvement | 70 | Conclusion | 106 |
| Interviews | 72 | Reflection | 108 |
| Voxpop | 74 | Bibliography | 112 |
| Focus Group | 76 | Illustration list | 115 |
| Model Voxpop | 80 | | |
| Questionnaire | 82 | | |
| Conclusion | 88 | | |
| Evaluation of User Involvement | 91 | | |
| | | 08.0 Appendix | 117 |
| 06.0 Design Process | 93 | 08.1 AI | 119 |
| Thesis Process | 94 | 08.2 Interview Byforum | 120 |
| Masterplan | 96 | 08.3 Interview Municipality | 122 |
| Details - The Wall | 98 | 08.4 Focus Group | 124 |
| Balancing User Input | 100 | 08.5 Model Voxpop | 128 |
| | | 08.6 Questionnaire | 129 |
| | | 08.7 Design Process | 133 |



Illustration 01 // Small dock in the shipyard

01.0 Prologue

The following chapter will delve into the framework of the master thesis. It will clarify the motivation behind the report and its relevance to society, ensuring a comprehensive understanding of the subject matter.

Reading Guide

The following master's thesis is divided into two reports. The two reports are intended to be read consecutively, with the recommendation to read the second report prior to reading the conclusion and reflection presented in the first report. The second report can also be detached and understood as a standalone unit. The authors of this report will be referred to as the project group.

AI The use of AI is present in this report. Details on how it has been applied, along with examples, can be found in Appendix 08.1.

First Report The first report provides the theoretical foundation and outlines the methods applied throughout the thesis, with a particular emphasis on user involvement. Therefore, user involvement is given its own chapter, in which both the methodology and the insights gained from it are presented. The report includes an in-depth desktop analysis and site visit's, followed by a description of the design process. Lastly a reflection and conclusion on the overall design and user involvement process.

Second Report The second report outlines the actual outcome and the design proposal within the context of Hobro. The result of the extensive investigation into user involvement in a local context is presented as an overall strategy, with detailed focus areas. The report is compiled into a set of recommendations contributing to a coherent development plan, including suggestions for future user involvement.

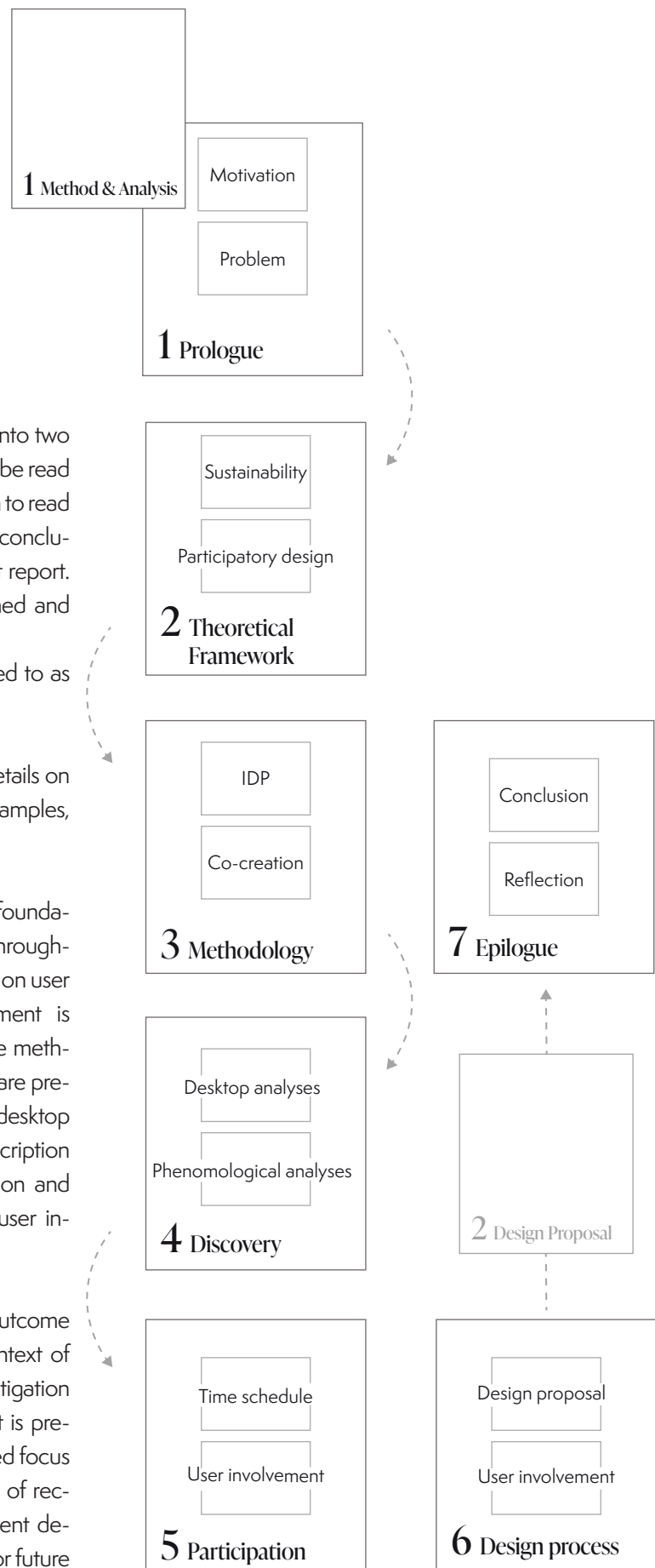


Illustration 02 // Reading guide

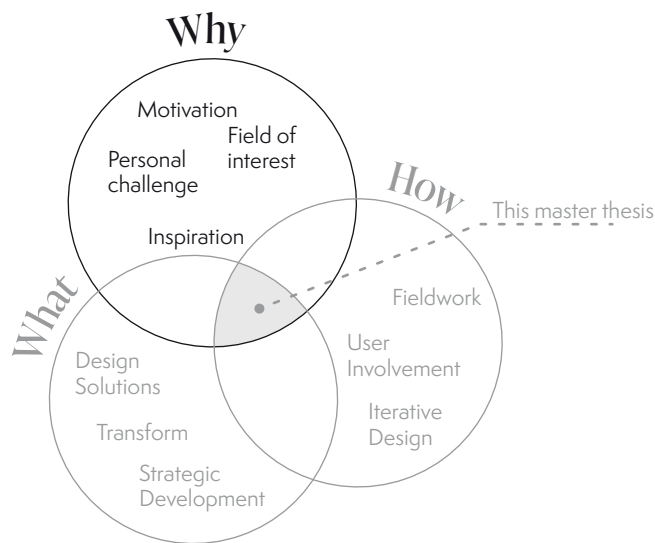


Illustration 03 // Motivation

Motivation

The motivation for this report is driven by two main factors: motivation based on the topic and motivation based on personal challenges.

Primary The primary motivation revolves around the interest in investigating and forming a user centred design process by including users in as many aspects as possible during a design process of an urban space. Ultimately improving the conventional design process related to urban planning. The goal of this report is to explore how traditional desktop analysis can be challenged by supplementing it with different user-centred design approaches, leading to a framework for how and when to include user during a design process.

By having a case specific approach, the framework of the methodology of how to include the users throughout the entire process will be tested and evaluated resulting in recommendations for how to involve the users in other design process of urban structures and cities. The case of this project will be the harbourfront in Hobro.

The secondary and underlying motivation is the **Secondary** interest in challenging oneself. This involves exploring new methods, engaging in innovative processes, and communicating the project to users who have never participated in such projects or processes before. By stepping out of comfort zones and embracing these challenges, valuable insights can be gained and growth as designers can be achieved.

Both sides of the motivation take a starting point in former experiences during former student projects. During the urban design education, the value of user involvement gradually became evident as an effective way to gain valuable insight into any project area. However, user involvement sometimes felt overlooked, leaving the insights it offered on the periphery of the project rather than central to the design process. During internships it became clear that user engagement is a central part of a design process, regardless of it being a client or users of an urban space. This enhanced the desire to dive into user involvement and investigate this topic.

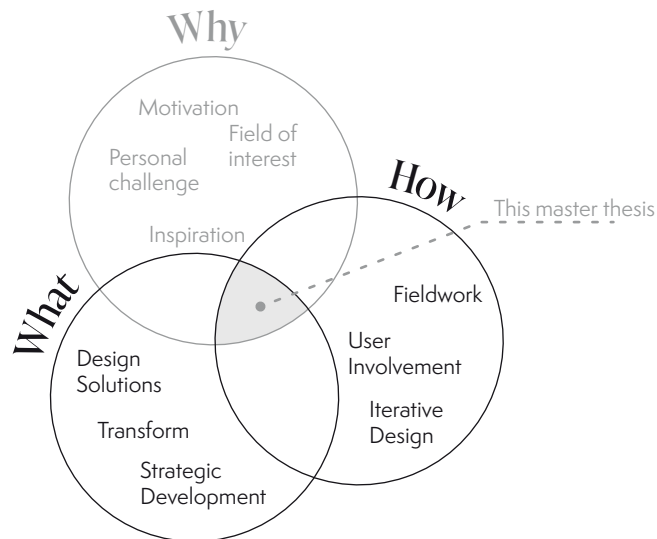


Illustration 04 // Framework

Defining the Assignment

In response to the increasing challenges posed by climate change and rising sea levels, the town of Hobro faces a pressing need to rethink its coastal defence strategies (Niras, n.d.). Situated along the Mariager Fjord, Hobro's waterfront is both a cultural asset and a vulnerable edge. This thesis explores how climate adaptation can be integrated with urban development.

A participatory design process is seen as essential to ensuring that the final design is not only functional and resilient, but also meaningful and rooted in local identity.

Project area The site of investigation is the harbourfront of Hobro, with a specific focus on Kulturkajen and its surrounding urban fabric. The area is currently underutilized but holds significant potential

due to its proximity to the town centre, historical landmarks, and the fjord. Through participatory workshops, site analyses, and iterative design processes, the thesis seeks to develop a strategic solution that integrates public, historical and recreational spaces.

The outcome will include:

- A strategic development plan for Hobro's harbourfront.
- A detailed design proposal for a specific design area
- Recommendations for further user involvement in future development phases related to the project.
- A catalogue of coastal defence solutions, centred around the wall-concept.

Outcome

Relevance for Society

The Danish Planning Act There are several reasons to involve user in the design process. First, it is a part of the Danish Planning Act which aims to ensure a coherent planning across the country. This must be done by uniting interests of the community, protect the nature, environment and create good conditions for growth and development, including economic aspects, across Denmark (Planloven, 2024). In relation to this, §1, stk. 2, states that public must be involved to the greatest extent possible, when it comes to planning (Planloven, 2024).

Mutual learnings The involvement of citizens fosters a mutual learning process between the public and the authorities. Through participation, citizens gain a deeper understanding of the design process,

insight into how municipal institutions operate, and an appreciation for the values and perspectives of others in their community. At the same time, authorities enhance their competencies in citizen engagement and dialogue, leading to more inclusive and effective planning (Agger & Hoffmann, 2008).

User involvement not only strengthen democracy, but it fosters a sense of co-ownership of the urban spaces. The sense of ownership leads to stronger local identity, as citizens feel more connected to and responsible for the spaces, they help shape (Agger & Hoffmann, 2008).



How can we, as designers, involve citizens and users through various methods when designing and transforming Hobro harbourfront into a sustainable urban space?

Problem



Introduction The challenge of designing and transforming sustainable urban spaces is multifaceted, requiring the active involvement of citizens and stakeholders in identifying challenges and generating ideas. Involvement can be crucial for creating urban environments that meet the needs of the community. Through the process and problem this thesis will explore how it can be done.

Evolution Throughout the entire process of the master thesis, the problem statement has evolved. Despite these changes, the core of the problem statement has been preserved, continuing to focus on user involvement. This central theme

has been refined and specified in light of new insights gained during the research and involvement process. This approach has guided the research, ensuring that it remained focused and coherent, while addressing the complexities of user involvement.

The problem statement will be further elaborated through two sub-problems in the epilogue, page 104. These sub-problems have been formulated based on the theoretical framework, and the outcomes of desktop analysis and user involvement.

Elaboration

Definition of Words

This dictionary is designed to ensure a shared understanding of selected terms throughout the report. It revolves around the theoretical framework and methods applied, which are extended and incorporated into the final design proposal. These concepts will be further investigated and elaborated upon in the Theory and Methodology chapter.

User involvement In this thesis, user involvement will be used as an umbrella term embracing various methods and aspects of engaging users. This includes both direct and indirect forms of participation ranging from co-creation to brief encounters.

Co-creation & participatory design The two methods is a collaborative process where they actively involve users, playing a significant role in informing the process and shaping the outcome. Due to the significant overlap between them they will be treated as closely related in this thesis.

The users are defined as the citizens of Hobro, those who live, shop and use the city in their everyday lives. Users also include those who pass through the city, daily, weekly, as visitors or tourists.

Users

Stakeholders in the development of Hobro include both private and public influential actors, each playing a distinct yet complementary role in shaping the town's future. This includes the municipality and Hobro Byforum.

Stakeholders

Sustainability in this thesis refers to the integration of environmental and social considerations into urban development. It emphasizes long-term responsibility, climate resilience, and the creation of inclusive and accessible public spaces.

Sustainability



Illustration 05 // Closed tourist information

02.0 Theoretical Framework

The theoretical framework sets the direction and foundation for this thesis, offering a basis for understanding the core concepts and guiding further analysis. This chapter introduces two key theoretical foundations: sustainability and participatory design, both essential to understanding the project's approach and outcomes.

The chapter begins with an exploration of sustainability in urban design, examining how it functions not only as a guiding principle but also as a practical tool in shaping long-term, responsible development. This is followed by a discussion of participatory design, which is presented as a critical method for achieving socially sustainable outcomes through meaningful user involvement.

Although the topics of sustainability and participation are discussed separately to allow a clearer examination of their individual complexities, they are deeply interconnected. Their relationship will be revisited in the chapter's conclusion and reflection, where it is argued that genuine user involvement is essential to achieving sustainable solutions, particularly in the social dimension of sustainability.

Sustainability in Urban Design

To understand how sustainability is implemented in urban design, it is essential to examine the frameworks and tools that guide its implementation. One such framework is the DGNB certification system, which offers a structured and holistic approach to evaluating sustainability in the built environment. The following section introduces DGNB and explores how it integrates environmental, economic, and social dimensions (Stender, 2018), highlighting the role of user participation as a key component of socially sustainable design.

DGNB In the report 'Social Bæredygtighed og DGNB' Stender (2018) states that there is no scientific consensus of how to define social sustainability. To secure a holistic approach Stender (2018) formulates three themes. The first, 'social cohesion', revolves around social networks and the built environments and how these can promote positive interactions and city life. The second, 'participation and influence', focuses on users right to make decision about public spaces, what they should be used for and how they should be designed. The third and last one 'opportunities for everyone' is about designing the built envi-

ronment to accommodate social mobility. Promoting facilities and activities where different users can meet (Stender, 2018). By stating this approach toward social sustainability, this report highlights that user participation is a crucial part of a design process where social sustainability is a part of the goal of the project.

According to the report 'Participatory Design' by Brødker, et al. (2022), involving users in the design and implementation of sustainable initiatives is crucial for several reasons. Firstly, user participation ensures that the solutions are relevant and effective, meeting the needs of both the current and future city. When users are actively involved, their challenges and preferences are directly addressed, leading to more successful outcomes. This is particularly important because urban spaces have both a positive and negative influence on the citizens (Brødker, et al., 2022).

Participatory design is a collaborative approach that goes beyond participation. It emphasizes the active involvement of users in the design process, ensuring that their needs, experiences,

**Participatory
design**

and insights are integrated into the development and final product. This approach recognizes that users are experts in their own experiences and can provide valuable contributions that lead to more effective and user-centred designs (Brødker, et al., 2022) .

Secondly, user participation fosters a sense of ownership, responsibility, and empowerment. When people feel that they have a genuine stake in the process, they are more likely to support, maintain, and take pride in the initiatives. The essence of participatory design lies in this collaborative nature, where designers and users work together to co-create solutions . This active collaboration transforms users from passive recipients into engaged contributors, strengthening their commitment and motivation to ensure the long-term success and sustainability of the project (Brødker, et al., 2022) .

Mutual learning The report 'Participatory Design' argues that "(...) *the idea of sustainability of participatory design results is actually an inherent part of the focus on mutual learning – the idea that all parties learn and develop as part of a design project*" (Brød-

ker, et al., 2022, p. 104) . Participatory design is therefore not only a method for creating more relevant and user-centred solutions, but also a pathway to long-term sustainability . Through mutual learning, shared ownership, and active collaboration, both users and designers contribute to more resilient, inclusive, and adaptable urban development projects. This process ensures that sustainability is not an afterthought but is an embedded outcome of the design itself (Brødker, et al., 2022)

By involving users in this process , urban development projects can ensure that sustainability is integrated into every aspect of the project. However, participatory design is not limited to gathering user input through interviews or surveys, it involves inviting users into a shared creative space where they actively co-design solutions. Participatory design is not just about the final product - it is just as much about the process and the act of involving users (Brødker, et al., 2022).

The Doughnut

Building on the understanding of participatory design and its role in fostering socially sustainable outcomes, it is also important to consider broader frameworks that address sustainability on a global scale. One such model is Kate Raworth's Doughnut Economics, which offers a visual and conceptual guide for balancing human needs with planetary boundaries.

A safe and just space for humanity The Doughnut is a framework proposed by Raworth in 2012 (see illustration 06) which aims to ensure sustainable development: *"ensuring that all people have the resources needed (...). And it means ensuring that humanity's use of natural resources does not stress critical Earth system processes – by causing climate change or biodiversity loss"* (Raworth, 2012, p. 4).

The intention with the Doughnut is to shape a compass for the 21st century. Meeting the needs of all people within the limits of our living planet. Currently, humanity is exceeding these limits, consuming Earth's renewable resources as if we had more than one planet to extract resources from (Raworth, 2012).

The Doughnut consists of two rings, social foundation and environmental ceiling. The social foundation represents an inner boundary that defines the minimum standards necessary for human wellbeing. Falling below this boundary indicates various forms of human deprivation, such as lack of access to essential resources like food, water, healthcare, and education (Raworth, 2012).

Construction

The environmental ceiling defines an outer boundary that marks the limits of Earth's natural systems. Exceeding this boundary leads to various forms of environmental degradation, such as climate change, biodiversity loss, and pollution (Raworth, 2012).

Together the rings are creating boundaries for a *"(...) safe and just space where humanity can thrive"* (Raworth, 2012, p. 5). This space is where inclusive and sustainable economic development occurs, ensuring that economic growth benefits everyone while maintaining the health of our planet (Raworth, 2012).

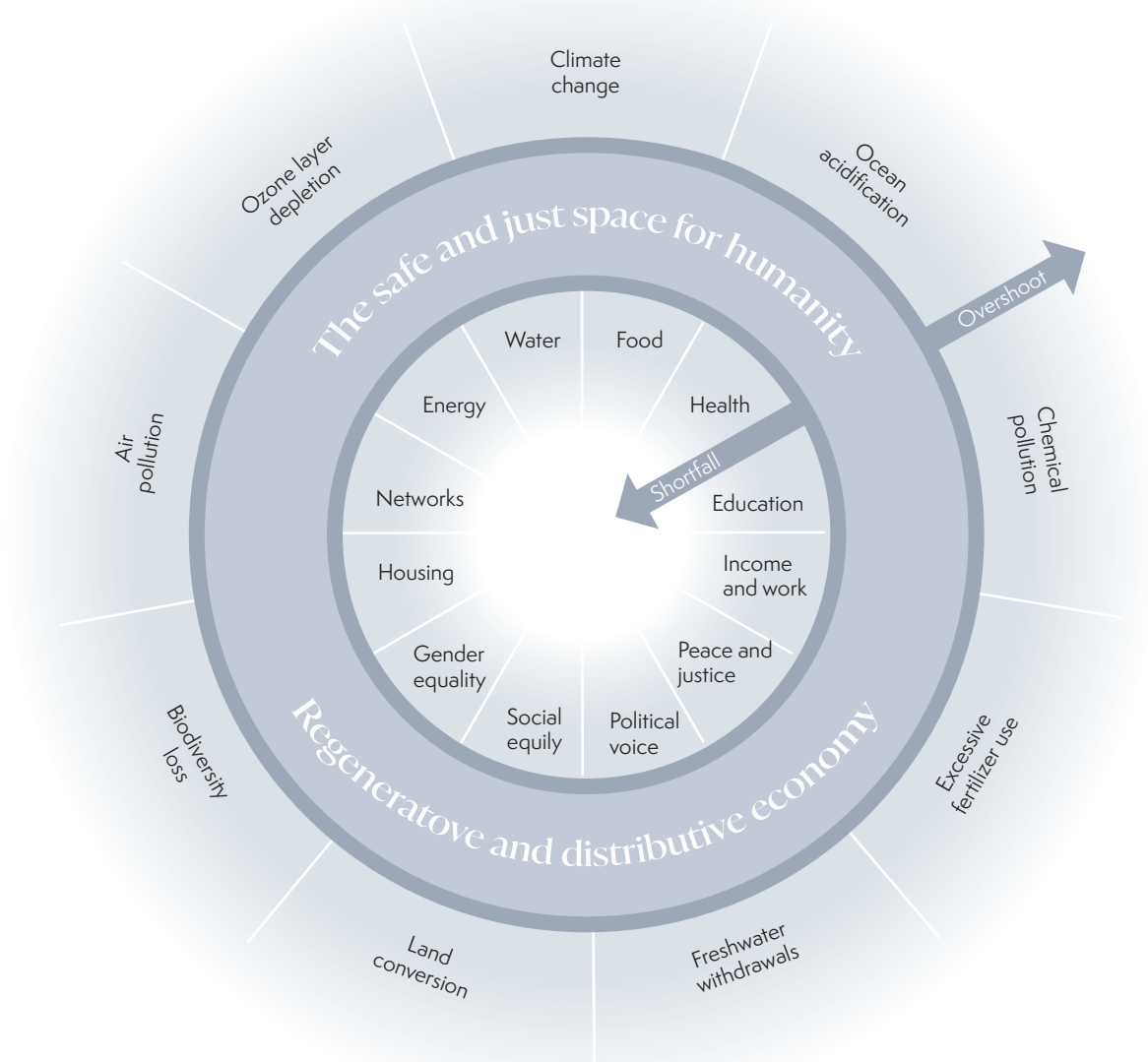


Illustration 06 // The Doughnut

Reality Moving into the “(...) *safe and just space where humanity can thrive*” (Raworth, 2012, p. 5) is challenging because social and environmental boundaries are intertwined, despite the simple diagrammatic visualisation. Environmental problems can worsen poverty, and poverty can increase environmental stress. Poorly designed policies might harm either side, but good policies can help reduce poverty and protect the

environment, guiding humanity into the Doughnut. The overarching challenge is that we must navigate within the Doughnut’s boundaries. Simultaneously towards both sides to achieve well-being for both the planet and its inhabitants. Achieving this goal requires action on multiple levels, particularly in cities where people are most active (Raworth, 2012).

The Doughnut in Urban Development

The Doughnut's simple and holistic approach has inspired many fields to adopt and implement it in their work, tailoring it to their specific needs and using it as a tool to enhance their own areas of expertise. The Doughnut does not offer policies and procedures but a way of thinking, providing a framework that can be implemented or reflected upon among researchers, communities, business and governments worldwide (Birgisdottir, et al., 2023).

Cities and urban spaces accommodate citizens, serving as the primary hubs for interactions, among citizens and between citizens and the city itself. Therefore, the spaces that surround people within the city are ideal for discussing and implementing sustainable initiatives (Birgisdottir, et al., 2023).

In the manual 'The Doughnut for Urban Development', the authors use the figurative example of the wild-land next door to highlight the remarkable ability of nature to restore itself, survive, and thrive without human intervention. This thriving ecosystem naturally cleans and cools the air, stores carbon, cycles water, builds healthy soil, and provides a safe haven for wildlife. By showcasing this example, the authors invite us to rethink how we design our cities and communities (Birgisdottir, et al., 2023).

**Wild-land
next door**

The authors ask the questions: *"What if every place aimed to match or exceed the ecological generosity of its wild-land next door? What would it mean for the design of the places where we live?"* (Birgisdottir, et al., 2023, p. 35).

These questions challenge conventional urban development by shifting the benchmark from minimizing harmful interventions to actively regenerating the environment. From a social sustainability perspective, this vision behind the questions can be interpreted as a call for genuine user involvement. Designing places that reflect the ecological generosity of the wild-land next door requires engaging local communities in shaping their environments. When users are invited into the design process, they bring valuable local knowledge, lived experiences, and priorities that can guide more inclusive and sustainable outcomes.

approach can miss opportunities for positive impact and may lead to negative outcomes. By not integrating the broader community into urban development strategies, we risk creating disconnected areas that fail to support the well-being of all citizens. A more holistic approach that considers the needs and potential of the entire neighbourhood can enhance social cohesion, improve quality of life, and ensure that development benefits everyone (Birgisdottir, et al., 2023).

Missed opportunities Locally, urban development often focuses on individual plots, neglecting the surrounding neighbourhood and community. This isolated

How, When, and Where

While frameworks like the Doughnut highlight the importance of designing within planetary boundaries, they also underscore the need for inclusive, community-driven approaches (Raworth, 2012). Achieving sustainable urban development requires more than ecological awareness, it demands the active involvement of the people who inhabit these spaces. This brings us to the question of how, when, and where user participation should take place in the design process.

User involvement Public participation is essential for understanding urban spaces from the community's perspective and fostering collaboration between designers and citizens. It means recognizing community values, understanding why certain spaces are used or avoided, and considering both benefits and drawbacks.

Harby (2021) argues that incorporating public and local expertise leads to better outcomes than relying solely on feedback at the end of the process. True involvement ensures participation, it is not just symbolic but results in urban spaces that genuinely reflect the needs and desires of the people who use them (Harby, 2021).

One of the main and foundational theoretical perspectives on public participation comes from Sherry R. Arnstein. In her report 'A Ladder of Citizen Participation' she discusses the benefits of involving users at the right time and in the best manner to achieve the best outcome. According to Arnstein (1969), implementing user participation from the early phases increases the likelihood of the greatest success. However, user involvement is not without its challenges. The timing and method of engagement are crucial, as they significantly impact the effectiveness of participation. Ultimately, time is the biggest factor in the success of any user involvement-based project (Arnstein, 1969).

**Ladder of
Citizen Participation**

Arnstein's 'A Ladder of Citizen Participation' represents a framework to categorize different levels of citizen involvement in decision-making processes. The ladder illustrates how public participation can range from minimal involvement to full citizen control. Arnstein's model highlights the varying degrees of power that citizens have in influencing decisions, highlighting the differences between genuine participation and tokenism. By using this ladder, we can better understand the nature of public engagement and

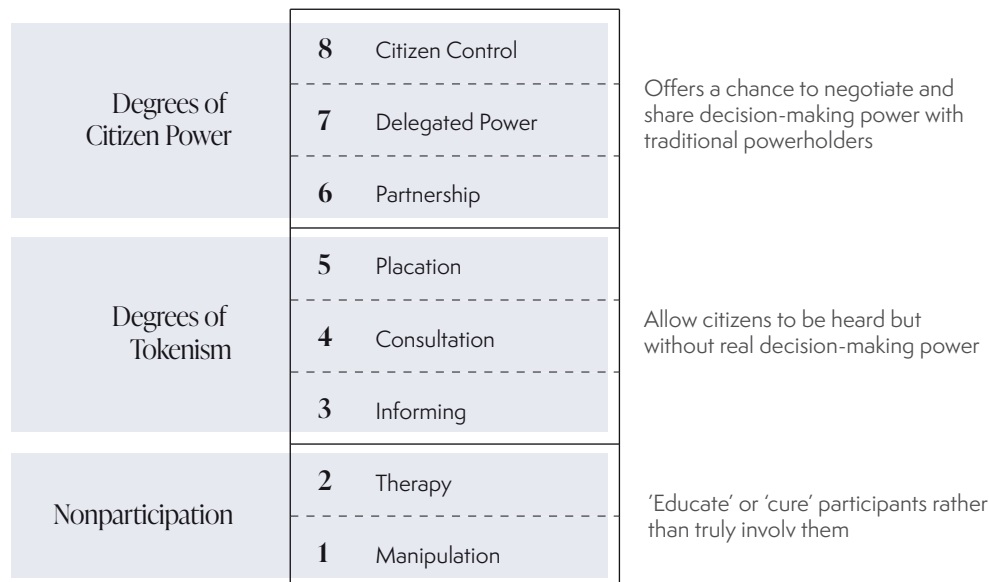


Illustration 07 // Ladder of citizen participation

the importance of meaningful involvement in achieving true participation (Arnstein, 1969).

As Arnstein (1969) describes the ladder, it does not present a result or a fixed guide but rather serves as a tool to help understand the extent of citizens' influence. It is a simplified representation of a complex issue (Arnstein, 1969). Arnstein (1969) highlights the importance of genuine involvement in challenging the status quo. This implies a sincerity and honesty in engagement, not only superficial interactions with minimal user input that is not truly considered. Understanding these varying levels helps to better understand the demands for citizen involvement. There may be many more levels with less clear distinctions, and some characteristics could apply to multiple steps (Arnstein, 1969). Moreover, user involvement helps identify overlooked issues that designers or planners, who lack firsthand

experience of a site, might miss. In this way, user participation helps prevent misunderstandings between the intended design and the real use (Carthy, et al., 2021).

Communities provide valuable insights into how urban spaces can be more resilient, adaptable, and responsive to future challenges. By involving user perspectives, cities are better equipped to respond to evolving needs, ensuring that urban spaces remain functional and meaningful (Harby, 2021). By giving diverse community members a voice, cities can ensure that the urban space is designed to cater to a wide range of needs. This leads to urban spaces that are more accessible and sustainable for everyone now and in years to come (Harby, 2021).

The Role of the Designer

While frameworks like Arnstein's ladder help us understand the levels and quality of user participation, they also raise important questions about the designer's role in involvement. Participation is not only about including users into the process, but also about how and when they are engaged, and how their input is translated into design decisions. This leads to a deeper reflection on the responsibilities of the designer and the evolving role of users as co-designers in participatory design processes.

When a designer is given an assignment, a comprehensive work begins; investigation, understanding, designing and evaluation of the design proposals. Keeping the end-user in focus is important throughout the design process. Therefore, it is important to involve users actively. It is the designer's responsibility to ensure this involvement by creating the right framework for participation.

Co-designers The core of participatory design revolves around the idea that users occupy a specific place in the design process, as co-designers (Robertson & Simonsen, 2012). While users bring valuable in-

sights about their environment, needs, and routines, the designer is responsible for a broader understanding of aesthetics, technical composition, and long-term impact. This includes factors such as social and environmental systems, which are often invisible to users themselves (Robertson & Simonsen, 2012).

"There is an ethical stand underlying Participatory Design that recognizes an accountability of design to the worlds it creates and the lives of those who inhabit them." (Robertson & Simonsen, 2012, p. 6).

This ethical responsibility demands more than listening, it requires a designer to critically assess the input received from users. Designers must know when to integrate user feedback and when to exercise their own professional knowledge.

Participatory design is not a static process. It **The process** thrives on continuous and systematic reflection. Designers must constantly assess how to engage users as co-designers and adapt their involvement as the project progresses. As the

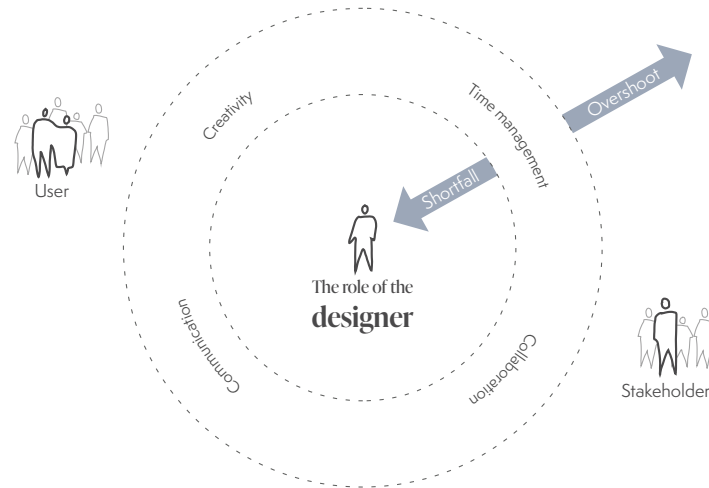


Illustration 08 // The role of the designer

process unfolds, designers must be flexible and responsive, ensuring that the user's influence is meaningful throughout the design journey (Robertson & Simonsen, 2012).

"Our ongoing challenges are to create the situations in which these partnerships can flourish and to develop the design processes, tools, and methods needed to enable full and active participation in the full range of design activities." (Robertson & Simonsen, 2012, p. 6)

Responsibility One of the most significant challenges in participatory design is balancing decision-making . Collaboration is essential, but ultimately, someone must make the final call. This responsibility usually falls on the trained designer , who must merge user input with aesthetics and technical understanding (Robertson & Simonsen, 2012).

Engaging users throughout the design process is a resource intensive task, and it is not always possible at every stage. For emerging designers, it is crucial to understand when to invite collaboration and when to work independently (Robertson & Simonsen, 2012). This includes being mindful of:

- Time constraints and budget limitations
- The emotional commitment and time required from participants
- Conflicting stakeholder interests
- The risk of designing for the present rather than the future (Robertson & Simonsen, 2012)

Designers must navigate the complexities of user input, professional judgment, and the ever-changing dynamics of the design process (Robertson & Simonsen, 2012) .

Concluding Remarks

Conclusion In conclusion it can be stated that the process of involving users in design process is complex, but a necessary part of promoting social sustainability. Arnstein (1969) emphasizes that the timing and method of participation are crucial, with time being the most significant factor for success in any user-involved project. Harby (2021) reinforces this by stating, *"If you really want to create a sustainable city, it's important to get everyone involved from the beginning to the end, through every step – the citizens, authorities, builders, developers, specialists, and investors. Yes, there are some instances where it's not possible or necessary to include participation processes. However, even here, considering a way to put ideas to the public and keep them in*

the loop may be worthwhile." (Harby, 2021).

These insights underscore the importance of thoughtful and inclusive participatory design processes to achieve sustainable urban development. By engaging all stakeholders and considering their input throughout the project, we can create more resilient, effective, and sustainable solutions. This includes striving to secure the three themes 'social cohesion', 'participation and influence' and 'opportunities for everyone'. It is also important to note that the Danish Planning act requires authorities to involve the public to the greatest extent possible.

Reflection Raworth's Doughnut presents a narrative about Earth's ecological boundaries, highlighting that humanity has already exceeded the environmental ceiling in at least three areas, one of them being climate change. This puts a lot of pressure on humanity, to adapt to these changes, such as rising sea levels and increased storm surges. This development will greatly influence the development and transformations of the built environment. As the climate changes is already underway, authorities act fast to adapt the built environment which can affect the design process.

However, user participation is time-consuming, raising the question: when is it most appropriate

to involve users in the process? The question is not whether users should be included, since legislation requires their involvement, but rather how often and at which stages of the process they should be incorporated.

This creates an area of tension, where the method and the designer's role become crucial in terms of how to balance the tension to gain the best possible outcome. A design proposal where users are involved in multiple stages of the process to secure a high level of social sustainability, while also considering environmental sustainability to avoid additional stress on the planet's resources. Ultimately creating a "*safe and just space where humanity can thrive*" (Raworth, 2012, p. 5).



Illustration 09 // Boat at the shipyard

03.0 Methodology

The following chapter will delve into the methods employed in the master thesis. It will explore traditional design methods, as well as innovative co-creation methods. By investigating these diverse approaches, the chapter aims to combine and integrate them into a cohesive methodology that represents the essence of the thesis. This integrated method will provide a comprehensive framework for conducting the research, ensuring that both established practices and strategies are effectively integrated.

Methods

The overall method used in this thesis is based on the theory of Co-creation Landscapes a guide presented in the paper 'Samskabte landskaber' (Dalsgaard, et al., 2025) and 'The Integrated Design Process – IDP' (Hansen & Knudstrup, 2005). These methods will be described in the chapter and will result in a description of the specific method for this thesis.

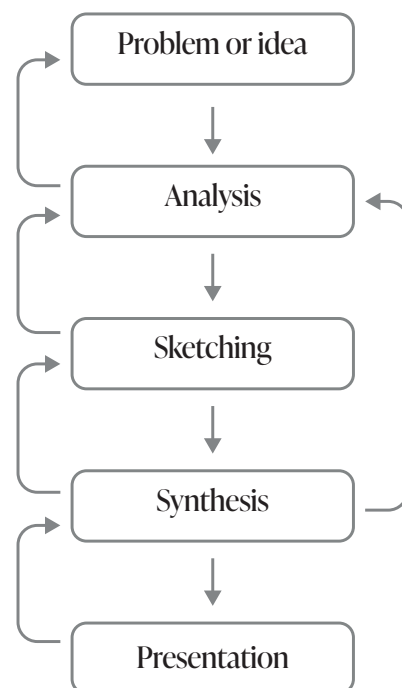


Illustration 10 // IDP

The Integrated Design Process

| | | | |
|------------------------|---|--|---------------------|
| Method | The Integrated Design Process, IDP, describes a design process and the different phases (see illustration 10). The process is iterative and consist of following phases; Problem or idea, Analysis, Sketching, Synthesis, Presentation (Hansen & Knudstrup, 2005) and can be explained as follows: | | |
| Problem or idea | Description of a problem or an idea, which the project will be based on (Hansen & Knudstrup, 2005). | The professional knowledge of the architect and engineer is used for producing ideas and solutions of the design. The criteria are used during the phase when producing the ideas and for the evaluation of the different solutions. The ideas can be sketch on paper, visualised in both physical and digital models (Hansen & Knudstrup, 2005) | Sketching |
| Analysis | Analysis of the project area, its neighbourhood, plans from the municipality, topography, climate and more to generate a broad range of knowledge for the project. The users or building owners have some demands or wishes for the area and is an important sparring partner. In the phase it is also important to formulate criteria for guiding the further work (Hansen & Knudstrup, 2005). | All the different parameters of the project will be merged, and all the criteria are met. The final design finds its form where aesthetic, functional qualities and technical solutions are all present (Hansen & Knudstrup, 2005). | Synthesis |
| | | The presentation of the finalised project (Hansen & Knudstrup, 2005). | Presentation |

Co-creating Landscapes

Method This method consists of six phases: Purpose and Organization, Social Preliminary Studies, Public Meetings, Idea Generation, Implementation and Conclusion and Evaluation. The target group for this method includes authorities in this field such as municipalities, who aim to work with co-creation during a design process of landscapes (Dalsgaard, et al., 2025).

The method raises relevant questions for each phase. It outlines what needs to be considered for the different phases in a design process, with a focus on user involvement.

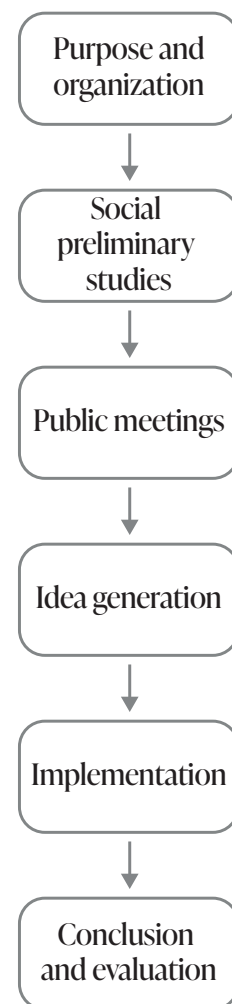


Illustration 11 // Co-creating landscapes

“Co-creation is experimental and relies on continuous learning, adaptation, and design of a process. It is important to closely monitor the project so that you can rethink and adjust facilitation, focus, organization, and communication when something changes or does not work”

(Translated from Danish) (Dalsgaard, et al., 2025, p. 43)

| | | | |
|-----------------------------------|--|--|------------------------------------|
| Purpose and organization | The purpose is formulated at the beginning of a project. It is not only the organization that needs to be considered, but also who and when they will be involved in the project, how to work with co-creation, and why (Dalsgaard, et al., 2025). | In co-creation different actors will be invited to generate ideas and help shaping the project. Followed by a negotiation, as not every idea can be incorporated into the outcome (Dalsgaard, et al., 2025). | Idea generation |
| Social preliminary studies | This phase is about understanding local dynamics and learning from former projects. Investigate citizens past experiences with former projects, to get an idea how they will perceive a new project and the project group (Dalsgaard, et al., 2025). This phase is also about mapping out the perspectives, needs and narratives of the urban space from the citizens using the city. The citizens have experience, base knowledge of an area and can thereby contribute with new insights, which can have positive influence on the project (Dalsgaard, et al., 2025). | Have a plan for the project and adjust it as needed. Communication is crucial throughout a project; this involves informing stakeholders and citizens of progress and setbacks as well as conveying the overall aim of the project . Be aware of any necessary adjustments to initiatives during the project (Dalsgaard, et al., 2025). | Implementation |
| Public meetings | This phase involves conducting both public meetings and the preparation for it. The facilitation of the meeting is crucial. The participants should feel that they are gaining something from the meeting. Besides having the opportunity to influence the project, they can learn more about the area and be inspired to see an area in a new light (Dalsgaard, et al., 2025). | It is important to finish a project on good terms, as this will pave the way for future projects. Communicate what will happen after the formal closure and have a plan for how the project will be handed over to the relevant stakeholders (Dalsgaard, et al., 2025). The project should be evaluated afterwards. It is important to share knowledge and use the information to inform and improve future projects (Dalsgaard, et al., 2025). | Conclusion & evaluation |

Iterative Co-Creation Method

The method of the master thesis

As stated earlier, the method for this master thesis is based on and inspired by the two methods: IDP and Co-creation Landscapes. Like the IDP process, this method is also iterative, while the

phases are inspired by both methods. The phases are as follows, Purpose, Analysis, Idea generation, Synthesis and Conclusion and reflection (see illustration 12).

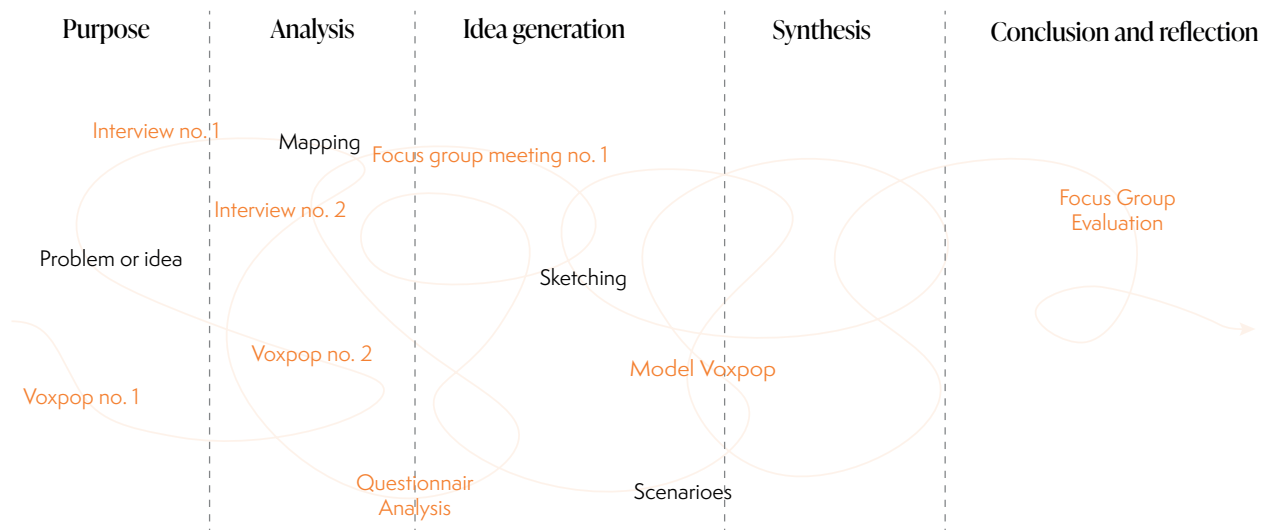


Illustration 12 // Methods of the thesis

| | | | |
|------------------------|--|---|------------------------------------|
| Purpose | The aim is to define the purpose of the project by raising relevant question. | Qualifying the scenarios and ideas based on the design criteria. Merging the scenarios into one design proposal. | Synthesis |
| Analysis | Analysing the chosen area and its context. User engagement is an important part of this phase, as they contribute to the project with insight beyond traditional desktop analyses. | The thesis will conclude and evaluate the design proposal in relation to the user participation process | Conclusion & reflection |
| Idea generation | This phase focuses on generating ideas and scenarios for the design proposal. Implementing knowledge from the analysis to create design criteria. | This will be followed by a reflection on the user participation in the project and provide with learnings on how to do in a future project and what to be aware of, when involving users in a design process. | |

Spectrum of participation

In the paper ‘Samskabte Landskaber’ the authors describe a ‘Spectrum of Participation’ (Dalsgaard et.al., 2025). This spectrum can be put into perspective of Arnsteins ladder of par-

ticipation. Dalsgaard et.al. (2025) presents two understandings of co-creation, one that is user driven and another that is authority driven (see illustration 13).

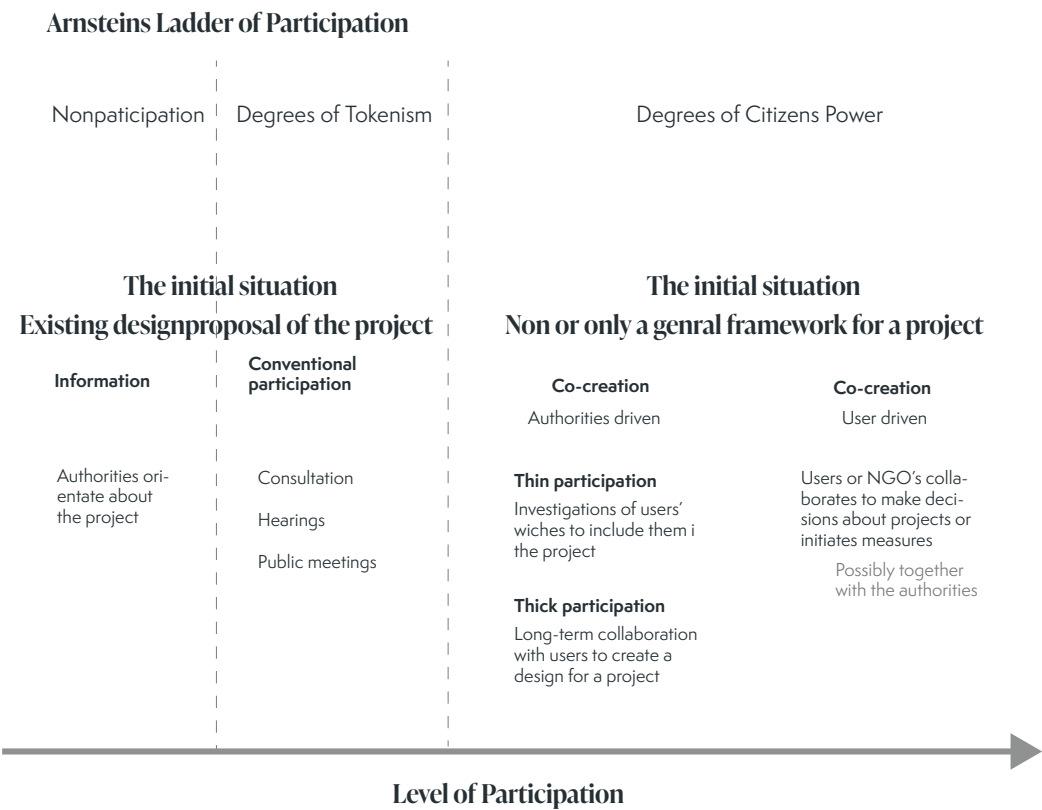


Illustration 13 // Spectrum of participation

Shopping
street



Hobro
shipyard



Traffic at
project site



Hobro
trainstation



Road towards
project site



Path from centre to
harbourfront



Illustration 14 // Collage of photos from the site and adjacent area

04.0 Discovery

The following chapter explores the development of Hobro's city and harbourfront over time, establishing a foundation for future design strategies. Through an analysis of the city, the project area, and their interrelations, it aims to provide an understanding of the urban dynamics that shape the project area. This framework will guide future research and ensure design solutions meet the project area's and city's needs.

Lastly the chapter investigates a selection of reference studies; Svendborg Harbour, Dragør Coastline, and Lemvig Harbour, focusing on their design approaches, and the method and degree of user involvement. These case studies offer useful insights and have been implemented parallel with the user and analysis process.

Throughout this work, users have played a crucial role in shaping the direction of the analysis. Their input has highlighted areas requiring deeper investigation and has guided discussions around specific themes and challenges. This iterative approach has improved the understanding of the project area.



Illustration 15 // Denmark and Mariagerfjord Municipality



Illustration 16 // Mariagerfjord Municipality and Hobro city

Context

Municipality Mariagerfjord Municipality is situated in northern Jutland. This location provides citizens with convenient access to some of Denmark's major cities, as Århus, Aalborg, Viborg and Randers, enhancing connectivity and opportunities for commerce, education, and cultural exchange (Visit Himmerland, n.d.).

City Hobro, the largest city in Mariagerfjord Municipality, is located at the end of Mariager Fjord. The city is a blend of rich cultural history and natural landscapes, offering a variety of activities and educational experiences. Hobro offers street art, beautiful exhibitions, and delightful culinary experiences (Visit Himmerland, n.d.).

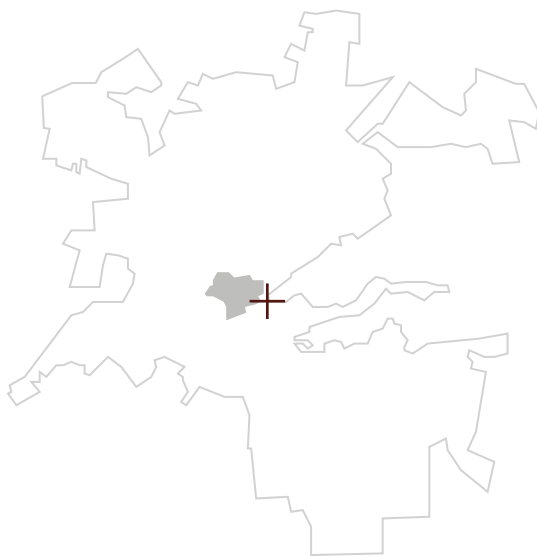


Illustration 17 // Hobro city and Hobro city centre

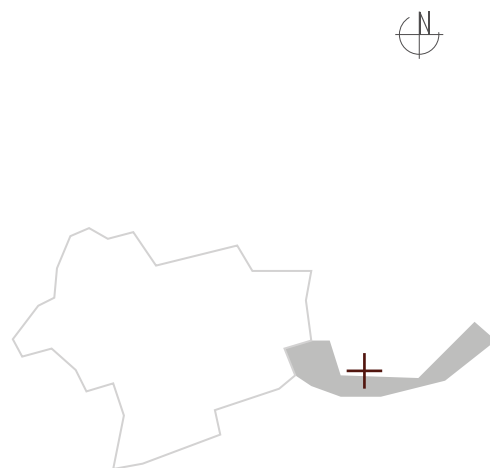
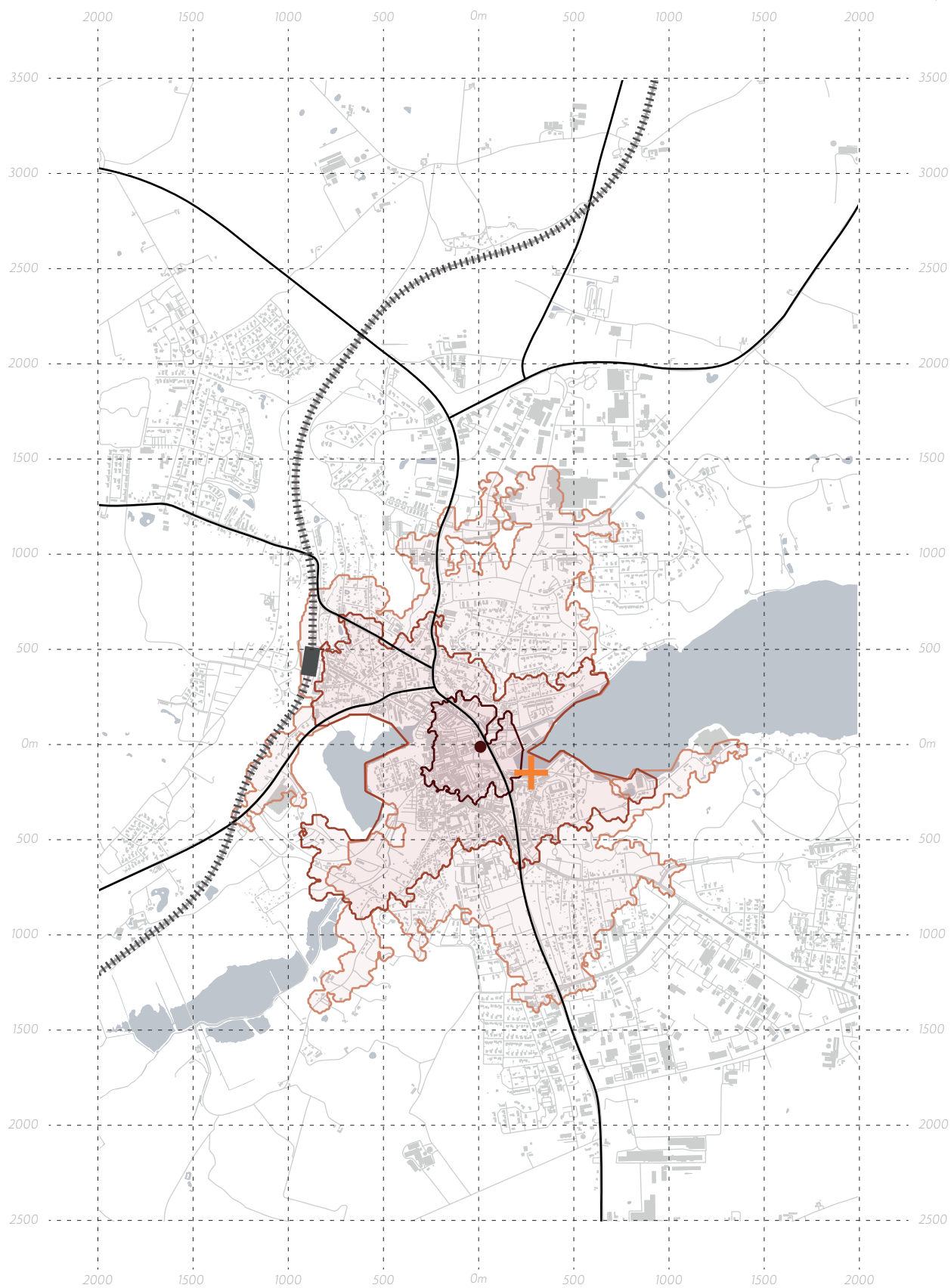


Illustration 18 // Hobro city centre and project area

City Centre Hobro's city centre integrates the city's primary functions. It attracts citizens from nearby smaller towns with its pedestrian-friendly streets with shops, cafes, and entertainment venues. The city centre is a focal point for social and economic activities (Visit Himmerland, n.d.).

The project area is uniquely positioned to showcase both cultural and natural elements. The cultural aspect is highlighted by the historical buildings and ongoing industrial activities at the harbourfront. Meanwhile, the natural beauty of the Fjord plays a crucial role in the city's identity, offering picturesque views and recreational opportunities (Visit Himmerland, n.d.).

Site



5 min, pedestrian 5 min, bicycle 5 min, car

+ Site

Illustration 19 // Scale 1:30.000 - Mobility



Illustration 20 // View from train station towards
the iconic silo on the harbour



Illustration 21 // View from 'skibstømrerhuset'
towards the harbourfront

The City

Hobro's train station is situated high in the western part of the city, due to the challenging terrain. The station provides convenient travel options for those commuting to and from Hobro (Danmarks Nationalleksikon, n.d.).

Additionally, the bus station is situated in the centre of the city, from where the travel time is estimated.

From the bus station, pedestrians can easily travel within the city centre in just five minutes, making it highly accessible for shopping, dining, and other activities. For those traveling by car, the entire city can be accessed within the same timeframe, ensuring efficient mobility for citizens and visitors.

Municipal Plans

The initial research consisted of going through municipal plans, to gain knowledge about Hobro and its future development. This also contributed to identifying the chosen project area.

This chapter will focus on the 'Municipal plan 2024', 'Hobro City Centre Development Plan' and 'Principles for the development of Hobro City Centre'.

*“A good city for children and youth is a good starting point
for a good city for everyone.”*

(Translated from Danish) (Mariagerfjord Kommune, n.d.d, p. 4)

Municipal plan 2024

Hobro harbourfront is characterised as a valuable cultural environment. According to the Municipal Plan, this means that the cultural heritage needs to be protected. Therefore, the quality of the cultural heritage must not be damaged or significantly degraded (Mariagerfjord Kommune, n.d.a).

The project area is a part of two municipal plan frameworks: HOB.C.6 (Mariagerfjord Kommune, n.d.b) and HOB.C.7 (Mariagerfjord Kommune, n.d.c).

According to the Municipal Plan both areas are at risk of getting flooded or eroded. To prevent this, it must be assessed whether mitigation measures must be established to protect the area, when planning for urban development within the area (Mariagerfjord Kommune, n.d.b) (Mariagerfjord Kommune, n.d.c).

**Climate
adaptation**



Illustration 22 // Scale 1:10.000 - Future development

Hobro City Centre Development Plan

Vision The development plan describes the vision of Hobro, where the city is described as a small, large city. To achieve this, the municipality will focus on increasing the density, diversity and space for recreation and activities. It is important to reinforce a strong relationship between the city, landscape and its history (Mariagerfjord Kommune, 2018).

Principles The development plan presents three development principles: renewal, densification and connections and three development areas (see illustration 23): the city centre, the recreational and cultural area and the residential area (Mariagerfjord Kommune, 2018).
The project area is located within the recreational and cultural area. The municipality has select-

ed areas where they intent to apply future development and by using predetermined methods (see illustration 24).

Hobro is surrounded by a beautiful landscape which the municipality envision as becoming a more visible and integrated part of the city. This will be achieved by establishing recreational connections between the city, harbour and the nature (Mariagerfjord Kommune, 2018). **Landscape**

The shipyard must be preserved, and the municipality will prioritize cultural heritage in the development of the shipyard area and harbourfront (Mariagerfjord Kommune, 2018). **Shipyard**

Principles

City centre The municipality has formulated some overall recommendations for the development of Hobro city centre. They are as followed: densify, connect, support human scale and everyday life, preserve heritage and child- and youth friendly city (Mariagerfjord Kommune, n.d.d). The municipality has yet to determine recommendations for Hobro harbourfront.

Additionally, they have provided specific recommendations for two areas in the city centre;

store torv and Campus (Mariagerfjord Kommune, n.d.d).

For store torv, the recommendations are; densify and connect, identity and cultural heritage, city life and cooperation (Mariagerfjord Kommune, n.d.d) **Store Torv**

The recommendations for the new campus area are; space, city life, programme – mobility (Mariagerfjord Kommune, n.d.d). **Campus**

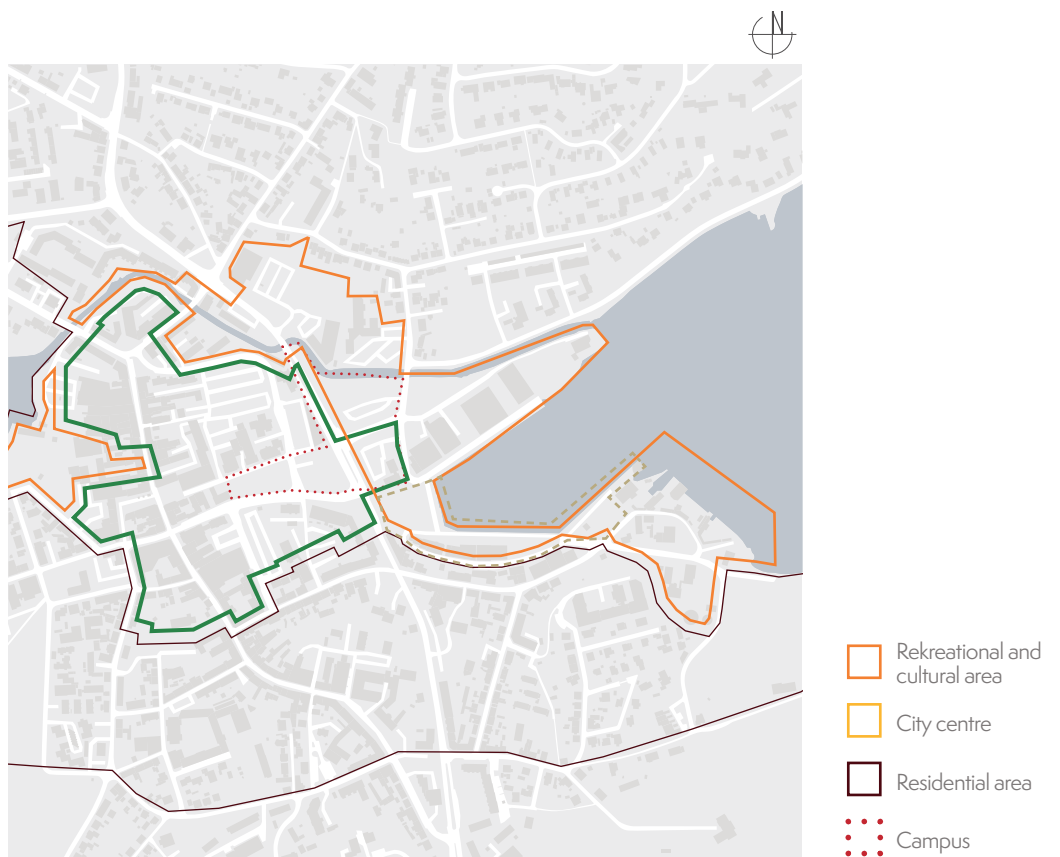


Illustration 23 // Scale 1:10.000 - Development zones



Illustration 24 // Scale 1:10.000 - Principles of development

| | | | |
|--|----|----|---|
| Kayak Club | 1 | 13 | Biecenteret - Community center |
| Bus station | 2 | 14 | Bies Have - Historical garden |
| The City Hall | 3 | 15 | Ishuset - Event space |
| Community center - Medborgerhuset | 4 | 16 | Store Torv and Shopping district - Square |
| Seasonal event space - Det Røde Pakhus | 5 | 17 | Hospital |
| Maritime museum - Lystfartsmuseet | 6 | 18 | Ny Blåkilde - New residential development |
| Himmerland Theater | 7 | 19 | Mariager Gymnasium |
| Café - Den Blå fisk | 8 | 20 | Vindø Brickwork - Industry |
| Shipwright museum - Skibstømrerhuset | 9 | 21 | Marina by Sildehagen |
| Shipyard | 10 | | |
| Marina | 11 | | |
| GASmuseum | 12 | | |

The Project Area

Following initial studies and assessments, attention turned to the functions and activities surrounding the project area, which play a crucial role in shaping its future use and character. The project area is situated within a dynamic urban context and benefits from proximity to a range of cultural, recreational and social amenities that attract both citizens and visitors.

Numbers 1-12 Numbers 1-12 include museums, the city theatre, and the local kayak club, all located within or immediately adjacent to the project area. Especially during the summer months, these institutions generate activity at many different times of day, contributing to a dynamic atmosphere.

In addition to the immediate surroundings, several key functions located further from the project area, numbers 13-21, have an influence on the project area to some extent. These include industrial sites like Vindø Brickwork and new residential developments such as Ny Blåkilde. While not directly adjacent, they affect traffic, access, and movement patterns that reach into the project area.

Their presence highlights the need to consider large urban connections when planning new developments. Even from a distance, these functions and activities shape how people use the area. Recognizing these influences will help ensure that the new development fits well within the larger city context and supports a more connected and functional urban environment.

Numbers 13-21

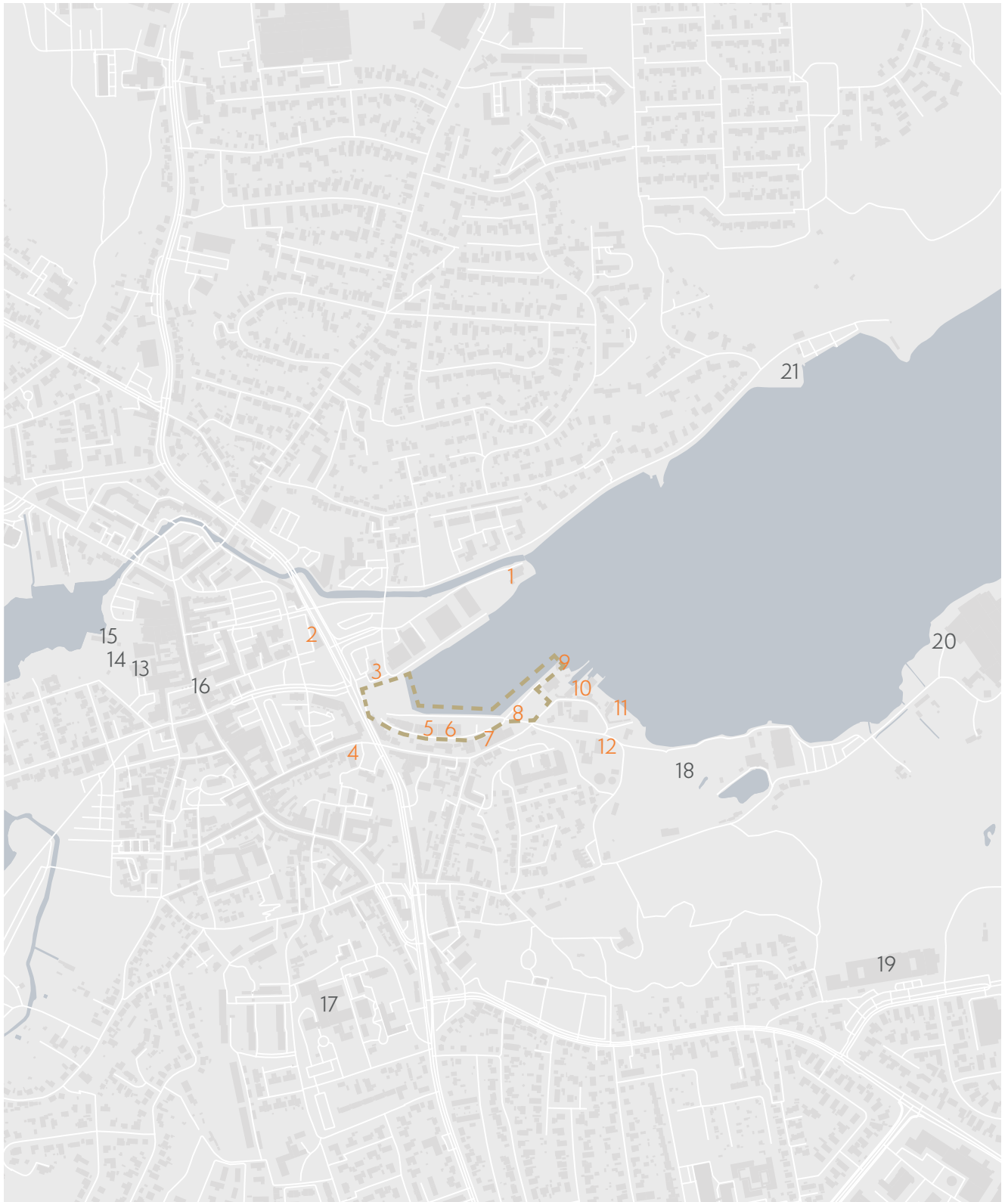


Illustration 25 // Scale 1:10.000 - Project area and landmarks

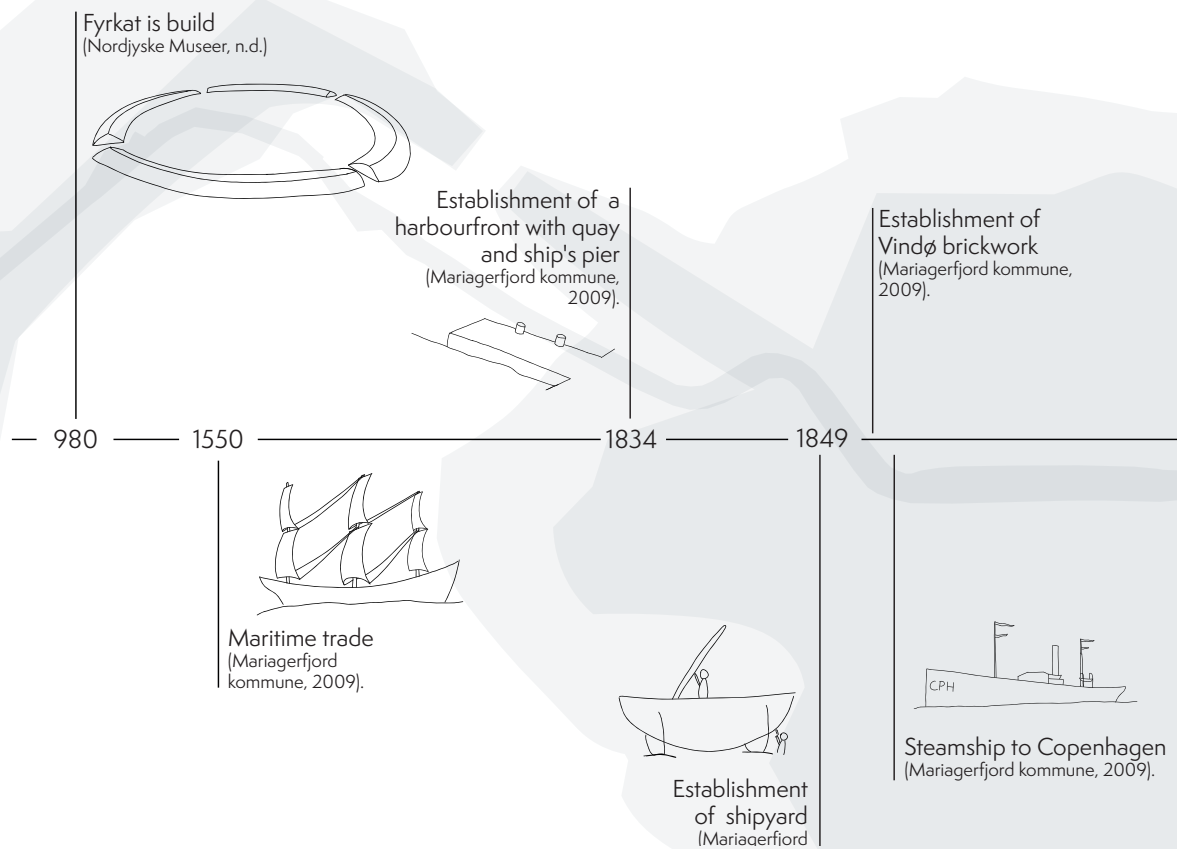


Illustration 26 // Historical timeline

The Past

Fyrkat Around the year 980 Fyrkat was built during the reign of King Harald Bluetooth and is one out of five Viking Fortresses in Denmark (Nordjyske Museer, n.d.a.). By 2023 these fortresses were admitted to UNESCO's world heritage list (Nielsen, n.d.).

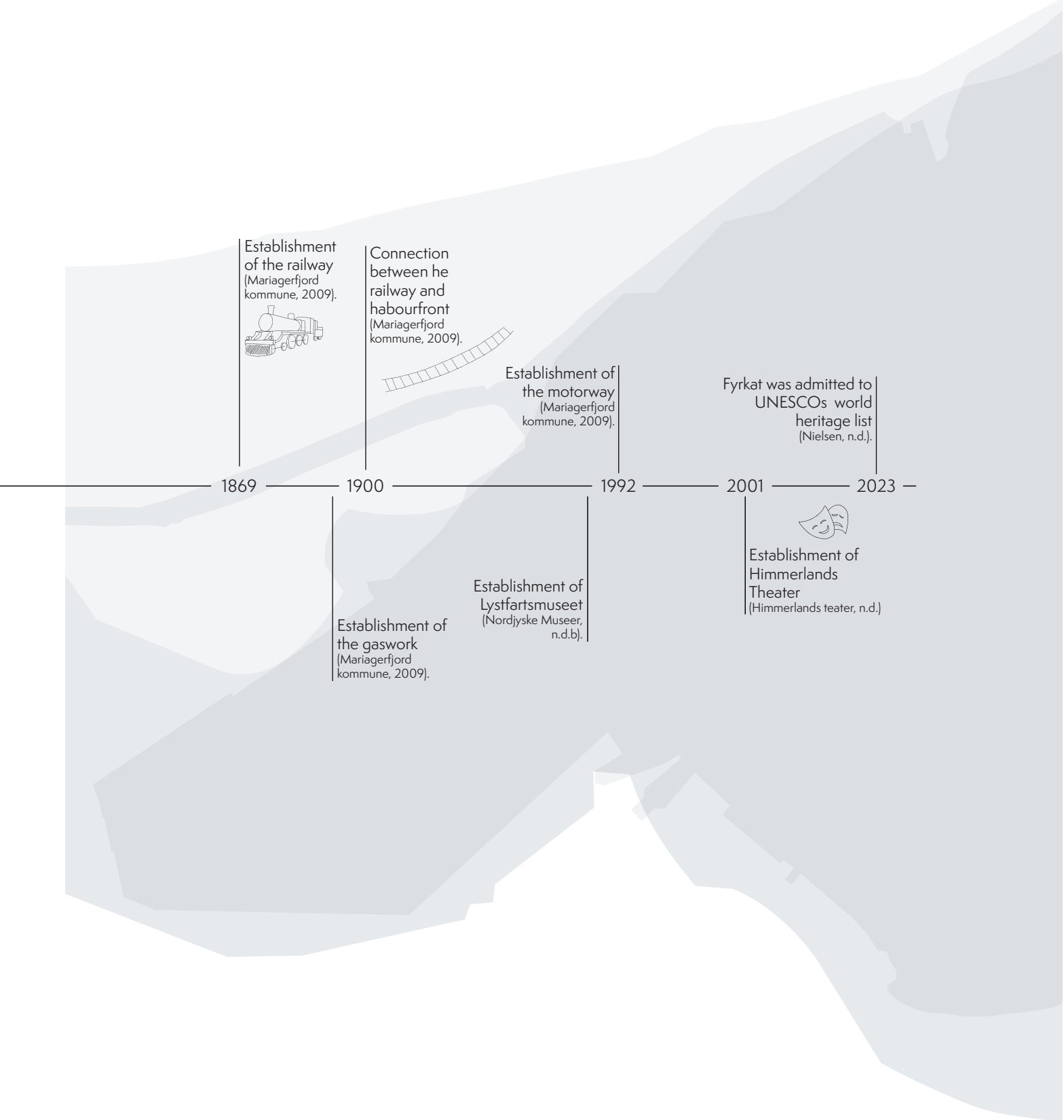
Fyrkat was located close to Hærvejen by the end of Mariager Fjord, where it meets Onsild Å. At that time the water level around the fortress was approximately 0.5 meters, which probably made it possible to punt one's ships to the fortress (Mariagerfjord Kommune, 2009).

Harbour From 1550 Hobro engaged in a lot of maritime trade and by 1834 an actual harbour had been established (Mariagerfjord Kommune, 2009).

The harbour developed over the next years, while the shipyard was established in 1849 and in 1859 a steamship connection between Hobro and Copenhagen was established (Mariagerfjord Kommune, 2009).

The railway was established in 1869 and was connected to the harbourfront in 1900 (Mariagerfjord Kommune, 2009). A section of the railway has been preserved at the harbourfront to tell the story of Hobro's industrial era.

The harbourfront was significantly expanded in the 1920's and 1930's, as a large area in the innermost part of the fjord was filled in (Mariagerfjord Kommune, 2009). Warehouses were built, along with coal yard and customs cham-



bers, one of which is now used as the city hall (Mariagerfjord Kommune, 2009).

Present Most of the harbour related business activity declined towards 1970 (Mariagerfjord Kommune, 2024). The appearance of the harbourfront has changed very little since 1930, making Hobro a good representation of an industrial harbour (Mariagerfjord Kommune, 2009).

Today the harbourfront is divided into different areas with different purposes. A part of the harbour is still industrial, while the other is cultural providing different opportunities, as Lystfartsmuseet, Himmerland Theatre, Café K and Det Røde Pakhus. Adjacent to this area is the Shipyard Area, which still operates today.

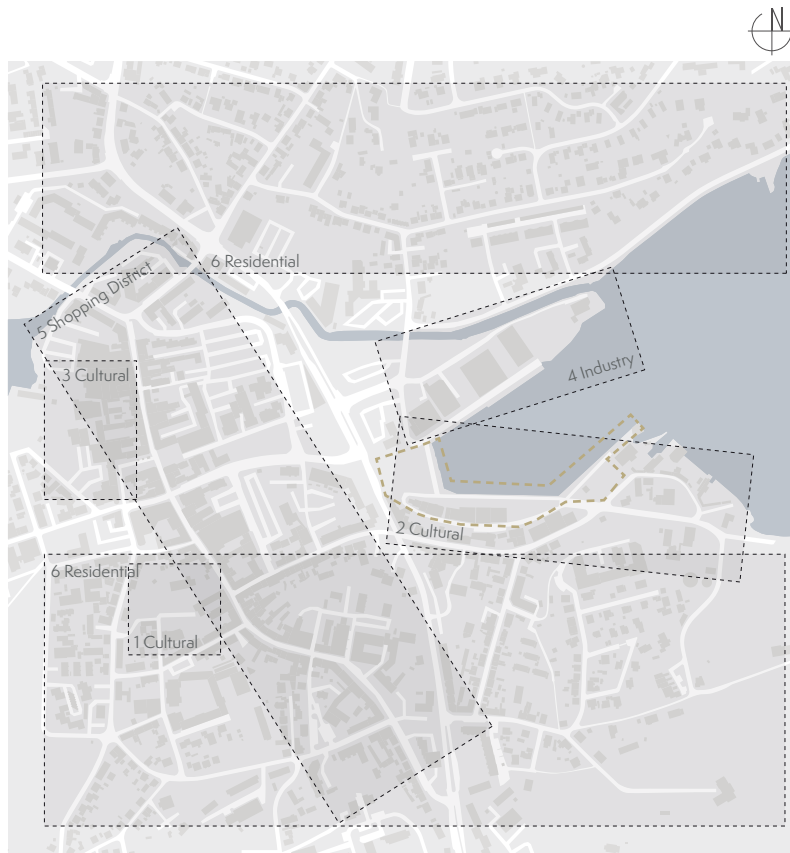


Illustration 27 // 1:10.000 Districts

Districts

Shopping street Hobro consists of different districts in and near by the city centre. The shopping street is the largest district in the city centre, but multiple cultural districts also leave their mark on the area.

Industrial The Northern Quay is an industrial area and together with Kulturkajen reflects the maritime heritage of Hobro. The industrial area is very different from the surroundings, which gives it a strong influence on the overall appearance and character of Hobro.

As you move away from the city centre, the surroundings become increasingly residential, both on the northern and southern sides of Hobro. The city centre is surrounded by residential districts.

Residential

The project area is located in one of the cultural districts, but in close relation to the industry, shopping street and residential area.

Cultural



Illustration 28 // 1 Cultural



Illustration 29 // 2 Cultural



Illustration 30 // 3 Cultural



Illustration 31 // 4 Industry



Illustration 32 // 5 Shopping street



Illustration 33 // 6 Residential

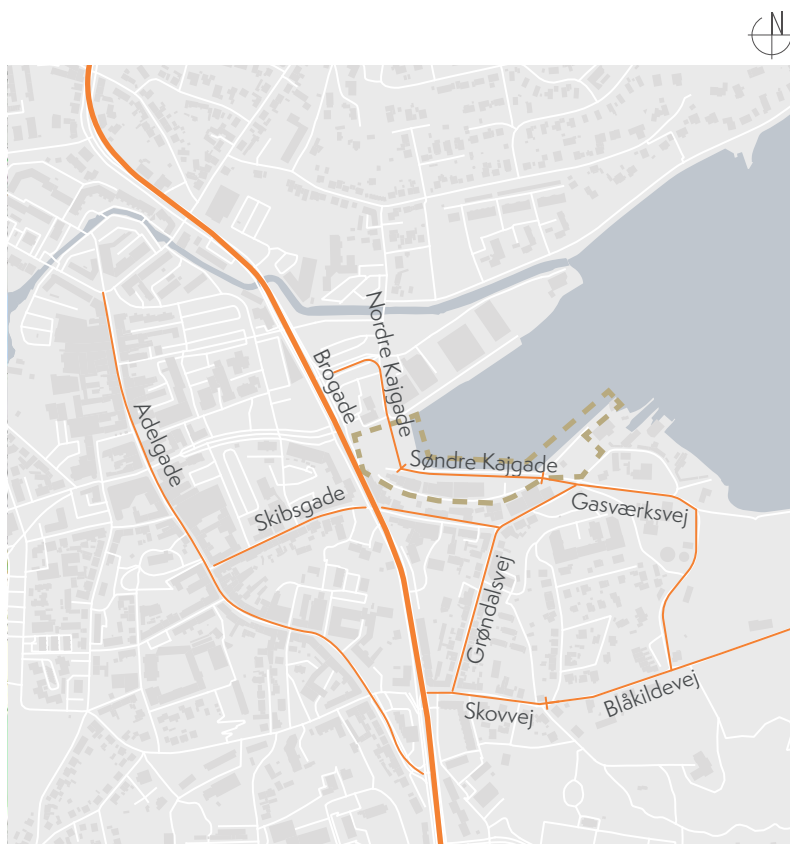


Illustration 34 // Scale 1:10.000 - Road names

Infrastructure

Brogade is the primary road running through Hobro's city centre and is located close to the project area (see illustration 34). From Brogade, the harbourfront is accessible via Havnegade, continuing onto Nordre Kajgade and finally Søndre Kajgade.

Traffic flow Trucks are prohibited from using the western section of Blåkildevej (Mariagerfjord Kommune, n.d.e). As a result, heavy vehicles travel along Søndre Kajgade, passing through the harbourfront to reach the brickwork (see illustration 35). This truck traffic creates a physical and visual barrier between the historical buildings and the waterfront. Parking is spread across the area, with spaces located along the harbourfront and near key access points.

Additionally, the bus terminal is located adjacent to Brogade, providing convenient public transport access to the project area and city centre.

The Northern Quay remains an active industrial zone. Cargo ships use the harbour for freight transport, and the turning of these large vessels occupies significant space, periodically impacting the overall atmosphere.

Industry

The main pedestrian flow follows the central shopping street, Adelgade, in the city centre and extends outward into surrounding areas. One key route leads directly to the shipyard at the harbourfront. Within the project area, this is the dominant pedestrian path. A secondary route runs past Gasmuseet toward the new residential development Ny Blåkilde.

Pedestrian flow

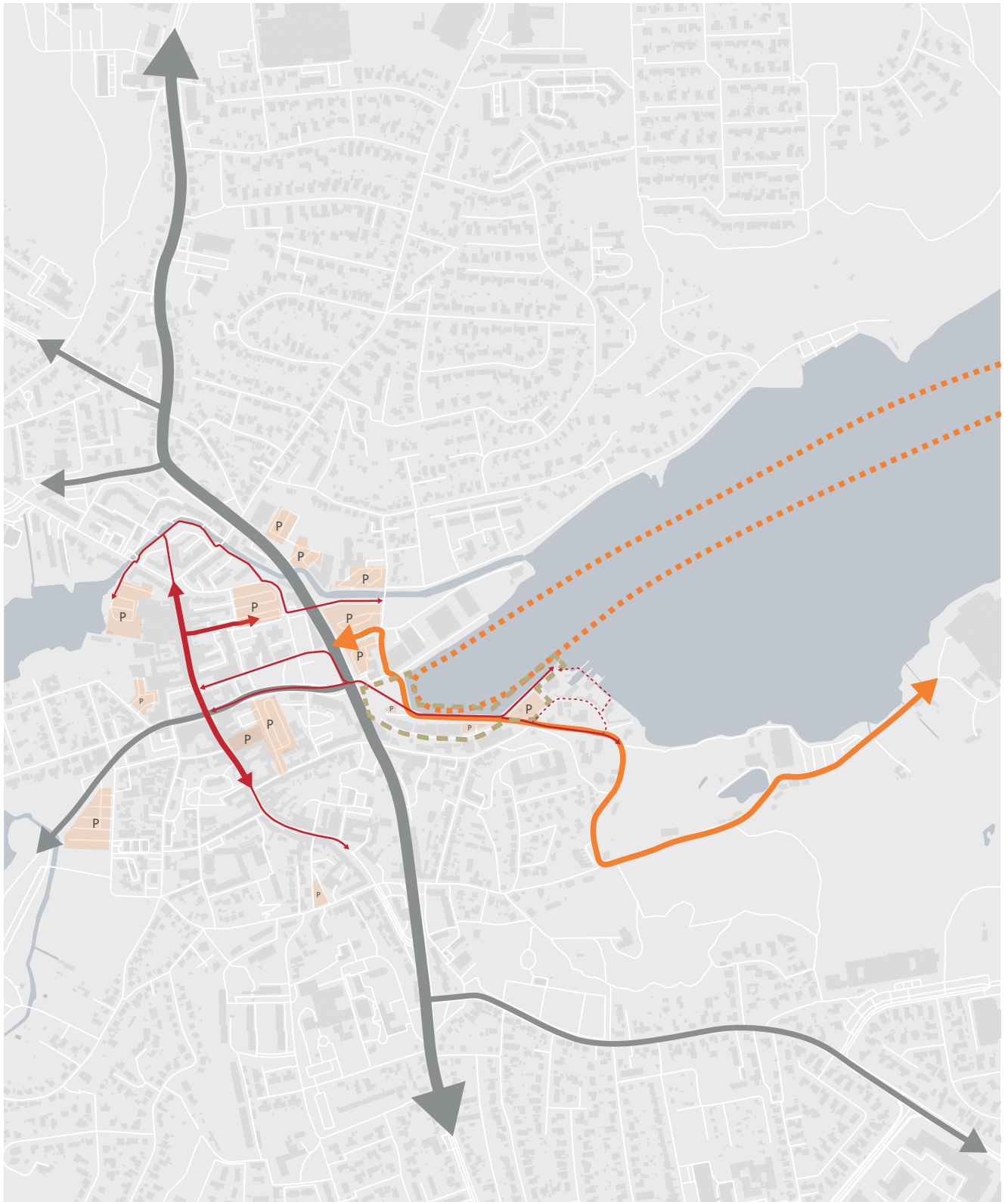


Illustration 35 // Scale 1:1.10.000 - Roads and parking

↓ Pedestrian flow ↓ Primary car traffic ↓ Industrial traffic

Green and Blue Structure

Forest and water surrounds Hobro and play a significant role. The city is centred around Mariager Fjord and has benefited from the transportation opportunities it provides. A small stream, Onsild Å, connects the fjord and Vestrefjord, located west of the city centre, resulting in a prominent presence of water. It is not only the water that plays a large role; the green forests and meadows also contribute significantly. The terrain slopes gently down towards the fjord, making Hobro appear to be in a valley, which enhances its natural setting. Along the northern coast a large round wooden dock has become a local landmark, while the local kayak club are

located at the western tip of the industrial area at the Northern Quay (see illustration 36).

Several hiking and bicycle trails, providing ideal conditions for both experienced hikers and beginners (AllTrails, n.d.) (OpdagDanmark, n.d.). The hiking trail, Fyrkat, begins near the fjord and moves across town towards the UNESCO-certified Fyrkat, while two other hiking trails are on the periphery of the city. Hobro is surrounded by water, while the forest, agriculture, and meadows encircle the city, amplifying its close connection to nature.

Activities



Illustration 36 // Scale 1:10.000 - Nature and hiking tracks

 2,5 m  Fyrkatstien, trail  Panoramaruten, trail  Hobro Østerskov, trail

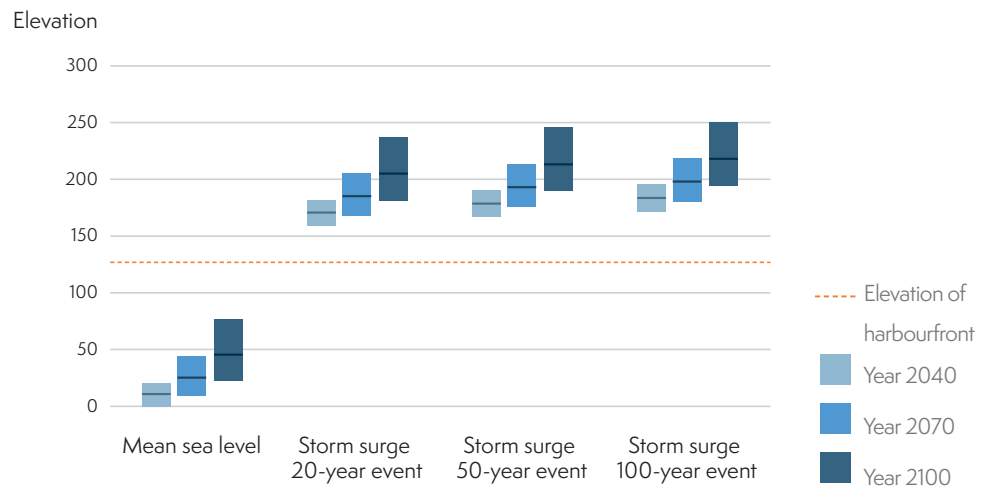


Illustration 37 // Sea level rise and storm surge

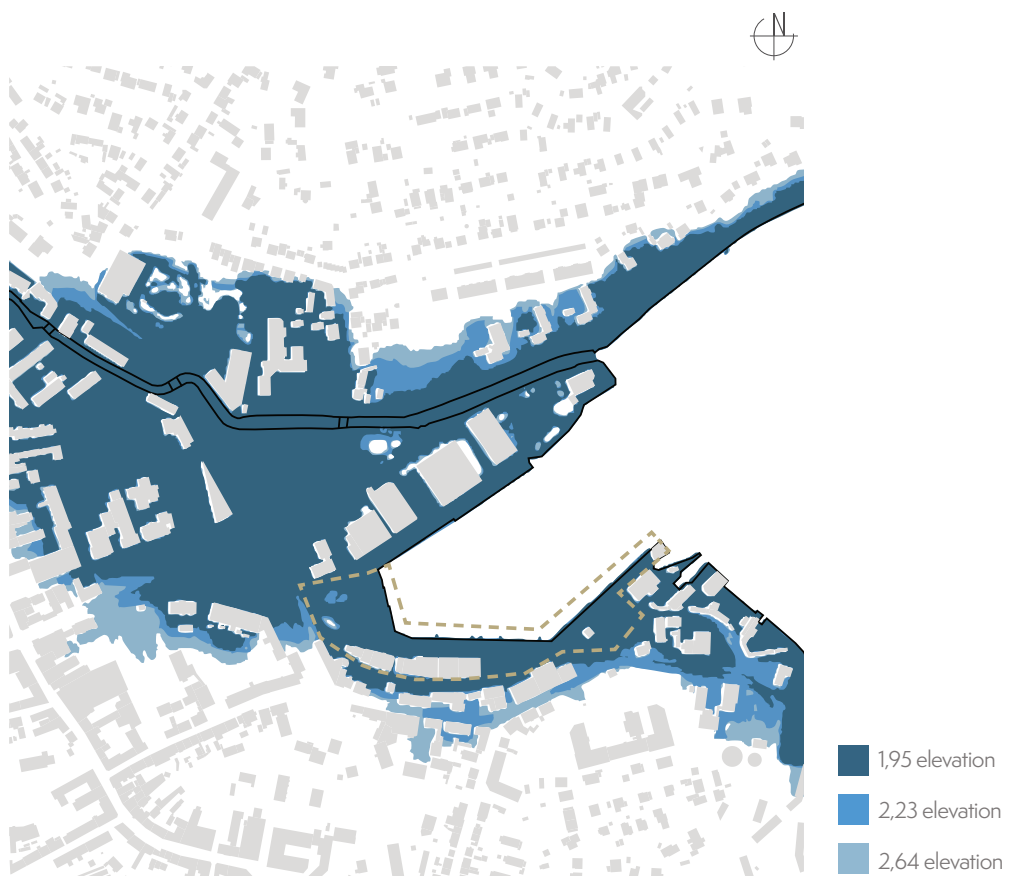


Illustration 38 // Scale 1:10.000 - Storm surge in Hobro, year 2100

Climate Related Challenges

The Danish Environmental Protection Agency (Miljøstyrelsen) and Denmark's national meteorological institute (DMI) recommend using the climate scenario SSP3-7,0 for projects with a planning horizon extending to the year 2100, particularly when high robustness is required (DMI & Miljøstyrelsen, 2025).

Based on this knowledge this project will use the SSP3-7,0 scenario to simulate how the water table and storm surges may change toward the year 2100. In a storm flood event projected for the year 2100, the primary concern is not the rising sea level itself, but the storm surge (see illustration 38).

This could soon be a problem for the city, as part of the city centre will be flooded during a 20 year event storm surge in the beginning of this century (see illustration 37).

The projects approach

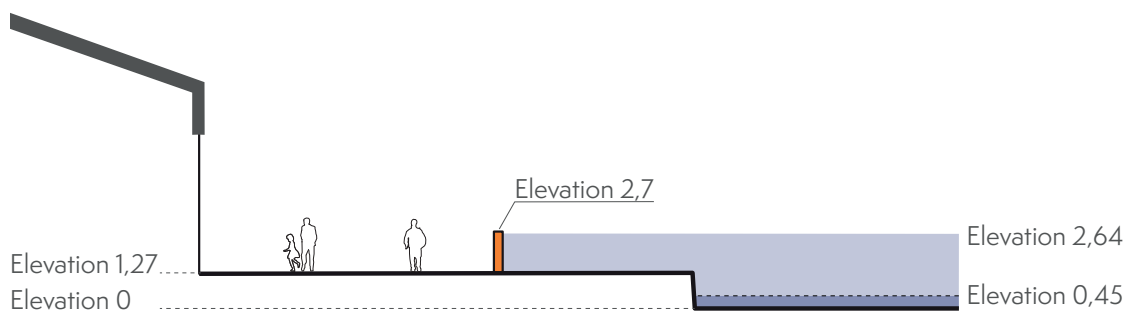
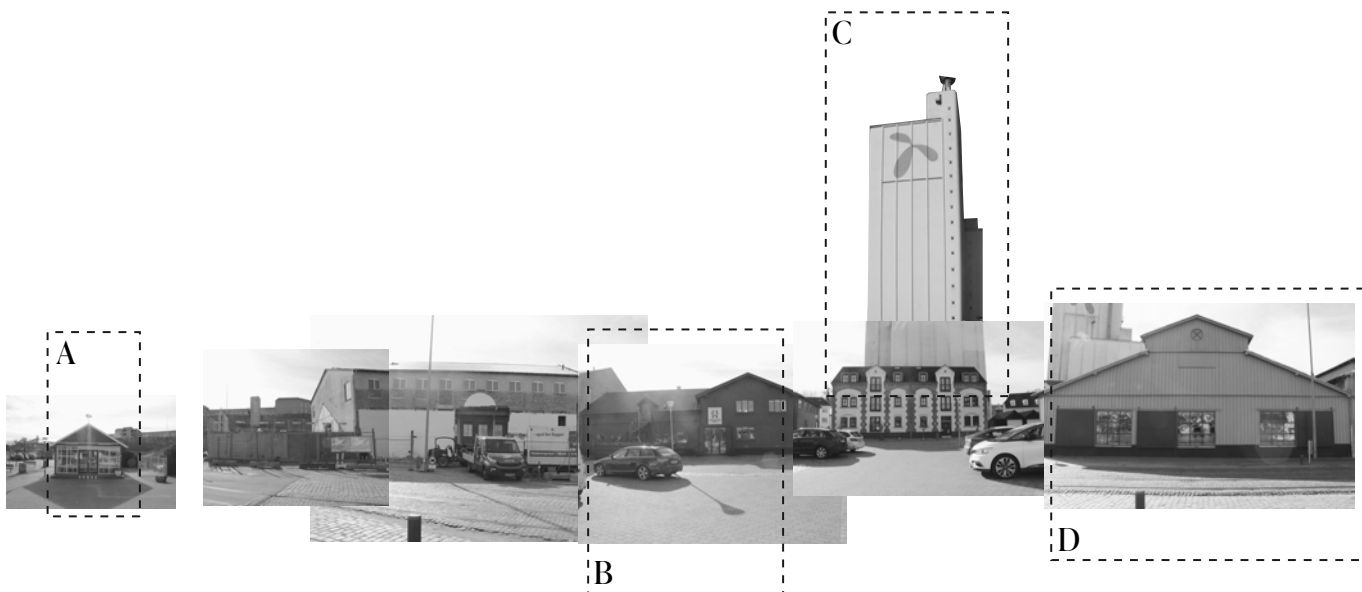


Illustration 39 // Sea level rise and storm surge, project site, year 2100



A - Den blå fisk

A seasonal café that offers ice cream during the summer.

B - Himmerland Theatre C - Silo

The theatre provides a variety of shows and activities throughout the year.

An iconic monument and a significant landmark.

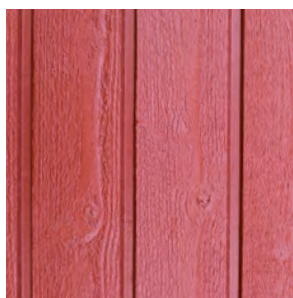


Illustration 40 // Selected iconic facades along Hobro harbourfront

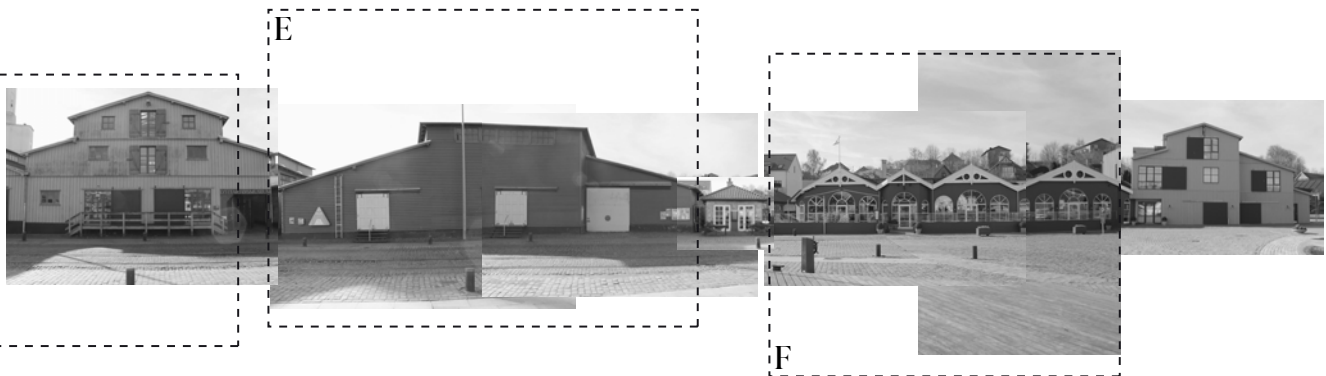


Illustration 41 // Facade Hobro harbour front

D - Lystfarts Museet

A small seasonal museum focused on the history of shipyards, featuring various exhibits.

E - Det Røde Pakhus

The historic red warehouse hosts seasonal events.

F - Café K

A well-established restaurant and café known across Hobro.

Facade

Historical Buildings Across Kulturkajen, there are multiple well-preserved historical buildings, each contributing to the maritime and historical atmosphere (see illustration 40). The façades create a barrier when walking along the harbourfront, yet their distinguished colours and building volumes add variety to the experience (see illustration 41).

Visual appeal These historical buildings not only enhance the visual appeal of the area but also serve as a reminder of the area's rich heritage and cultural

significance. Their unique architectural styles and vibrant colours provide a striking contrast between Kulturkajen and the adjacent area. The functions within the buildings are predominantly seasonal, resulting in fewer activities taking place throughout the year. This contributes to an environment where it is easier to pass through than to linger for extended periods.

Conclusion

The desktop analysis and multiple site visits provided a wide range of insights. This conclusion, accompanied by illustration 42, highlights the key findings from desktop analyses.

The fjord One of the main insights relates to the fjord. The fjord has historically played a vital role in Hobro, offering an important route for transporting goods that supported the city's industrial development. This industrial legacy is still visible today. The Northern Quay remains fully dedicated to industrial use, while Kulturkajen has evolved into a cultural hub, though several old warehouses still stand. The historic shipyard continues to renovate wooden ships, and visitors can walk through the area to observe the restoration work in progress. The fjord and its associated maritime cultural heritage are considered valuable assets to Hobro's harbourfront.

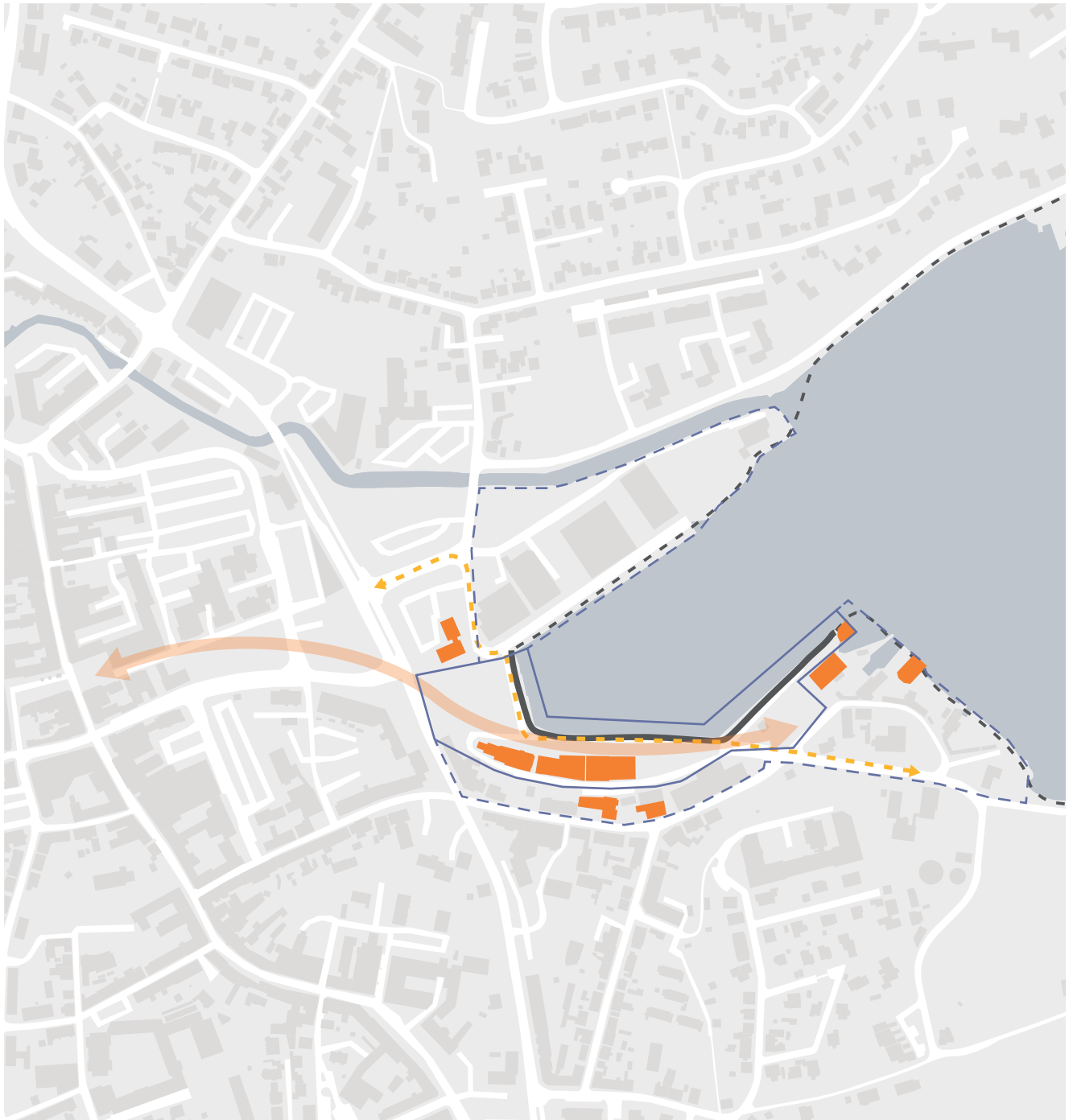
Climate change Despite its beauty and historical significance, the fjord also presents challenges in the context of climate change. A combination of rising sea levels and increasingly powerful storm surges pose a threat to the area. Without proper precautions, future storm surges could result in flooding of Hobro's city centre.

The connection to the fjord and its cultural heritage is important and should be preserved and enhanced in the future development of the harbourfront. Additionally, both the harbourfront and the city centre should be protected against future storm surges.

Besides the fjord, Hobro is also closely connected to several green areas, although this is not clearly reflected in the city centre. Based on this, a key finding is that green structures should be strengthened and made more visible along the harbourfront, so that citizens can enjoy nature while staying in the city and won't have to drive to access green spaces.

Heavy traffic currently passes through the area, and traffic safety must be addressed in the final design proposal. It may be worth exploring the possibility of restricting heavy traffic.

The facades and materials in the area help tell the story of Hobro's maritime heritage, as most of the old warehouses are still present.



Preserving of buildings



Design area

Traffic

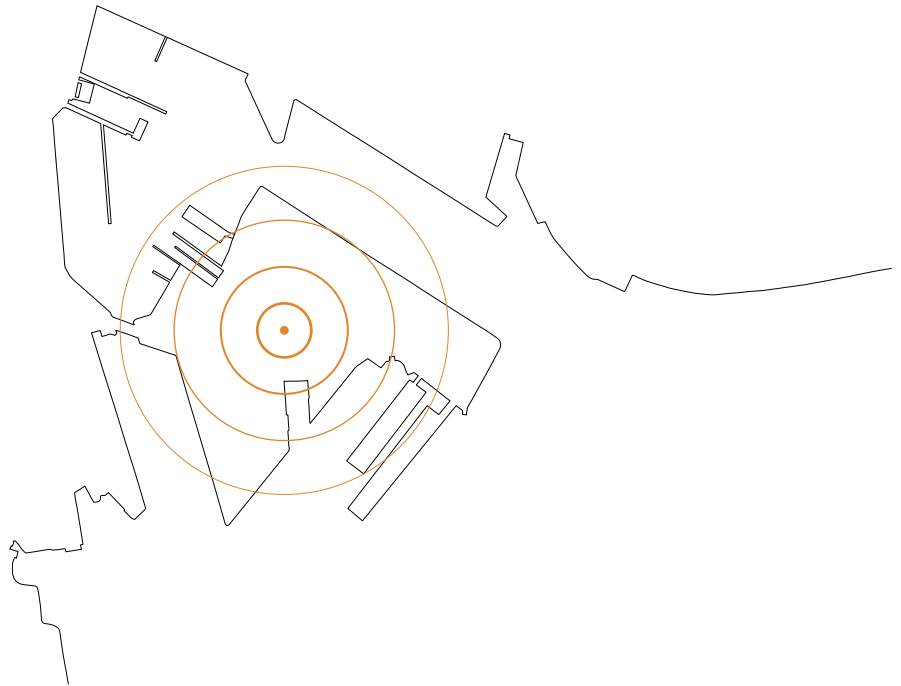
Strategic are

Illustration 42 // Conclusion on analysis

Reference Studies

In the following reference studies, three references will be examined and analysed in relation to two selected topics: user involvement and costal protection. The reference studies were identified at various stages, before, during, and after the discussions, to analyse potential obstacles and ongoing challenges, as well as to reflect

on what could have been done differently. The first two reference studies: Svenborg Harbour and Dragør, investigate user involvement, while the third reference study: Lemvig Harbour, investigates solution for costal protection.



Place Svendborg

Illustration 43 // 1:8.000 - Svendborg

Time May 2023 – March 2025

Organization Svendborg Municipality

Keywords Online information, presentations, city walks, public meeting and hearings (Svendborg Kommune, 2025).

Svendborg

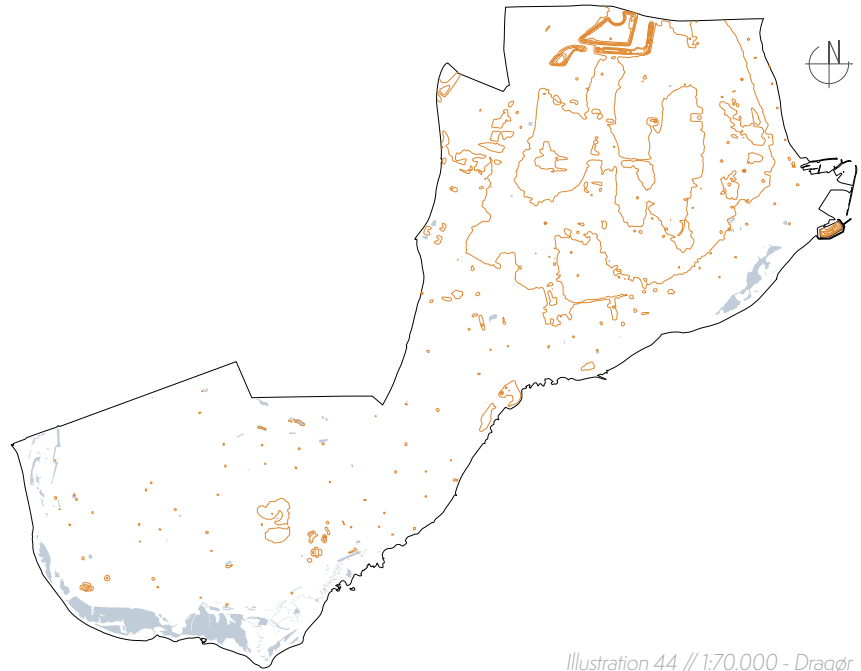
The project The development plan for Svendborg Harbour serves as a tool for dialogue between the municipal council, citizens, and stakeholders in the city (Svendborg Kommune, 2025). During the process of developing the harbourfront users were involved and received information about the process and project (Svendborg Kommune, 2025).

The initial phase of the development plan included a participatory meeting with the public and involved relevant stakeholders. The public was invited to participate in city walks at the harbour and discuss sustainable urban development with politicians and experts. Afterwards, people were

encouraged to submit ideas and suggestions related to the future development of the harbour. Some of these inputs from the public led to further analyses and investigations of the area. The result from the early involvement of the public shaped the foundation for the following dialogue (Svendborg Kommune, 2025).

The key finding from this case is the importance of involving users in the early phases of the project. This early involvement can lead to further analysis and investigations. Additionally, providing information early on can generate strong interest and participation.

Key findings



Place Dragør, Amager

Time Unknown

Organization Dragør Municipality

Keywords Facebook, quizzes, meetings, physical and online communication

Dragør

The project The case of coastal protection in Dragør is unfolded and analysed in 'Klima, Demokrati og Samskabelse' and based on an interview with the head of planning in Dragør Municipality, Hanna Rehling (Tortzen & Agger, 2023).

Rehling has actively been working on including the citizens in decisions regarding coastal protection in Dragør. The process is spanning over several years, including dialogues with citizens, involvement through Facebook, quizzes, meetings, physical and online communication (Tortzen & Agger, 2023).

In later phases a group of citizens ambassadors were composed to improve the communication between the municipality and the users. In an collaborate effort they created specific solutions and plans to accommodate and set up the nec-

essary measures to prevent devastating storm surge protection along the coast. Rehling argues that the municipality must be transparent, respectful and trustworthy to succeed in citizen engagement (Tortzen & Agger, 2023).

Effective communication between citizens and the municipality is crucial. Sharing the reasoning behind decisions fosters respect and understanding. Trust and treating citizens as equals are essential for successful engagement. Despite challenges, it is important to persist in dialogue with citizens (Tortzen & Agger, 2023).

Key findings

Place Lemvig Harbour, Jylland

Time 2012 - 2018

Organization Lemvig Municipality, SLA and WSP

Keywords Flooding, climate adaptation, storm surge protection, recreational values and water barrier (Realdania, n.d.).

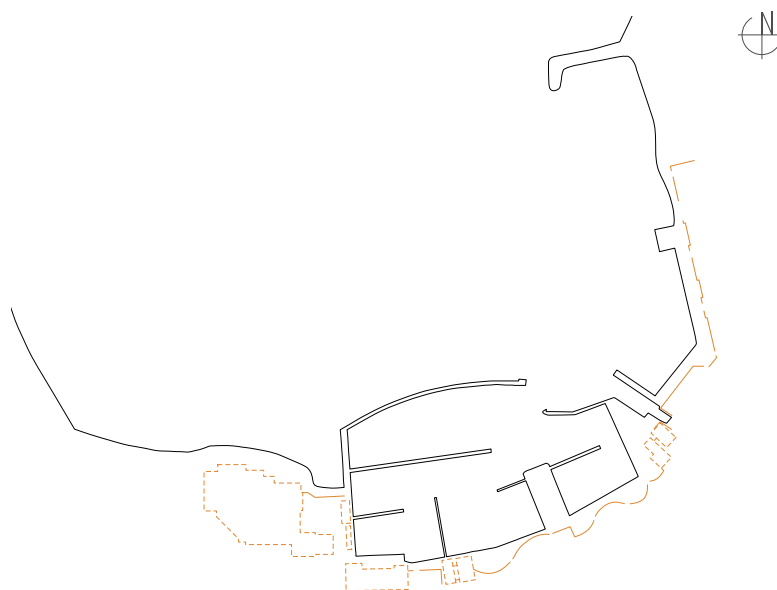


Illustration 45 // 1:8.000 - Lemvig

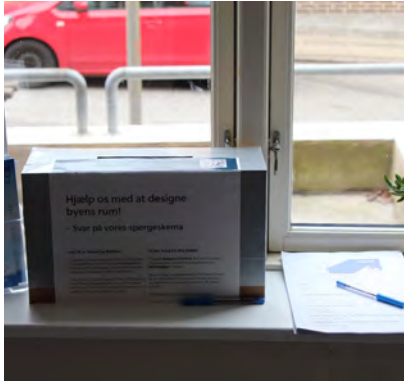
Lemvig

The project The case of coastal protection in Lemvig is explored and analysed based on the challenges due to rising water levels in Limfjorden. Over the years, Lemvig has experienced increasingly severe floods, causing significant damage to the harbour, traffic, businesses, and homeowners. In response, Lemvig Municipality initiated a preliminary study in 2012, focusing on climate adaptation, storm surge protection, and enhancing the recreational values of Lemvig Harbour (Realdania, n.d.).

The harbour has transformed from an industrial port to a recreational commercial harbour, integrating climate protection measures without compromising urban development. Climate solutions were designed with a focus on citizens, cultural life, and future operations (Realdania, n.d.).

The wall not only protects, but creates recreational areas, while the commercial harbour continues to operate in the background. Trucks for the East Harbour's operations can pass through the wall via aluminium gates. Benches are placed along the wall for visitors to enjoy the harbour life (Realdania, n.d.).

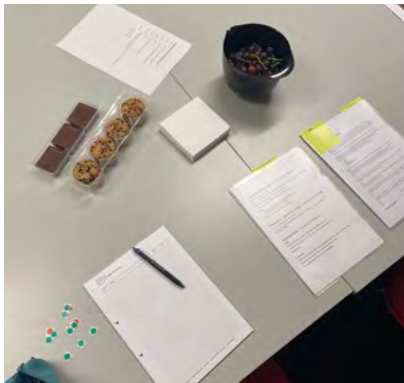
Key findings Key outcomes from the Lemvig Harbour protection project include the successful integration of climate adaptation measures with urban development, creating recreational, multifunctional spaces. The project demonstrated the importance of combining water protection with aesthetic and functional design elements. Additionally, the emphasis on flow and diversity of activities throughout the harbour, along with the use of multifunctional climate solutions.



Physical
questionnaire



Invitation to
focus group



Focus group



Focus group



Model voxpop



Model voxpop

Illustration 46 // Collage of photos from questionnaire, Fokus group and Model Voxpop

05.0 Participation

This chapter presents the user involvement methods employed throughout the design process of this thesis. It is divided into three main sections. The first section provides a time schedule and an overview table summarizing the methods used, including brief descriptions of each method's purpose and how it was implemented. The second section offers a more detailed exploration of the individual methods, focusing on their specific objectives and comparing the expected outcomes with the actual results. Finally, the chapter concludes with a summary of the key insights gained from user participation.

Time Schedule

Between February 6th and March 27th, several participatory methods were conducted. These methods ranged from spontaneous and quick conversations on the streets, to interviews where specific topics and areas in the city were discussed and reflected upon. In the aftermath of each user-related method, a period of data management and reflection on the newly gained knowledge was conducted.

Methods One of the methods used was voxpop, which provided quick and easy access to knowledge from citizens or shop owners. This method was conducted three times during the project, both spontaneously and in a planned manner. The early phase included two interviews with key stakeholders in Hobro, aimed at providing the project group with relevant knowledge about the city and its dynamics. Alongside these inter-

views, extensive preparations were made for a focus group, which served as the main component of the project and its process.

Everything culminated on March 13th, involving selected methods and tasks for both the participants and the project group. Due to the lack of attendance and cancellation on the day the project group reevaluated the initial time schedule and decided to increase the focus on the outcome from the first focus group. The outcome from the meeting with the focus group led the project group to initiate a model voxpop at the city's gymnasium to gain insights from the youth. Alongside the active user engagement, a questionnaire was published to gain further insights about the city's resident's opinions and experiences.

**Focus
group**

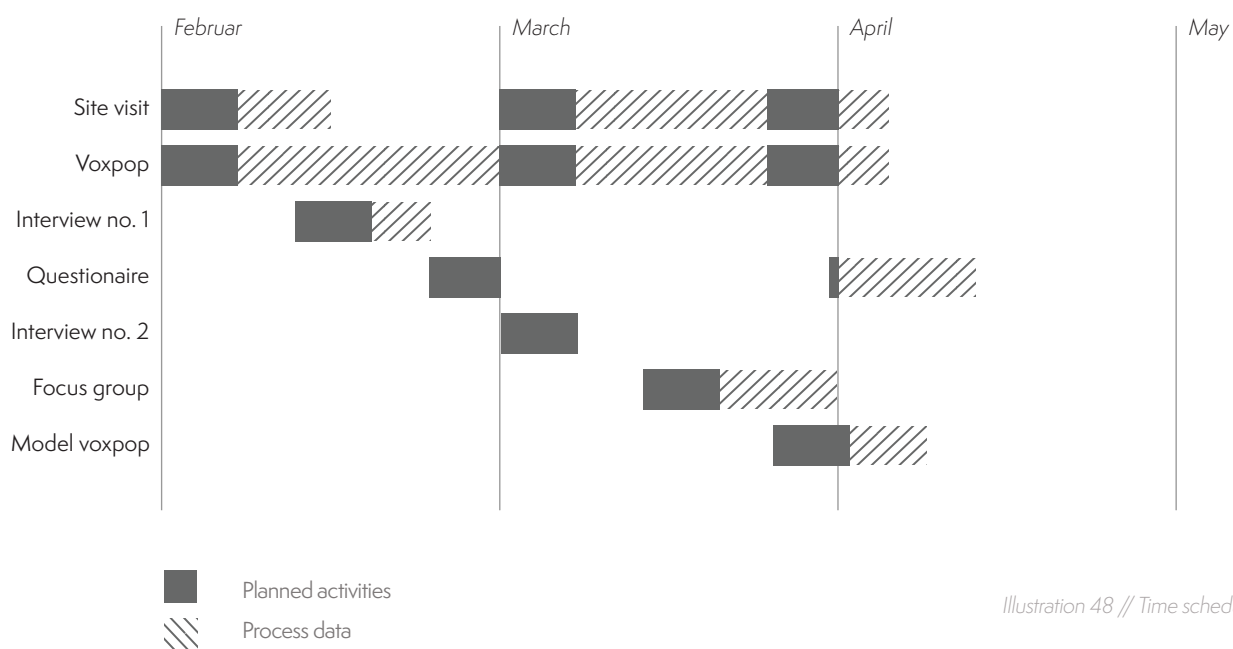


Illustration 48 // Time schedule

User Involvement

User involvement has been a crucial part of this thesis, and the process has been planned based on how user participation should be integrated throughout the project. Various approaches to user involvement have been considered. The following table provides an overview of the selected user participation methods used in the

project, followed by a detailed description of each method.

The following chapters will explore each method in depth, outlining their purposes, the initial expectations, and a brief reflection on the actual outcomes. **Table**

| Method | Description |
|--------------------------------------|--|
| Focus group (Agger & Hoffmann, 2008) | <p>A small group of participants was gathered to gain deeper insights through dialogue, allowing them to elaborate on their thoughts and ideas. The meeting was planned with a set agenda, and participants were invited through social media and personal contacts. The aim was to involve 4–6 individuals of different ages and genders to ensure a range of perspectives.</p> <p>Within this method, several approaches were used to obtain different types of knowledge, enhancing the understanding of user needs and experiences.</p> <ul style="list-style-type: none">• Photovoice (Durose, et al., 2019): To start the focus group conversation, participants were asked to bring a photo of a place in Hobro. This served as an entry point for discussion and reflection on the city.• Model: A physical model of the project area was placed in front of participants to support and enhance the discussion. The model served as a visual tool to spark dialogue and make ideas more tangible.• Scenarios: During the focus group scenarios were presented to spark discussion about the future of the harbourfront. |

| Method | Description |
|--|--|
| Interview (Agger & Hoffmann, 2008) | At the beginning of the project, interviews were conducted to gain insights into city planning practices. These interviews focused on specific topics to ensure structured and purposeful conversations. Meetings were held with both Hobro Byforum and Mariagerfjord Municipality, each offering valuable perspectives on urban development in the local context. |
| Voxpop (Center for innovation, n.d.) | Throughout the project, especially in the early stages, the voxpop was used by engaging with people on the streets of Hobro. The aim was to gain insight from a diverse range of users to better understand both the city and the specific project area. Efforts were made to approach individuals of different ages and genders, to ensure a broad and inclusive perspective. |
| Model voxpop | A physical model of the project area was brought to Mariagerfjord Gymnasium during their lunch break to spark discussion and gather insights from younger users. This model voxpop approach engaged students in informal conversations about the area. |
| Questionnaire (Agger & Hoffmann, 2008) | At the beginning of the project, a questionnaire was used to collect a broad range of insights from citizens in Hobro. It was distributed both online and in physical form to reach different user groups. It remained open from the early stages of the project until the middle, providing diverse input from the local community. |

Interviews

During the initial phase of the project two official interviews were conducted. The interviews were with two large stakeholders in Hobro: Mariagerfjord Municipality and Hobro Byforum, with Hobro Byforum being a politically inde-

pendent organization aiming to improving the visibility and activities in Hobro (Hobro Byforum, n.d.). Although the interviews did not include the actual users of the city, they provided valuable insights into the users and future plans.

Interview with Hobro Byforum

| | | | |
|----------------|---|---|-------------------------|
| Method | As the first interview were conducted in the early phase of the project, it aimed to explore new potential areas of research. A structured agenda was prepared before the meeting to ensure all relevant topics were covered (see appendix 08.2). The interview was conducted in a semi-structured format, allowing flexibility for follow-up questions and deeper insights. It was recorded to ensure accuracy and allow for future reference, while key points were also documented through notetaking. | This was the first encounter with a stakeholder during the user engagement process of the project. The project group aimed to obtaining general information about Hobro, new and former activities, development, and Hobro Byforum as an organization. The main goal was to gain deeper insight into two potential project areas, ultimately leading to a final decision on the most suitable location for the project. | Expected outcome |
| Purpose | The discussion with Hobro Byforum focused on their past and future activities in the city, their experience with user involvement, and potential contacts for further research. | The interview helped identify opportunities and challenges within the two project areas, leading to the selection of Kulturkajen as the chosen project area. This area was described as having untapped potentials and room for improvement. The interviewee highlighted issues related to the active industry at the Northern Quay and its role as a transport corridor towards the brickwork east of Kulturkajen, particularly concerns about heavy traffic due to industrial activity. | Actual outcome |



Illustration 49 // Hobro townhall, located at the harbourfront

Interview with Mariagerfjord Municipality

Method The interview with Mariagerfjord Municipality was conducted in the early phase to gain insight into their previous and future plans for Hobro and the selected project area. A small agenda was prepared before the meeting, but the format was kept open (see appendix 08.3).

Purpose The purpose of the interview was to gain a better understanding of the municipalities priorities and other information that might not be publicly available. The focus was especially to get insights about the development plan of Hobro city centre and the traffic on Kulturkajen.

Expected outcome The interview with Hobro Municipality was conducted shortly after the interview with Hobro Byforum. As the largest stakeholder in Hobro, the format was kept open with no anticipated or predetermined outcome from this meeting. Through the earlier interview and research, a lot of knowledge had already been gained. Therefore, this meeting focused on uncovering any missing topics and insights about the project area and Hobro.

The reality of the meeting differed from the expectations. The representatives from the municipality had prepared a presentation of their strategic plans for the city and the inspirations behind these plans. The interview gradually shifted from a presentation of past and future strategic developments to an open dialogue centred around Kulturkajen. The most valuable insight from the interview was related to existing and future water-related issues. According to the municipality, the primary concerns regarding water are storm floods and future sea level rises.

A secondary insight from the interview was the acknowledgment of a lack of focus on Kulturkajen, an area they described as a blank canvas. The development of the harbourfront and shipyard is described in some of their plans, but the interview uncovered that other project, such as the city centre and the new campus are the current focus. And therefore, there are no specific recommendations for Kulturkajen yet.

In relation to that discussion, it was emphasized that they recognize and value the relationship and connection between the city and the harbourfront, acknowledging its importance.

Actual outcome

Voxpop

| | | | |
|-------------------------|--|--|-----------------------|
| Method | <p>Voxpop were carried out with citizens, visitors, and shop owners to gather quick and easy insights. These interviews were conducted spontaneously, both with and without a predetermined agenda. The conversations were open and user-controlled, allowing participants to share their thoughts and experiences on their own terms and premises.</p> <p>It was conducted multiple times during the project, when visiting in Hobro to gather first hand experiences and insights.</p> | <p>The voxpop method revealed significant insights that most likely would have remained undiscovered through other approaches. Most interviewees' initial response to questions regarding Hobro Harbourfront was that they were not too familiar with the area. Yet, as the conversation evolved, it became clear that they still had a lot of insights or opinions about the area that directed the conversation in different ways.</p> <p>A prevailing opinion was the lack of utilized potential as well as the lack of recreational places to stay. The viewpoint at the top of 'Skibstømrerhuset' and the cafés were several times highlighted by interviewees as good destinations. Additionally, the information gathered from the voxpop led to new analyses and studies, further enriching the project's understanding and approach.</p> <p>Most of the people, who participated in the voxpops were women over 50. Most of the voxpops were conducted during the day, where most people still area at work or school, which made it difficult to get in touch with the youth and families. The few young people who was approach were more inclined to decline the approach.</p> | Actual outcome |
| Purpose | <p>The primary goal was to gain a deeper understanding of the city, Kulturkajen, its citizens, and the functions in and near the project area. Specifically, the voxpop aimed to capture diverse perspectives from a broad section of the community. This method was chosen to ensure that the project would be informed by quick, on-the-ground experiences and opinions, providing a more holistic view of the community's needs and preferences.</p> | | |
| Expected outcome | <p>As this method was open and user-controlled, the expected outcome was open too. The expectation was to get a wide range of insights from a range of users. The goal was to talk to different users, in terms of gender and age.</p> | | |

“Do you visit Kulturkajen?”

“What are your experiences with Kulturkajen, and what is your opinion about it?”

Questions asked during vox pop

Business owner no. 1

According to the business owner, there are a variety of activities in Hobro that bring people together, such as the Ambu party, the Christmas market, and numerous active associations. These events highlight the city’s vibrant and diverse nature.

6 February, 2025

Female resident

In Hobro, there is a good selection of activities available. The resident mentions that the harbour is nice, and she likes its quirky nature. It would be beneficial to have activities at the harbour rather than having nothing. The resident talked about improving connectivity across the city.

6 February, 2025

The retiree

The retiree was born and raised in Hobro. Her experience with Kulturkajen is mixed. She often passes through it to visit her sister at the nursing home. While there are no seating options and the area is quite busy with traffic, but she appreciates its authenticity.

27 February, 2025

The two retirees

They mention that kulturkajen is a wonderful part of town, and they are proud of it. The well-visited cafés and the exhibitions in the warehouse create a lively atmosphere. However, the wooden building (Skibstømrehuset) is difficult to understand. In the summer, the area hosts exciting events, yet existing and future traffic is a challenge. Overall, though, they are satisfied with the surroundings.

27 February, 2025

Business owner no. 2

Kulturkajen isn’t appealing as it is now. The marina by Sildehagen is too far from the centre, so pleasure sailors do not visit. Kulturkajen feels uninteresting, and locals don’t seem to appreciate the water. A versatile activity space would be valued, especially for young people, who currently lack options. Hobro feels scattered, with key locations like the high school, bus, and train stations spread out.

27 February, 2025

Childminders

They often pass through the area with their kids. The area provides plenty of topics to discuss with the young kids, such as the cars, trucks, or boats. The paving is good for the smallest to learn to walk. The only place you can sit is near the small café, Den Blå Fisk.

26 March, 2025



*Illustration 50 // Moments before meeting with
the focus group*

Focus Group

The objective for the focus group was primarily to gain knowledge about Kulturkajen in Hobro. Getting new insight about the area, based on user perspectives, experiences and opinions from the participants (Agger & Hoffmann, 2008).

The meeting was structured into several parts; each designed to serve a specific purpose and gather different types of insights (see appendix 08.4). Invitations were distributed through social

media, a poster at Medborgerhuset, and word-of-mouth promotion. The session concluded with a reflective discussion, where participants shared their experiences of being part of the focus group.

Some success criteria were established for the focus group, including that it should consist of 4-6 citizens from Hobro, ideally representing a mix of genders and age groups to ensure insights from diverse user perspectives.



Illustration 51 // Participants photos

Photovoice

Method The participants of the meeting were encouraged to bring along a picture of Hobro. The frame for which picture to bring was very free, only requirements was that it needed to be related to Hobro and its environment.

The reason for the very free assignment was among other things, that the project area was not chosen when the invitation was sent out. To ensure that there were any pictures, the project group brought some pictures as well.

Purpose The purpose of this method is to start a conversation or discussion based on the pictures they brought along. The participants got the opportunity to share their perspective, experiences and opinions, which made this method a great conversation starter.

This method is intended to initiate discussion within the focus group, making it easier to continue the discussion throughout the other assignments. **Expected outcome**

The insights to be gained about Hobro through this assignment were very open-ended, as the framework for choosing which picture to bring was open too.

This method provided significant benefits. The conversation started off well, and the participants explored a wide range of topics related to the photos they had brought, as well as other aspects participants associated with them. It somewhat turned into an association method, where one topic quickly led to another. The participants were eager to share as much as they could, so it was necessary to occasionally interrupt and guide the discussion to ensure it stayed on track and adhered to the time schedule. **Actual outcome**

The participants brought photos from both the project area and from outside the project area. The photo from outside the project area brought new insights that otherwise would have been hidden. A round bridge located close to the marina by Sildehagen. The bridge is used all year around and by different age groups and have proven to be more popular than anticipated. This led to discussion of another potential bridge or connection to water closer to the city.

Although the conversation began very well, the exercise might have benefited from more participants, as a larger group could have fostered a more diverse and dynamic discussion.

Model

- Method** A context model was placed at the centre of the table, ensuring accessibility for all participants. This allowed everyone to engage directly with the model, pointing to specific areas, and facilitate discussion. Relevant buildings were labelled with a small tag indicating its function. Printed pictures of buildings and urban areas from the project area supported the model. Firstly, a general conversation was conducted and after some time each participant were handed four stickers, two red and two green. The participants placed the green stickers on places that appeals to them and red stickers on places that are challenging.
- Purpose** Dalsgaard, et al. (2025) states that it is beneficial to bring along a map, as this can make it easier to understand the project and the area and easier facilitate discussions. The project group translated this into a model, assuming it would be beneficial too, as it provided an understanding of the volumes.
- Expected outcome** The aim was to get insights into how citizens in Hobro hopes for Kulturkajen to develop in the future. Ultimately these insights can be used when creating a vision and design criteria for the area.
- Actual outcome** The model proved to be a highly successful tool, to the point where participants began engaging with it earlier than planned. This early adoption enhanced the efficiency of communication throughout the meeting. While the model remained on the table for the duration of the session, it was placed at the centre when the specific mapping exercise began. Participants interacted with it easily, using the provided stickers to mark areas of interest.

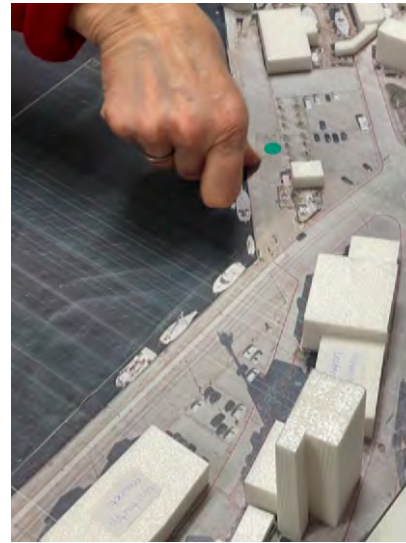


Illustration 52 // Model brought for the focus group

During the discussion, participants shared their perspectives on traffic along the harbourfront. It became evident that they did not perceive it as a significant issue, largely because they tended to walk in the area outside of peak working hours, after the main surges in traffic had subsided. As a result, they concluded that traffic did not negatively impact the area to a degree that warranted concern.

Several other important observations emerged during the session. Participants pointed out a general lack of dedicated spaces for young people or children to play within the city. This absence contributes to an environment that feels less inclusive for families.

As part of the harbourfront's maritime heritage, the shipyard contributes to a unique and valued atmosphere. While the shipyards are largely hidden from public view, making it more visible was seen as a potential benefit. Additionally, while the waterfront holds strong potential for recreation, current water-based activities are limited due to the presence of industry along the Northern Quay. Participants noted that this situation could change positively if and when the industrial operations cease, exploring opportunities for more public engagement with the water.



Illustration 53 // AI scenarios

Scenarios

Method Before the first meeting with the focus group a questionnaire was sent out to a broad range of users. This questionnaire consists among other things of four written scenarios: the active harbourfront, life on the water, the green oasis and theatre in the urban space.

An AI tool was used to generate images based on the written scenarios; these were shown to the focus group (see appendix 08.4).

The participants were given a green sticker to add on the scenario they preferred, and a red sticker to add on the scenario they saw the least potential in.

Afterwards, the participants were presented with the results from the questionnaire to comment on and discuss the results.

Purpose Getting insight into how the participants perceive the scenarios, in order to use these insights in the design process of the harbourfront.

The participants were presented with the results of the questionnaire to get their point of view of how to understand the results of the question-

naire. Their everyday experiences with the area may offer additional insights into why certain scenarios received the rankings they did in the questionnaire.

Getting knowledge about the potentials and obstacles of each scenario as well as new insights of how to understand the questionnaire results related to the scenarios. **Expected outcome**

The session was very successful, as the participants were very interested in the AI-generated photos. They applied stickers as in the prior method, involving the model. However, it was somewhat challenging for them to choose, as they saw potential in more than one scenario. They placed a sticker on what they considered the primary choice but mentioned that they could have easily added another sticker to a different scenario as well. **Actual outcome**

'The green oasis' and 'the active harbourfront' were the ones that received a green sticker, with the addition that a combined version of the two could be beneficial. The scenarios 'life on the water' and 'the theatre in the urban space' proved to be the two with more obstacles than potentials. 'Life on the water' was deselected due to the industry at the Northern Quay, while 'the theatre in the urban space' most likely would fit into a larger city as Århus.

Model Voxpop

Method The project group got the opportunity to talk to the students at Mariagerfjord Gymnasium in their canteen during their lunch break.

Two approaches were used to gather insights from the youth at Mariagerfjord Gymnasium about Kulturkajen.

The context model from the focus group was brought to the gymnasium to gain insight into the students' initial thoughts about Kulturkajen, its potentials, and challenges. As the focus group the young people were handed a green and a red sticker. The participants placed the green stickers on places that appealed to them and red stickers on places that were challenging.

The students were encouraged to write potential and obstacles as well as future scenarios on post-it's notes. This method was conducted on the premises of the students and was an additional approach.

Purpose The purpose of bringing the model to Mariagerfjord Gymnasium was almost the same as the reason for bringing the model for the focus group. It provided a common ground for discussing the area, its functions and discussing the potential or problematic urban spaces that

might otherwise go unnoticed.

The stickers helped making the conversation more concrete and visible, showing whether the youth agreed or disagreed with the existing area and its functions.

The purpose of the post-it's was to encourage students to express their visions and ideas for the area. The collage of pictures served as an inspiration for this.

The expected outcome was to gain a better understanding of how the youth interpreted Kulturkajen and gather creative ideas that could inform future planning and development. Criteria for successful outcome included collecting 20 stickers of each colour and five post-it notes with dream scenarios from the students. **Expected outcome**

The model activity was highly successful and efficient, to the point that several stickers were placed without a short follow-up on why the particular place was given the specific category. Overall, the method proved to be more successful than anticipated. The students seemed interested in the model and the possibility of leaving their mark on it. In total, 36 green and 22 red stickers were placed on the model. **Actual outcome**



Illustration 54 // Model voxpop outcome

Activities surrounding the café and restaurant were highlighted as particularly interesting, as were the viewpoint at 'Skibstømrhuset' and the staircase towards the water. What was particularly interesting was that all four places are the only ones with a place to sit or take a small break.

The places they associated negatively or saw potential for improvement were the green recreational circle most west of the project area,

as they did not see any actual purpose for the space. The industrial area and empty buildings were also highlighted as areas that potentially worsen the overall feeling of the space.

The post-it activity was also more successful than anticipated, with students showing interest and curiosity. In total, 10 dream scenarios were collected (see appendix 08.5), doubling the initial criteria for success.

Questionnaire

Method An online questionnaire was created and sent out on social media (see appendix 08.6) and physical questionnaire placed at Medborgerhuset, to accommodate people, who might not know how to do the online version.

The online questionnaire consisted of three parts. Firstly, demographic questions, as gender, age and settlement. The second part was about Kulturkajen, and the third part was about scenarios. The third part was not a part of the physical version, but despite that, the two versions were identical. In the end of both versions' participants had the opportunity to leave a comment.

The purpose of the questionnaire was to get insights from a broad group of people. The format allowed respondents to complete the questionnaire on their own terms.

The demographic data contributed with the opportunity to sort the data based on gender, age and settlement to investigate if there were any tendencies (Agger & Hoffmann, 2008).

The aim was to gather answers from a broad range of users to gain overall insights of Kulturkajen, as how different users perceive the area and how they envision the area to develop. This also includes understanding any tendencies of how the area are perceived by different users or user groups.

Purpose

Expected outcome

Actual outcome Insights from the focus group and voxpops indicated that children and young people in Hobro are missing a place in the urban space to use.

Therefore, the questionnaire focuses on two groups, the ones under 30 and those over 30, to investigate if there are any differences in how they understand Kulturkajen (see illustration 55).

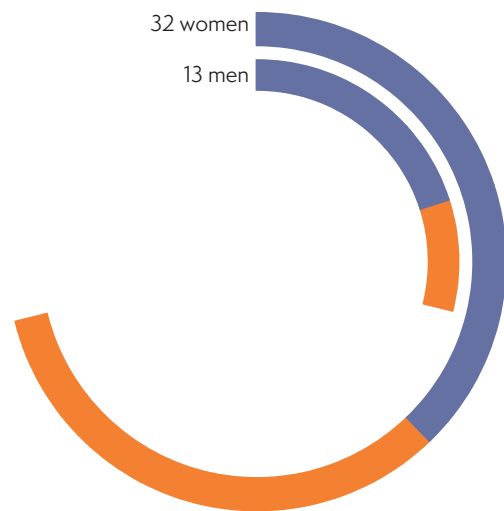


Illustration 55 // Questionnaire gender and age



Actual outcome The respondents rated the area on two parameters, places to stay and traffic safety, on a scale from one to five, where five represents the best. As shown on illustration 56 people under 30 years were more critical toward the area, than those over 30 years.

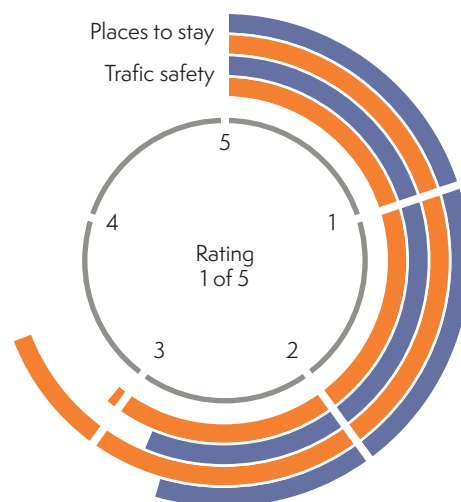
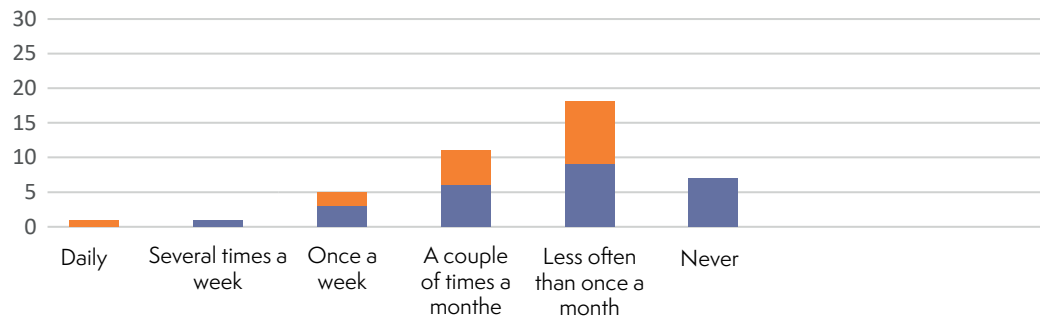
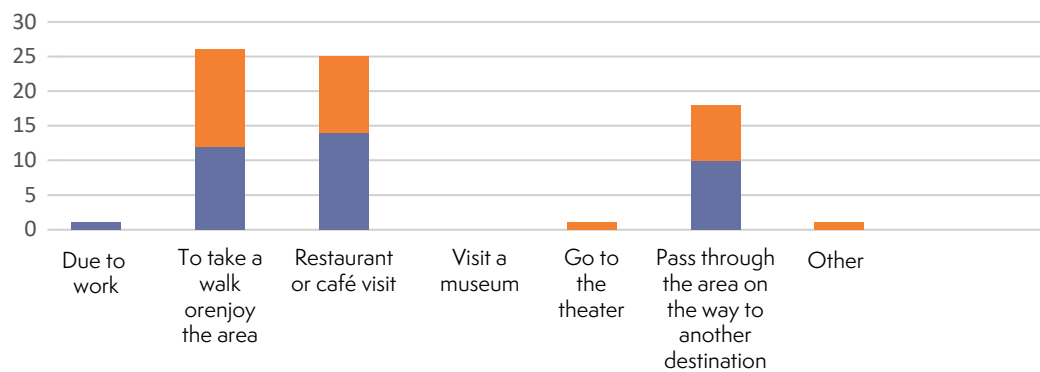


Illustration 56 // Traffic safety and places to stay

How often do you visit Kulturkajen?



Why do you visit Kulturkajen?



■ Under 30 years
■ Above 30 years

Illustration 57 // Evaluation of Kulturkajen

The respondents were also asked about how **Actual** often and why they visited Kulturkajen. This contributes with an understanding of how visited the area is today. As shown on illustration 57 most participants visit Kulturkajen less than once a week. Mostly to enjoy the area, but many also visit the cafés or simply just go through the area. For the last question they had the opportunity to give multiple answers. **outcome**

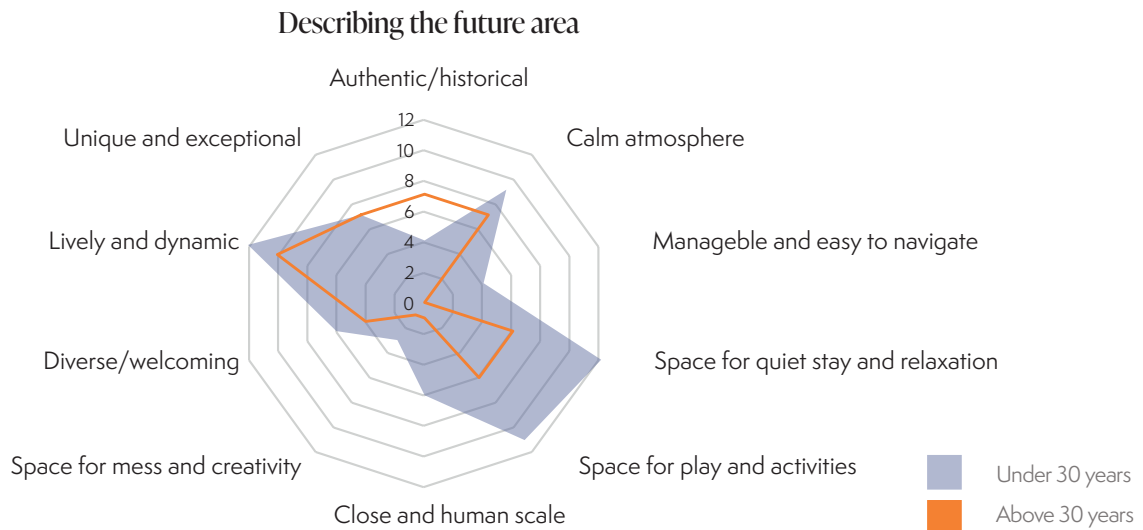
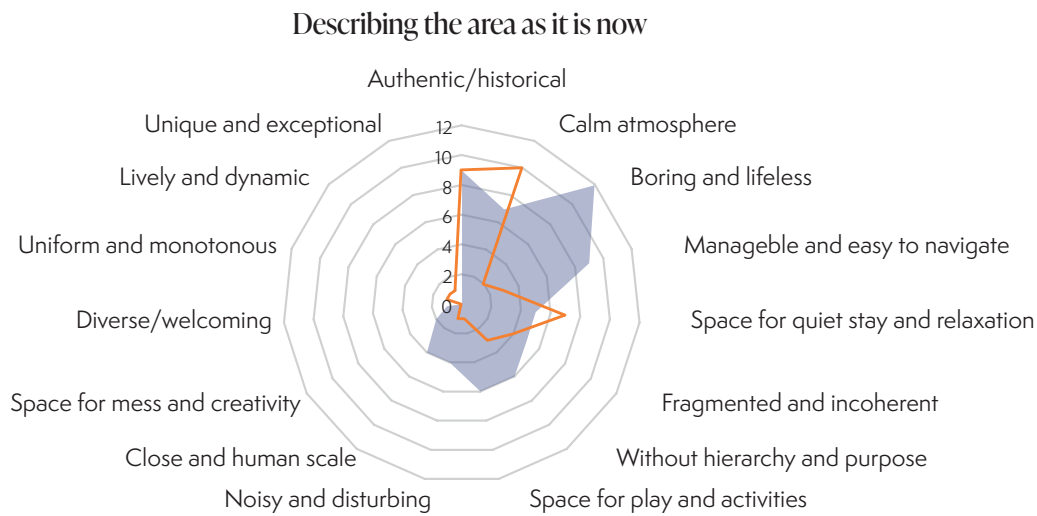


Illustration 58 // Existing and future

Actual outcome The respondents also had to answer which statements fitted the area best. They were asked to choose three statements. This question was followed by a set of statements and they were asked to choose three that they would like to represent the future harbourfront.

The answer for these questions is illustrated on illustration 58 and together they form a picture of how users of Kulturkajen want it to develop in the future.

"The Green Oasis - At Hobro's harborfront, a green oasis emerges with trees, flower beds, and grassy areas where people can relax. Paths wind through the area, and bench formations create small community zones. Rain gardens and insect-friendly plants support biodiversity, while a small pergola with climbing plants provides shade."

"Life on the Water - Floating platforms and swimming zones provide easy access to the fjord, where kayaks, paddleboards, and small sailboats can be used. A floating sauna offers year-round experiences, while steps down to the water create safe swimming opportunities."

"The Active Harborfront - An activity zone with street basketball, pétanque, parkour, and outdoor fitness equipment brings life to the harbor. In the evening, the area transforms into a glowing playground with interactive installations."

"Theatre in the Urban Space - Himmerlands Theatre moves into the urban space with performances on plazas and promenades. A mobile stage allows for both intimate shows and larger productions. Interactive performances engage the audience, while buildings and water surfaces are used for projections and light art."

Description of scenarios

Lastly, participants were asked to rate four scenarios: 'The Green Oasis,' 'Life on the Water,' 'The Active Harbourfront,' and 'The Theatre in the Urban Space.' Each scenario was presented through a short description, which respondents evaluated on a scale from one to five. The results showed a clear preference for 'Life on the Water' and 'The Green Oasis,' while 'The Active Harbourfront' and 'The Theatre in the Urban Space' received the lowest scores. Notably, respondents under 30 gave the highest ratings to both 'Life on the Water' and 'The Green Oasis,' indicating a strong interest in these concepts among younger respondents.

**Actual
outcome**

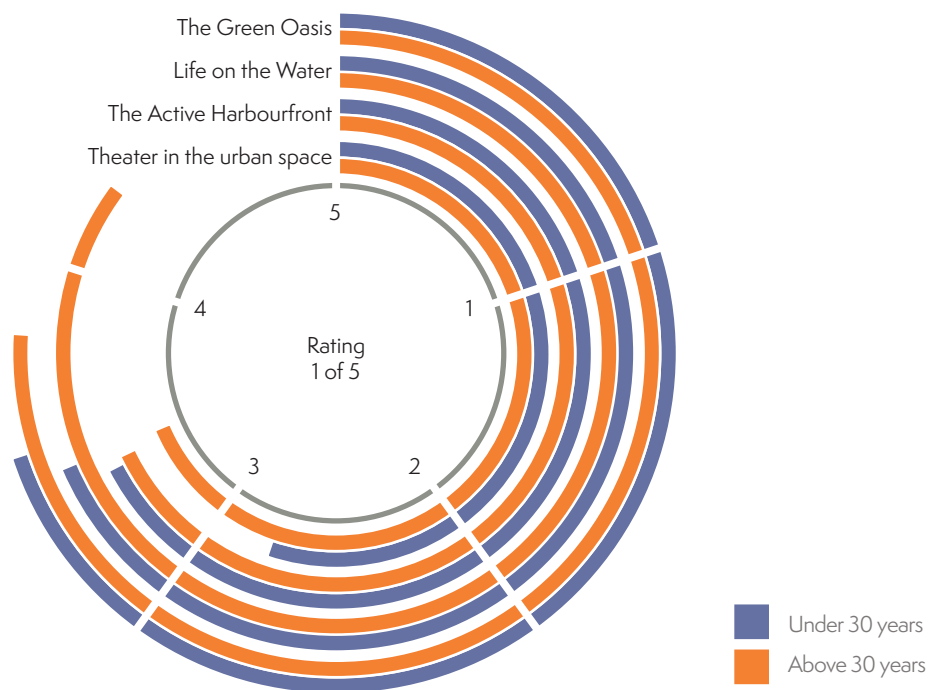


Illustration 59 // Evaluation of scenarios

Conclusion

User input The result of user involvement throughout the process proved to be of high value. Due to the different approaches, the project group received varied outcomes, and combining qualitative and quantitative methods proved to be beneficial. Importantly, insights were gained that would not have been as clear without the active participation of users.

Strategic dialogue Both the interview with Hobro Byforum and the Municipality turned out to be discussions centred on the overall strategic development of the city and their role and relation to it. These two meetings helped establish a general understanding of the city's structure and coherence, as well as identify the primary obstacles within the project area.

Diverse perspectives The voxpop and model voxpop methods proved to be more successful than anticipated. Through these methods, a broad range of citizens, across

gender and age, were asked about their understanding of and wishes for the harbour area. The overall outcome primarily focused on the challenges of the harbourfront, while the general attitude toward the area was positive. The framework allowed conversations to flow in various directions, and no two discussions were alike.

The questionnaire enabled comparisons across age and gender, helping to explore whether there were any conflicts or consensus among the responses. The results indicate that most visits to the area are either for dining at restaurants or simply passing through to another destination.

The methods used during the focus group were as successful as expected. The primary outcome centred on their shared interest in improving access to the water and creating a stronger connection to the shipyard than currently exists.

Survey insights

Focus group

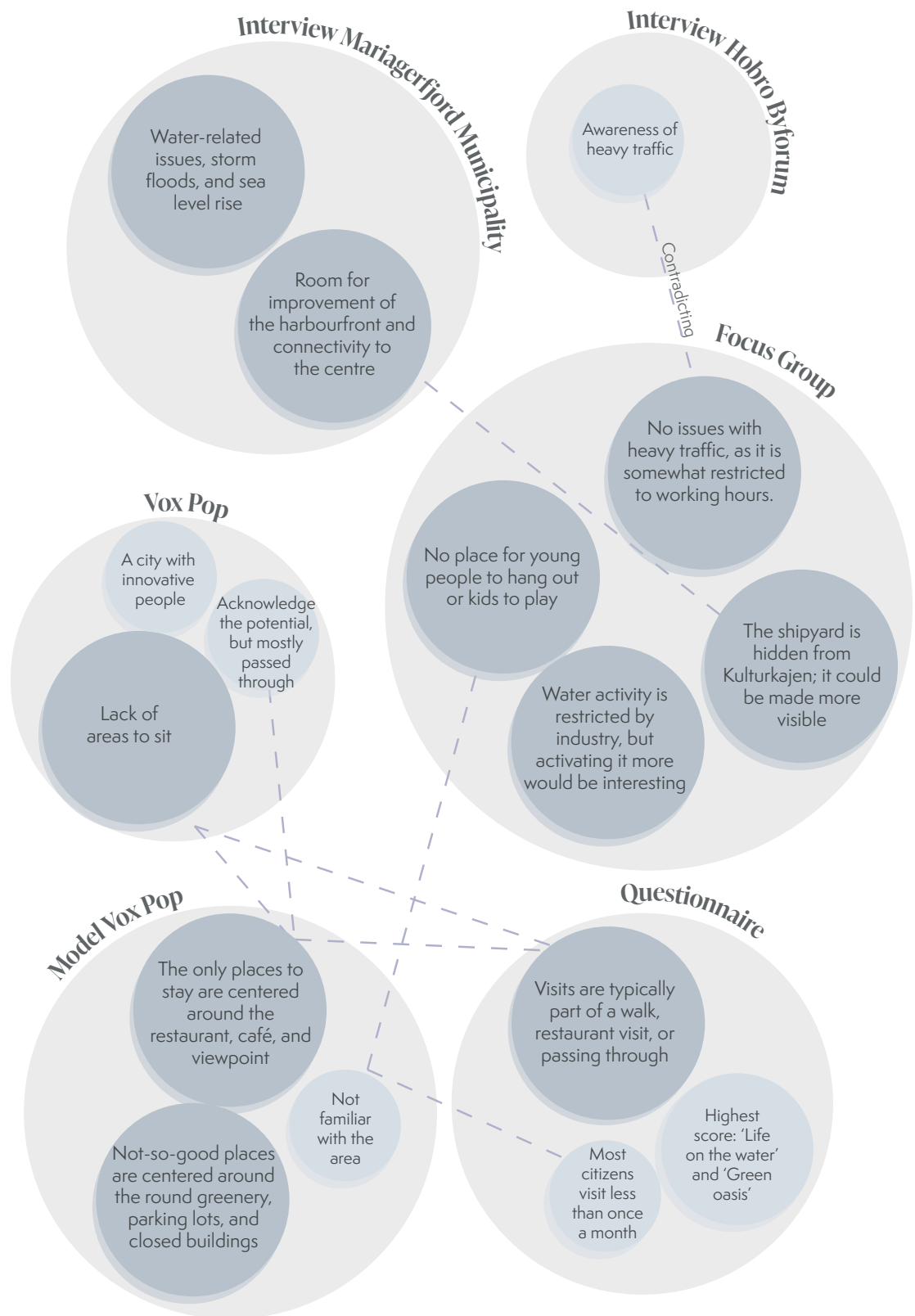


Illustration 60 // User involvement conclusion

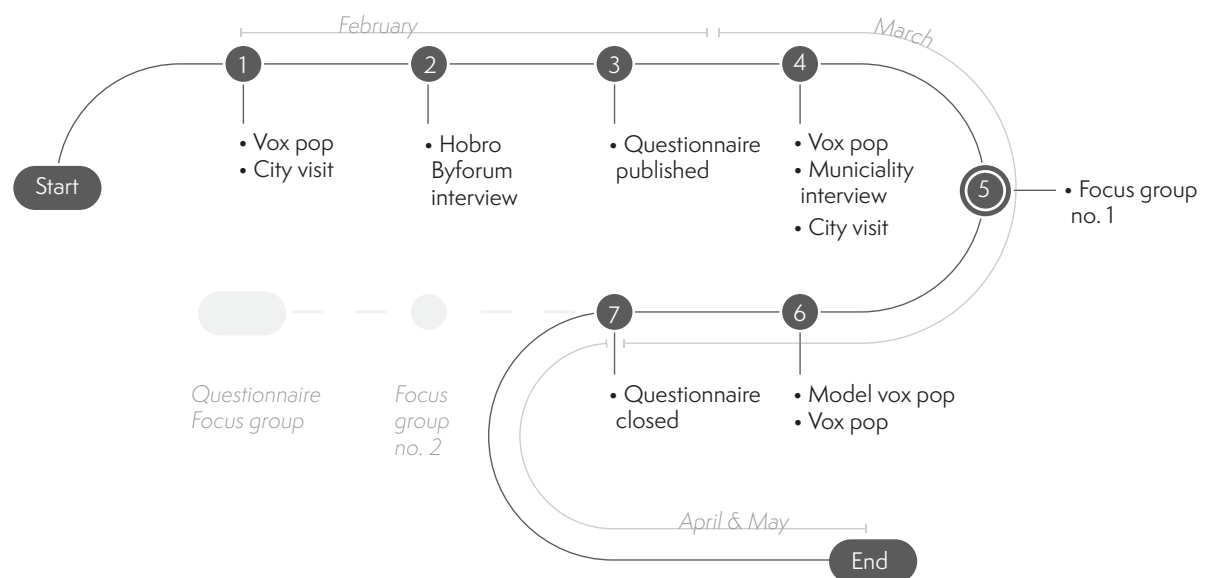


Illustration 61 // Process of user involvement

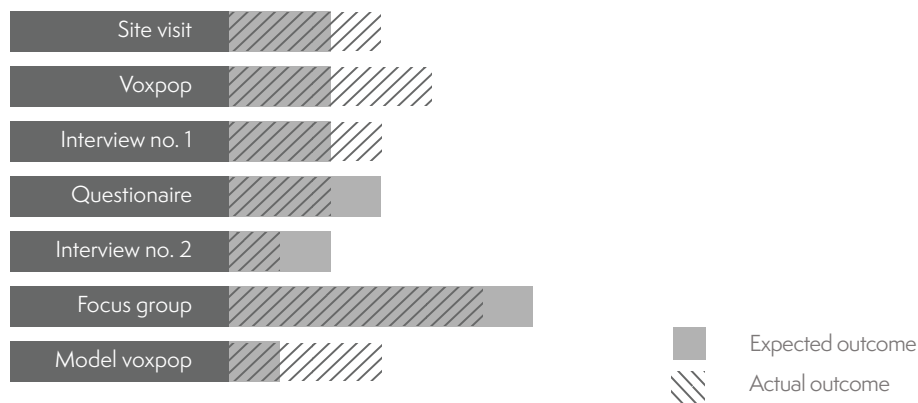


Illustration 62 // Evaluation of user involvement

Evaluation of User Involvement

Shift in plans Throughout the process of user involvement, several methods were implemented (see illustration 61), and even more were considered. Among the tasks carried out, one was not pre-planned but was integrated into the process after the meeting with the focus group.

Initially, there was a strong intention to co-design directly with the focus group. However, due to limited participation and several same-day cancellations, this approach was reconsidered. Instead, the model voxpop was introduced as a more flexible and accessible alternative to gather input from a broader group of young users.

In February, three user-centred methods were conducted: voxpop, interview No. 1, and the publication of the questionnaire. The aim was to gather broad insights into the city and its dynamics. In March, five additional user-centred methods were carried out: voxpop, interview No. 2, focus group, model voxpop, and the closure

of the questionnaire. These methods focused on validating prior information and uncovering new, site-specific insights.

During the preparation phase, it was assumed that the time invested in planning would yield equally valuable results. However, the outcomes varied. Some methods proved highly effective despite minimal preparation, while others required extensive planning but delivered limited results in comparison (see illustration 62).

The process of user involvement highlighted the importance of flexibility and responsiveness in method selection. While thorough preparation can enhance outcomes, adaptability proves to be just as valuable. The experience underscored that a balanced approach, combining structured planning with openness to change, can lead to more relevant insights in user inclusive design processes.

Planning vs. outcome



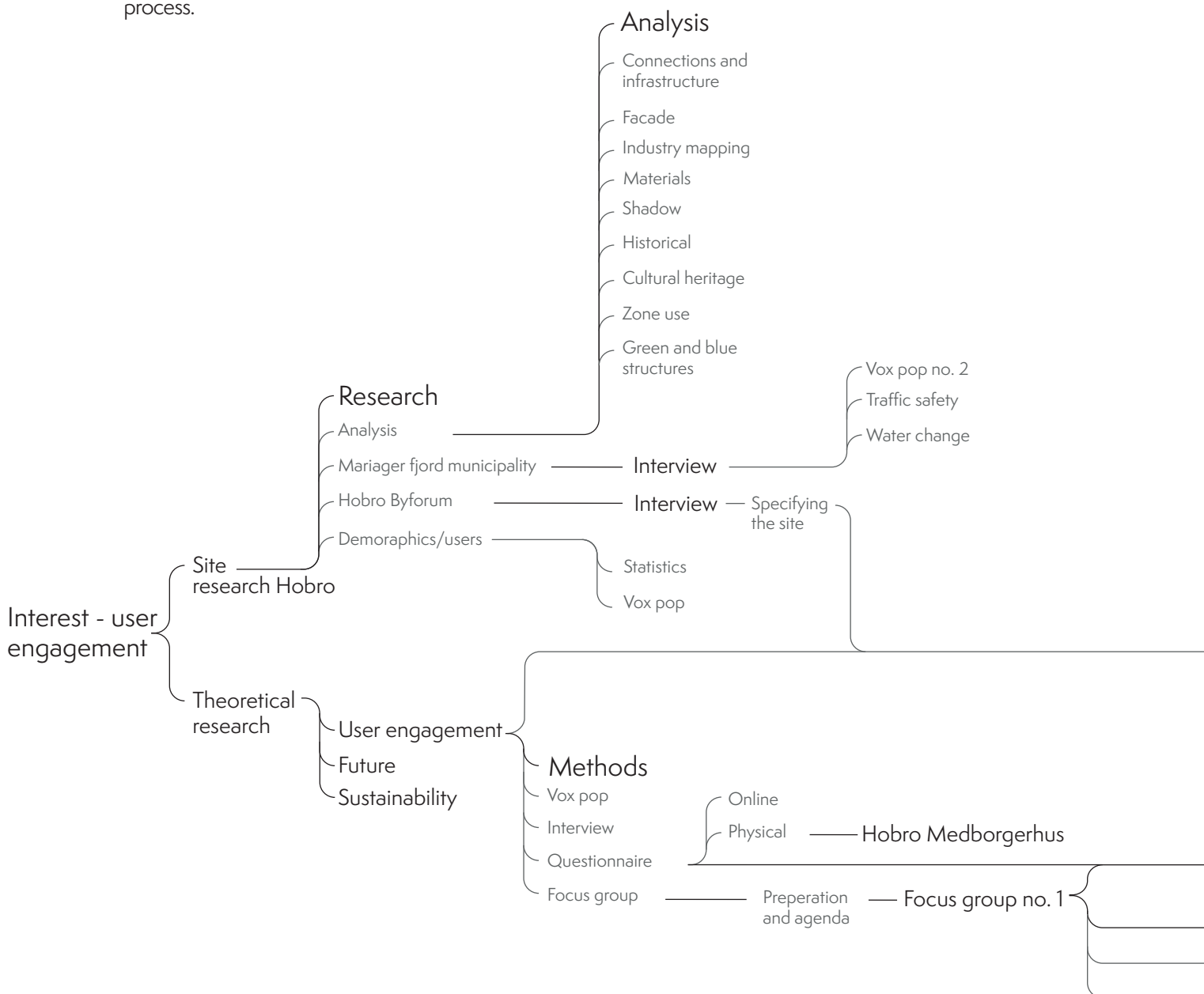
Illustration 63 // View towards the industrial quay

06.0 Design Process

The following chapter will dive into the design process leading up to the finished product, presented in the design report. As concluded earlier, this process is iterative and continuously evolves with the acquisition of new knowledge. This chapter presents a selection of the most relevant design process, a diagrammatic illustration of the masterplan's development, and the evolution of the wall design. Alongside the representation of the process, small icons will be used to visualize the outcomes of user participation, highlighting the influence of users throughout the design process. The chapter concludes with a critically reflection on the users' influence and the role of the project group as a translator of users wishes to solutions.

Thesis Process

Process dynamics Throughout the master thesis process, the project has navigated through a field of tasks, all contributing to the final end-product through analytical work and user involvement. Despite the linear appearance of this illustration, this is a simplification of the complex process. The illustration has been created simultaneously with the process.



User insights User involvement and the integration of new knowledge have been central in shaping the project. Input from users has helped identify areas requiring deeper analysis and has informed both the direction of the design and the refinement of engagement strategies, including

the reassessment of methods for further user involvement. This has led to a continuous improvement of strategies, where design decisions and involvement activities have evolved simultaneously.

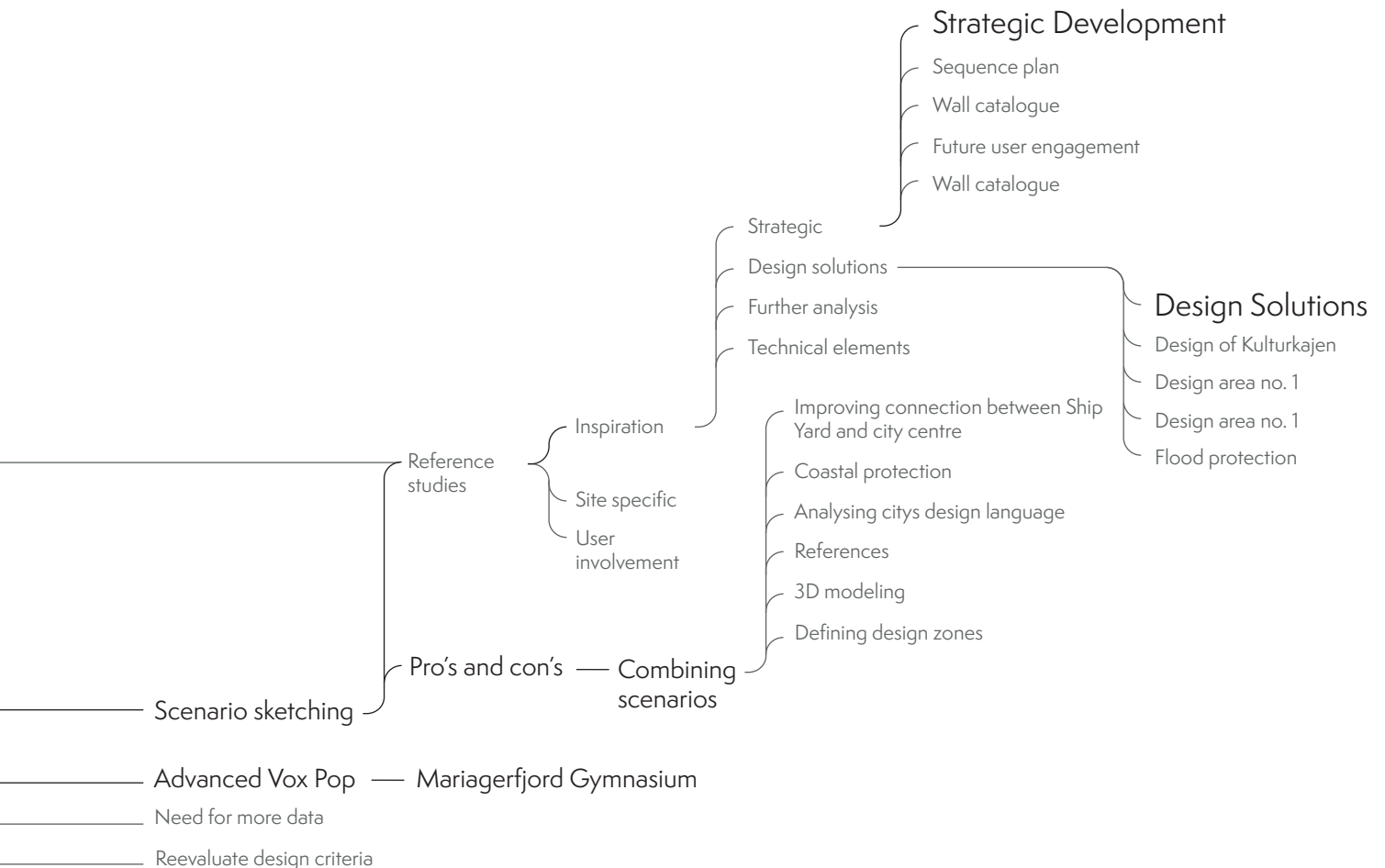


Illustration 64 // Thesis process

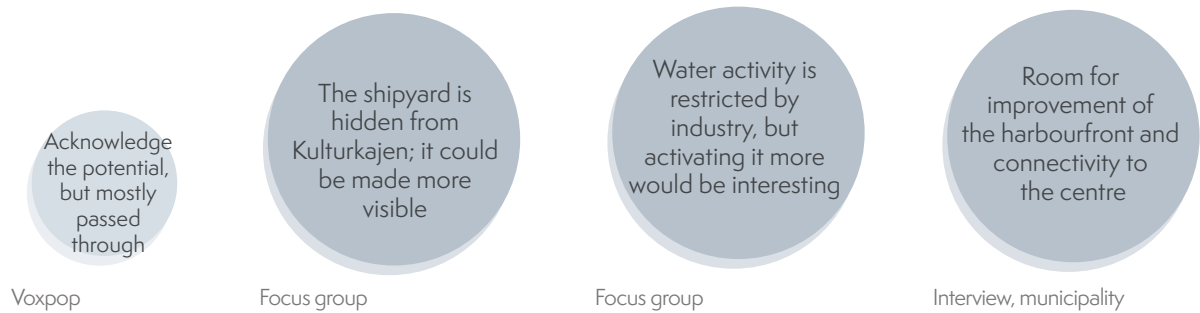


Illustration 65 // Selected outcome from focus group

Masterplan

During the design process (see appendix 08.7) of the harbourfront, the project boundaries evolved significantly. Initially, the focus was solely on Kulturkajen, although the adjacent areas were still included in the analysis (see illustration 66).

The aim was to develop connections within this small project area, such as access to historical buildings, the waterfront, and improved connectivity from one end to the other. This focus was informed by user feedback, which highlighted a perceived lack of cohesion and accessibility across and towards the project area (see illustration 65).

As the project progressed, it became clear that including the surrounding areas was essential. Consequently, the project boundaries expanded to encompass the Shipyard and Northern Quay, with a focus on strategic development and recommendations for these zones.

Throughout this process, a clear understanding emerged of the future challenges posed by storm surges, highlighting the need to protect and adapt the project area. Areas with historical value were identified for preservation, while zones in need of redevelopment were considered as potential areas for adaptive reuse.

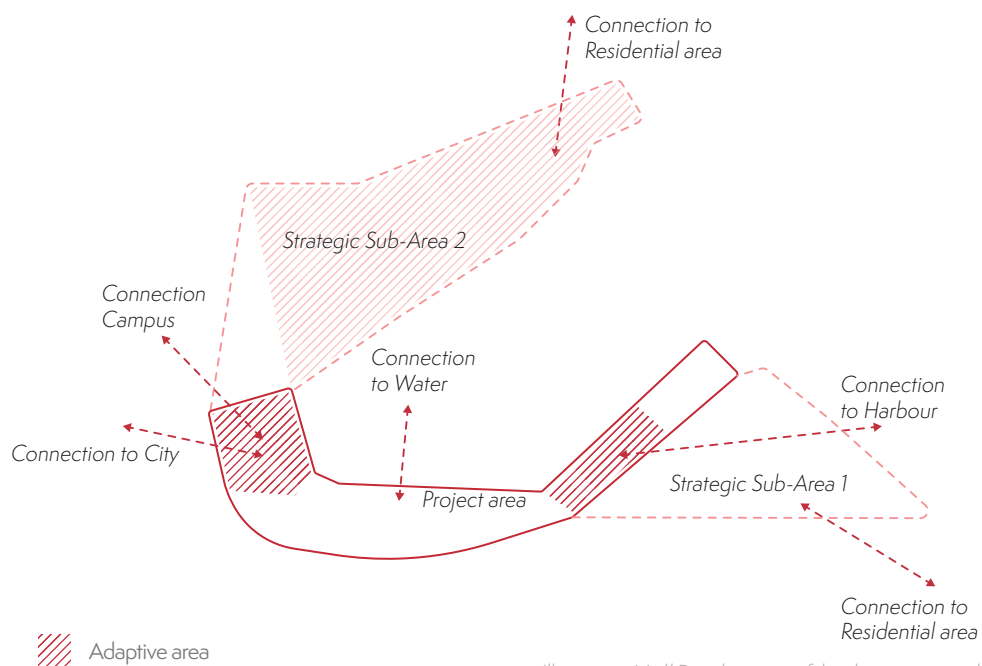
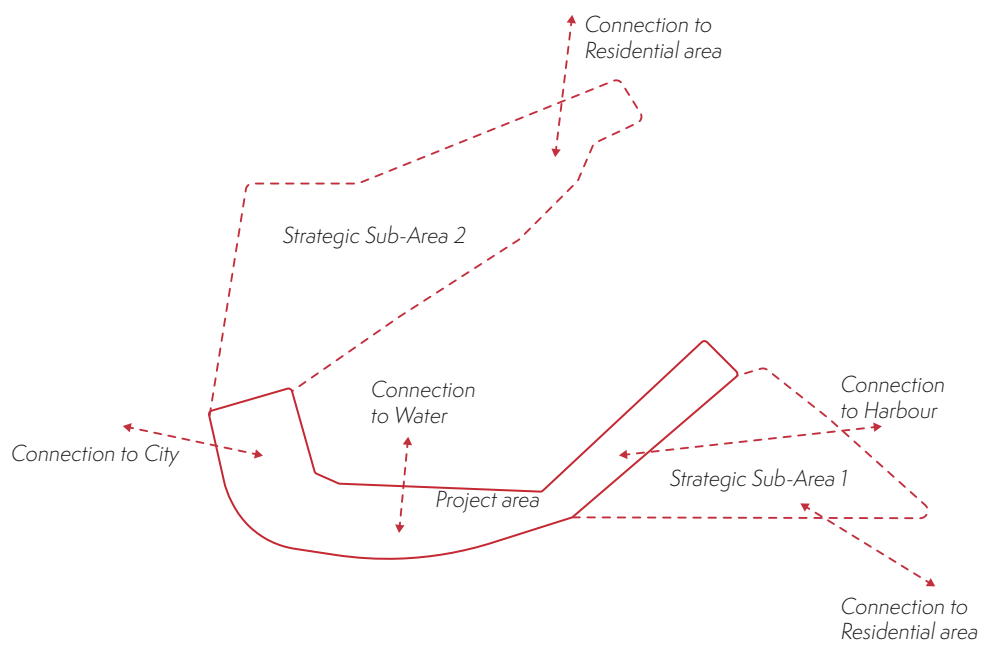
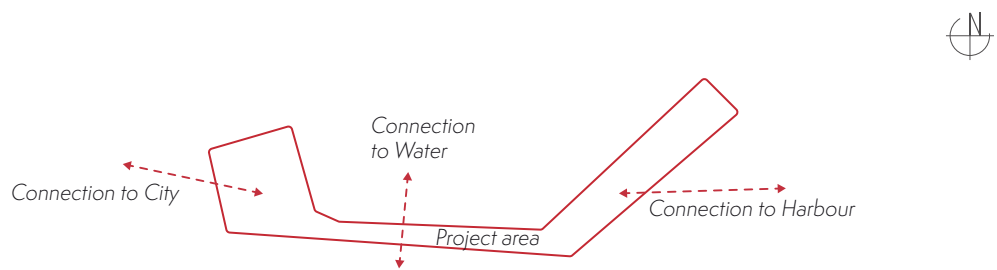


Illustration 66 // Development of the design, masterplan



Illustration 67 // Selected outcome from focus group

Details - The Wall

The development of coastal protection became a major influence on the design, more significant than initially anticipated. This led to a process where the design evolved simultaneously with the need for functional flood protection, while also ensuring the preservation of the project area's historical value. The initial solution was a straightforward flood barrier that followed the existing shoreline, creating a project area that remained functional regardless of weather conditions (see illustration 68).

As outlined in the earlier section, 'Masterplan' the project boundaries were later expanded, requiring the integration of new areas into the design. During this phase, the concept of a park at the Northern Quay emerged, a space designed to accommodate storm surges without the

need for traditional coastal protection. Instead, the park would be resilient by design, capable of withstanding flooding events.

At Kulturkajen, analysis and user engagement revealed a strong need for urban spaces along the harbourfront (see illustration 67). This led to the creation of two primary hotspots. Inspired by the reference study of Lemvig, the flood protection here was designed with intentional holes or openings, strategic gaps that allow visual and physical connections between the urban space and the water, rather than cutting them off. This approach ensured that the protective infrastructure enhanced, rather than restricted, the relationship between the waterfront and the surrounding areas.

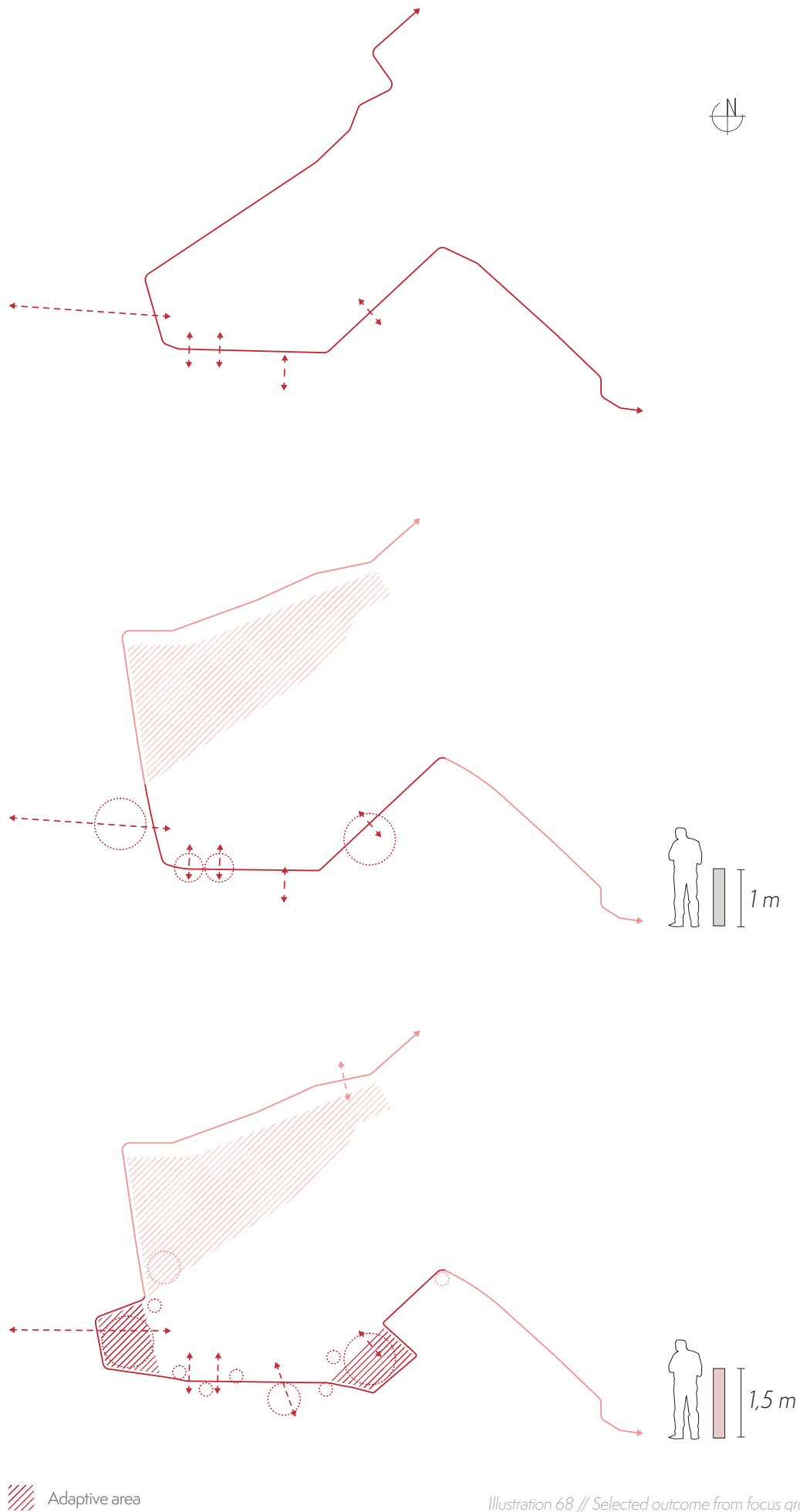


Illustration 68 // Selected outcome from focus group

Balancing User Input

User role The users have undoubtedly played a significant role in the process of this master thesis. Throughout the user involvement process, the role of the designer has extended beyond simply shaping outcomes. It has involved navigating between user insights, interpretation, and responsibility. Central to this role has been the ability to listen, interpret, and translate user thoughts and wishes into meaningful design strategies.

User involvement has provided valuable knowledge, revealing local needs, experiences, and concerns. However, this input is not entirely neutral. Statements from users are subjective and individual and may not represent shared opinions. Furthermore, this input is interpreted through the designer's own assumptions and expectations. The designer does not only act as a receiver of knowledge, but also as an interpreter, deciding what to emphasize and what to question.

This raises an important question: is it truly possible for a designer to act objectively throughout any given process?

The role of the designer as interpreter is a necessary function in achieving a design solution that reflects common wishes but inevitably brings subjectivity to the table. There is always a risk of hearing what one wants to hear and unconsciously prioritizing insights that align with pre-existing ideas or analyses.

Acquiring this balance is difficult (see illustration 69). Designers must stay critically self-aware, validating user input while using their expertise to shape inclusive outcomes. Acknowledging this, the project group has aimed to stay reflective and self-critical, questioning whether interpretations truly reflect user needs or are shaped by existing narratives.

Listening & translating

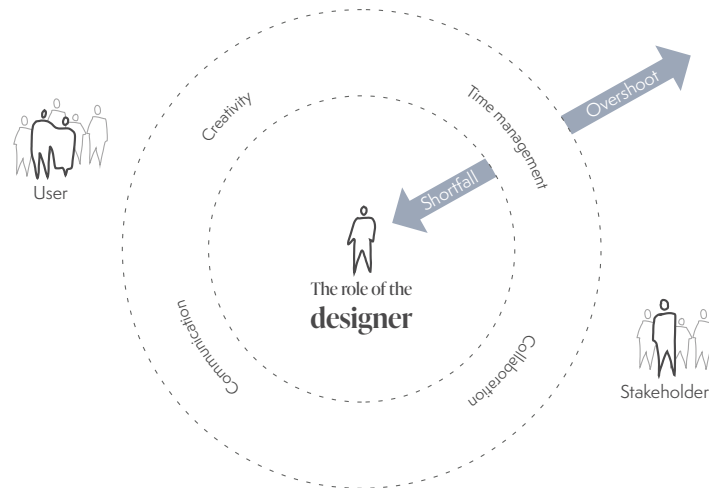


Illustration 69 // The role of the designer

Critical A critical stance has also been taken toward user feedback. Single statement was not necessarily given the same weight as patterns or themes that emerged across multiple users. Individual feedback may be influenced by brief frustration or isolated experiences, which do not necessarily reflect the actual view or common understanding. This was evident in the varying perspectives on traffic along the harbourfront. While the focus group did not view traffic as a significant issue, an interview with Hobro Byforum highlighted it as a critical problem. Similarly, opinions gathered through voxpop were mixed, reflecting a lack of consensus among users.

Balancing subjectivity with responsibility has therefore been a large part of the design pro-

cess. Rather than striving for complete objectivity, the goal has been to be as transparent as possible about the choices made and the statements prioritized.

In doing so, the project group has acted as a mediator, connecting user perspectives with design strategies, while acknowledging the complexity and subjectivity of both angles.

Finally, it is important to recognize that even the way questions are posed to users can influence their responses. This further underlines the importance of critical reflection throughout the process.



Illustration 70 // Iconic silo

07.0 Epilogue

This following chapter synthesizes the project's insights , drawing comprehensive conclusions and reflecting on the overall process. Key findings are revisited, methodologies evaluated, and implications considered. The reflection highlights successes, challenges, and lessons for future projects, offering a thoughtful analysis of achievements and potential pathways forward.

Guiding the Process

Problem statement Throughout the design process and user involvement, the problem statement played a crucial role in maintaining the appropriate approach and ensuring consistent focus. As the process progressed and new insights were gained through user engagement and analysis, the problem statement was re-evaluated to reflect the evolving understanding of the project.

The overarching problem statement ensured that user involvement was considered in every decision. Two secondary problem statements were developed alongside the process, origi-

nating from a desire to elaborate on the primary problem. While these secondary problems may appear to address distinct issues, user involvement and the design process, they were never considered in isolation, as each informed and supported the other.

Based on this iterative process, user involvement and desktop analysis, a set of design criteria was developed to further guide the design process. These criteria are labelled with numbers indicating which user involvement-method each criterion primarily originated from.

Design criteria

Problem Statement

How can we, as designers, involve citizens and users through various methods when designing and transforming Hobro harbourfront into a sustainable urban space?

- 1.1 How can user engagement influence the design process and reveal perspectives that might otherwise remain hidden, ensuring a more inclusive and representative urban transformation?
- 1.2 How can the harbourfront in Hobro be transformed into a recreational urban space while preserving the areas historically rooted identity while strengthening connections to the surrounding city?

Design Criteria

01.0 Climate Solutions

- 01.1 Ensure efficient water adaptation to create a resilient area [2,7]
- 01.2 The solution must be integrated into the subareas with respect for the context [7]

02.0 Cultural Heritage

- 02.1 Minimize barriers to accessing cultural heritage [3,4,7]
- 02.2 Incorporate new elements with respect for historical features [4,7]

03.0 Connections

- 03.1 Create a connection between the shipyard and the city centre [2,3,7]
- 03.2 Strengthen the connection to the water [4,5,6]

04.0 Recreational

- 04.1 Balance a relaxed and dynamic atmosphere [4,6]

05.0 Infrastructure

- 05.1 Reduce traffic through the area [6,7]

1 = Interview, Hobro Byforum
2 = Interview, Mariagerfjord municipality
3 = Voxpop
4 = Focus group

5 = Model voxpop
6 = Questionnaire
7 = Analysis

Conclusion

User Involvement

Impact This master thesis has highlighted the importance of user involvement in the design of urban spaces, especially when the goal is to create a place for the future that remains relevant to both citizens and visitors. Not only does the Danish Planning Act require authorities to involve users to the greatest extent possible during the design process, but theory also emphasizes that user participation is essential for creating spaces that meet users' needs.

User involvement not only contributes to the quality of urban spaces but also supports a democratic society by giving people the opportunity to influence their environment. This fosters a sense of belonging and strengthens overall social sustainability.

The act of including There are multiple ways and degrees of engaging users throughout a design process. 'The Ladder of Citizens Participation' and the 'Spectrum of Participation' illustrate this, exemplifying that participation can be enhanced, encouraging to always aim for a high degree of citizen engagement and empowerment.

It is important to consider the amount of and different methods of user engagement during the design process to gain the most value from it. Involving users or relevant stakeholders in a project can lead to new insights, which may result in further analysis or investigation of the project area or adjacent areas.

User involvement is not limited to the moments when users are actively engaged in the project. There are tasks related to user involvement both before and after the involvement itself. Preparation and the processing of collected insights are essential parts of successful user involvement and are crucial for informing the subsequent stages of the design process.

Through the project of the thesis several methods involving user involvement have been included. Their involvement has influenced the outcome of the development plan. Without the users and stakeholders of Hobro, the outcome would not have been the same. Topics such as traffic and connectivity would most likely not have had such a predominant influence. User's response has guided the direction of multiple discussions among the project group and resulted in further investigations and analyses of different topics.

Engaging directly with citizens and visitors offered first-hand perspectives on how the city is experienced and understood. The various participatory methods employed throughout the process contributed different types of insights, ranging from everyday usage patterns to connections with the space. These inputs helped inform design decisions, ensuring that the final proposal reflects local needs and values.

Design

Development The development plan focuses on strengthening connections, both between the city and residential areas, where the flow crosses the strategic area of the development plan and within the harbourfront itself, to create a cohesive and unified area despite its different zones. By opening previously closed areas and orienting them toward one another, the harbourfront is reinforced as an interconnected space. These areas complement each other, through their shared history while offering diverse opportunities for activities.

Connections The development plan does not only focus on the connections, but also on a strategic approach to create a resilient harbourfront, with a particular focus on accommodating and protecting against flooding during storm surges.

Resilience & adaptation The plan integrates climate adaptation strategies with urban design, ensuring that the harbourfront remains functional, safe despite future environmental challenges. The main approach is the construction of a flood barrier in the form of a multifunctional wall. The wall, urban spaces and flow collaborate, where they mutually affect each other and together create the overall design. Adapting to climate change is just one aspect of creating a sustainable area. Taking care of the resource of the planet is another aspect.

While the preservation of cultural heritage has been a key consideration in the design, it has also been acknowledged that not all buildings at the harbourfront can or should be preserved. Some structures near the marina are in such poor condition that saving them is not feasible, while others are considered to have limited architectural or historical value. Although this topic has not been a central focus of the project, it has been discussed in relation to decisions about whether buildings should be preserved or demolished. These decisions have been guided by the extent to which a building contributes to the cultural heritage and identity of the harbourfront.

The final design presents a development plan for the harbourfront in Hobro, a harbour with a maritime cultural heritage, reflected in its historic buildings, shipyard and connection to the fjord.

The final design presents a development plan for the harbourfront in Hobro, a harbour with a maritime cultural heritage, reflected in its historic buildings, shipyard and connection to the fjord.

Cultural heritage

Summary

Reflection

User Involvement

A question related to the project is whether, and to what extent, the project group succeeded in ensuring the project was influenced by user involvement.

Users were not involved in every aspect of the design process. Climate adaptation and infrastructure were two topics where the project group took the decisions with limited user input. The reasons for this are a combination of competences and time management. User were asked about the traffic to get knowledge about the range of the problem, while climate adaptation was not discussed with them. The interview with Mariagerfjord Municipality briefly addressed the topic, but the issue remained in the background during the early stages of the project. As a result, it was not addressed with users, largely because the scope of the topic was discovered too late to be effectively incorporated into the user involvement process.

Returning to the question of where the project lands on the 'Spectrum of Participation'. Methods related to co-creation and participatory design were included, but the process did not reach the level on genuine co-creation. The project group believes that for the participation to be truly co-creative, there should have been a follow-up with some of the participant to get feedback during the design process. This would have enhanced the participation of the users and contributed to prevent misunderstandings, as this can easily arise. A follow up meeting of this kind was planned, but circumstances resulted in a change of plans. This experience highlights the need for extensive flexibility in projects to accommodate meaningful user involvement.

One of the challenges within this project was finding the correct balance between own perspectives as designers and the experiences and opinions of users. While the designer is equipped with tools, theory and experience, the user brings valuable insight grounded in their knowledge of and interactions with the area. This challenging required the project group to remain open to feedback that sometimes contradicted initial assumptions or knowledge gained from other users. On the other hand, it is also important to be aware of, that the users talk from their own perspective and are not always able to see the bigger picture.

**Designer
vs. user**

One of the challenges within this project was finding the correct balance between own perspectives as designers and the experiences and opinions of users. While the designer is equipped with tools, theory and experience, the user brings valuable insight grounded in their knowledge of and interactions with the area. This challenging required the project group to remain open to feedback that sometimes contradicted initial assumptions or knowledge gained from other users. On the other hand, it is also important to be aware of, that the users talk from their own perspective and are not always able to see the bigger picture.

**Roller-
coaster**

The process of involving users proved to be challenging, especially when it came to recruiting participants for the focus group. There may be several reasons for this. Initially, the group created an invitation and distributed it through social medias to engage potential users. Later the group approach citizens on the streets during voxpop's to invite potential participants, and

Challenges

family and friends we encouraged to spread the word. One of the participants from the focus group provided feedback on the invitation, indicating that more information would have been beneficial prior to the meeting and what was expected from them. This was very useful knowledge, as the project group initially thought it was quite clear.

It is an important reminder that when involving users in a project, we cannot assume that they necessarily know what everything entails. Yet, we cannot treat them as they know nothing. It is important to understand the user group you are working with, not just to choose the right engagement methods, but also to communicate with them effectively.

Another time The project group have gained valuable insight of how to involve users in a project. One of the key take-aways was how time-consuming involvement can be, not only during, but also before and after. At times it felt like the project was a standstill and it was frustrating to realize how difficult it could be to engage users in the project, particularly in the focus group. The project group knew it would be a challenge, but the extent of the challenge was greater than anticipated. As it is a student project, it most likely added to the challenges of engaging users in the process, as they knew it would not become a reality.

If the project group were to undertake a similar project in the future, the approach to involve users would be different. By engaging with people on the streets or a public place, the involvement can be done quickly and that can attract some users as they are able to continue their own journey shortly after. This also offers users the opportunity

to ask questions and better understand what the participation entails, for example what it means to be part of a focus group. This could increase their willingness to take part in future involvement.

The project group has created a set of recommendations for other urban design students on how to approach this topic: **Recommendations**

- Create a clear plan with a few selected methods of user involvement – as it is important to keep a flexible time schedule when including users. During this project, it was interesting to experiment with different user-related methods. However, at times it might have been more beneficial to focus on fewer methods in order to explore each one in greater depth and understand how to apply it most effectively.
- Approach people directly – it is easier and faster to engage people if you meet them face to face, sending them a direct email or calling them. Approaching people through social media can be challenging. While it may spark some initial interest, there is often a significant gap between that interest and getting people to register and participate. If you want to reach a specific user group, go the places where they are present.
- Try it out – you learn a lot by trying out new things. Approaching users can be challenging, but it becomes easier and more exiting with experience.

The Design

The unexpected turns In the early phases of a project, there is sometimes an idea or direction that guides the process. However, in this thesis and design process, the outcome evolved in unexpected ways. Topics such as infrastructure and water management emerged as more influential than initially considered. The final strategies evolved in parallel with water and road management, shaped by both the analysis and user input.

The strategies and design did not follow a predetermined path but evolved continuous acquisition of new knowledge. This is also a reminder that design is not about confirming initial ideas, but about remaining open to change, willing to let go of early assumptions when new knowledge, obstacles and perspectives emerges.

The wall The wall introduced several new challenges during the process, as it has the potential to conflict with the wish of a strong connection between districts. As the scale of the issue became clear, it became necessary to strategically place the flood barrier to preserve connections across the project area.

The proposed height of the wall was determined based on analysis and the reference study of Lemvig. These insights helped in creating the suggested flood barrier elevation. However further analysis may be necessary to ensure that the proposed height is sufficient under future climate scenarios, particularly in the future of rising sea levels and more frequent storm surges.

In the current design proposal, the flood barrier is set to an elevation of 2.7. It has not been confirmed if the wall could be structurally extended in the future, if a worst-case scenario was to occur. If such an extension were possible it might be relevant to initially design the wall at a lower height and thereby reducing the visual impact, with the option to increase its height in the future if necessary.

To gain this knowledge, it could be valuable to contact engineering firms or companies specializing in coastal defence strategies.

Personal Challenges

When approaching this topic, the project group knew they would encounter situations that might push them out of their comfort zone. Approaching people to recruit participants and conducting meetings were among the tasks that were either entirely new or had not been done to the extent required for this project. The group anticipated these challenges and saw them as opportunities for growth and learning. Combined with a strong interest in user involvement, this formed the foundation for choosing the topic.

The plan The focus group was initially planned to be the main method for user involvement. Despite the low attendance, the meeting was still conducted and turned out to be a pleasant experience. However, the limited participation did affect the project group's perception of its success. Nevertheless, the group remained focused on moving forward. The plan was quickly adjusted, and the following method, model voxpop, proved to be a successful contribution.

This master thesis has contributed to the development of both skills and awareness of how to conduct user involvement method through a design process. These experiences are valuable and transferable to professional life after graduation, where users and stakeholders also plays a part in urban planning.

Learnings

Involving users is a continuous balance that requires ongoing adjustments as the project moves forward. It is important not to involve user, only to fulfil formal requirement, as Danish Planning Act dictates it, but to genuinely consider their input.

As the project group transitions into the 'real' world, there is a shared commitment to continuously reflect on user involvement and explore how it can be meaningfully integrated into future projects.

Bibliography

- A** Agger, A. & Hoffmann, B., 2008. Borgerne på banen: Håndbog til borgerdeltagelse i lokal byudvikling. København K: Velfærdsministeriet.
- AllTrails, n.d. Bedste ruter i Hobro. [Online] Available at: <https://www.alltrails.com/da-dk/denmark/north-denmark/hobro> [Accessed 19 04 2025].
- Arnstein, S. R., 1969. A Ladder of Citizens Participation. AIP Journal.
- B** Birgisdottir, H. et al., 2023. The Doughnut for Urban Development, Aalborg: Aalborg University.
- Brødker, S., Dindler, C., Iversen, O. S. & Smith, R. R., 2022. Participatory Design. Springer.
- C** Carthy, S., Cormican, K. & Sampaio, S., 2021. Knowing me knowing you: Understanding user involvement in the design process. ScienceDirect, pp. 135-140.
- Center for innovation, n.d. Voxpop. [Online] Available at: <https://cfiaarhus.dk/metoder/voxpath> [Accessed 21 May 2025].
- D** Dalsgaard, K., Hougaard, I.-M., Kristensen, L. S. & Krøijer, S., 2025. Samskabte Landskaber - En guide til at skabe bedre processer, helhedsorienterede planer og lokalt engagement i klima-, miljø- og landskabsprojekter, København Universitet.
- Danmarks Nationalleksikon, n.d. Hobro. [Online] Available at: <https://lex.dk/Hobro> [Accessed 11 04 2025].
- DMI & Miljøstyrelsen, 2025. Vejledning i anvendelse af udledningsscenarier til klimatilpasning. [Online] Available at: https://www.dmi.dk/fileadmin/klima/klima/klima/rapporter/Vejledningsrapporter/Vejledning_i_anvendelse_af_udledningsscenarier_til_klimatilpasning.pdf [Accessed 28 04 2025].
- Durose, C. et al., 2019. Socially smart cities: Making a difference in urban neighbourhoods, University of Edinburgh.
- H** Hansen, H. T. R. & Knudstrup, M.-A., 2005. The Integrated Design Process (IDP) - a more holistic approach to sustainable architecture.
- Harby, A., 2021. How, When, and Where to Incorporate Participation into Urban Development. [Online] Available at: <https://citychangers.org/participation-in-urban-development/> [Accessed 9 04 2025].
- Himmerlands teater, n.d. Teaterets historie. [Online] Available at: <https://himmerlandsteater.dk/teaterets-historie/> [Accessed 12 02 2025].

Hobro Byforum, n.d. Hobro Byforum arbejder for en aktiv bymidte - Om. [Online] Available at: <https://hobro-byforum.dk/> [Accessed 14 02 2025].

M Mariagerfjord Kommune, 2009. Dejlig er fjorden - historier og spor i fjordlandet, Mariagerfjord Kommune.

Mariagerfjord Kommune, 2018. Hobro midtby Udviklingsplan, Mariagerfjord Kommune.

Mariagerfjord Kommune, 2024. Oplev Hobro Havn gamle industrihistorie på to minutter. [Online] Available at: <https://www.mariagerfjord.dk/nyheder/2024/oplev-hobro-havns-gamle-industrihistorie-paa-to-minutter> [Accessed 25 02 2025].

Mariagerfjord Kommune, 2025. Kommuneplan: Byrådet har vedtaget Kommuneplan 2024 for Mariagerfjord Kommune. [Online] Available at: <https://www.mariagerfjord.dk/by-land-og-bolig/udvikling-af-kommunen/kommuneplan> [Accessed 04 04 2025].

Mariagerfjord Kommune, n.d.a. Værdifulde kulturmiljøer. [Online] Available at: <https://mariagerfjord.viewer.dkplan.niras.dk/plan/7#/1782> [Accessed 04 04 2025].

Mariagerfjord Kommune, n.d.b. HOB.C.6 - Centerområde - Søndre Kajgade, Skibsgade. [Online] Available at: https://mariagerfjord.viewer.dkplan.niras.dk/plan/7#/Kommuneplan_Planramme?id=500&basId=1408&parentId=2856 [Accessed 04 04 2025].

Mariagerfjord Kommune, n.d.c. HOB.C.7 - Centerområde - Nordre Kajgade. [Online] Available at: https://mariagerfjord.viewer.dkplan.niras.dk/plan/7#/Kommuneplan_Planramme?id=501&basId=1408&parentId=2856 [Accessed 04 04 2025].

Mariagerfjord Kommune, n.d.d. Principper for udvikling af Hobro Bymidte, Mariagerfjord Kommune.

Mariagerfjord Kommune, n.d.e. Miljørapport: Ny Blaakilde - bolig- og erhvervsområde, Mariagerfjord Kommune.

N Nielsen, N. H., n.d. Fantastisk nyhed: Nordjysk ringborg optaget på UNESCOs verdensarvsliste. [Online] Available at: <https://migogaalborg.dk/nordjyske-ringborge-optaget-unesco-verdensarvsliste/> [Accessed 06 03 2025].

Niras, n.d. Kysten.

Nordjyske Museer, n.d.a.. Vikingemuseet Fyrkat - En del af Nordjyske Museer. [Online] Available at: <https://nordjyskemuseer.dk/u/vikingemuseet-fyrkat/> [Accessed 10 02 2025].

O Nordjyske Museer, n.d.b.. Lystfartøjsmuseets historie. [Online] Available at: <https://nordjyskemuseer.dk/lystfartoejsejshistorie/> [Accessed 04 12 2025].

OpdagDanmark, n.d. Panoramaruten Hobro - Bramslev Bakker. [Online] Available at: <https://udforsk.opdagdanmark.dk/ruter/panoramaruten-hobro> [Accessed 19 04 2025].

P Planloven, 2024. Planloven. By-, Land-, og kirkeministeriet.

R Raworth, K., 2012. A safe and just space: Can we live within the doughnut?. Oxfam, February.

Realdania, n.d. Klimasikring af Lemvig havn. [Online] Available at: <https://realdania.dk/projekter/klimasikring-lemvig-havn> [Accessed 09 04 2025].

Robertson, T. & Simonsen, J., 2012. Challenges and Opportunities in Contemporary Participatory Design. Researchgate.

S Stender, M., 2018. Social bæredygtighed og DGNB, Aalborg Universitet.

Svendborg Kommune, 2025. Forslag: Fremtidens Havn - Udviklingsplan for Svendborg Havn, Svendborg Kommune.

T Tortzen, A. & Agger, A., 2023. Klima, Demokrati og Samskabelse: Kommunen som katalysator for klimaengagement, Akademisk Forlag.

V Visit Himmerland, n.d. Hobro - VInkingernes Hjemstavn. [Online] Available at: <https://www.visithimmerland.dk/himmerland/planlaeg-din-tur/hobro-vikingernes-hjemstavn-gdk1104504> [Accessed 11 04 2025].

Illustration list

If nothing else is stated, the photos and illustrations are conducted by the project group.
Some illustrations contain a base map containing data from Dataforsyningen. These illustrations are marked with 'Dataforsyningen'

Illustration 6: Own illustration made with inspiration from Raworth (2012).

Illustration 7: Own illustration made with inspiration from Arnstein (1969).

Illustration 10: Own illustration made with inspiration from Hansen & Knudstrup (2005).

Illustration 13: Own illustration made with inspiration from Dalsgaard, et al. (2025) and Arnstein (1969)

Illustration 15-18: Own illustrations, 'Dataforsyningen'

Illustration 19: Own illustrations, 'Dataforsyningen'

Illustration 22: Own illustration, 'Dataforsyningen', based on data from Mariagerfjord Kommune (n.d.b), Møriagerfjord Kommune (n.d.c)

Illustration 23-24: Own illustration, 'Dataforsyningen' based in data from Mariagerfjord Kommune (2018)

Illustration 25: Own illustration, 'Dataforsyningen'

Illustration 26: Own illustration, based on data from Mariagerfjord Kommune (2009)

Illustration 27: Own illustration, 'Dataforsyningen'

Illustration 34-35: Own illustrations, 'Dataforsyningen'

Illustration 36: Own illustrations, 'Dataforsyningen' Based on data from Opdagdanmark, n.d. Panoramaruten Hobro – Bramslev bakker Available at: <https://udforsk.opdagdanmark.dk/ruter/panoramaruten-hobro> [Accessed: 19.04.2025]

Illustration 37: Own illustration, Contains data from Klimaatlas – vandstand og stormflod for hele året i Randers Fjord og Mariager fjord, Højt udledningsscenarie (SSP3-7,0), Stormflod 100-årshændelse. Available at: <https://www.dmi.dk/klima-atlas/data-i-klimaatlas?paramtype=sea&maptype=kyst> [Accessed: 22.05.2025]

Illustration 38: Own illustration, 'Dataforsyningen' Based on data from Klimaatlas – vandstand og stormflod for hele året i Randers Fjord og Mariager fjord, Højt udledningsscenarie (SSP3-7,0), Stormflod 100-årshændelse. Available at: <https://www.dmi.dk/klima-atlas/data-i-klimaatlas?paramtype=-sea&maptype=kyst> [Accessed: 22.05.2025]

Illustration 42-45: Own illustration, 'Dataforsyningen'

Illustrations in the appendix is created by the project group. Basemaps in the illustrations contains data from Dataforsyningen.



Illustration 71 // Wooden ship

08.0 Appendix

The following chapter are a collection of material that have been used during the process of user involvement and design process yet have not been included in the main report. The appendix contains materials as analysis of the project area, agenda prepared before user involvement and its outcome and selected design process.

THESIS TITLE PAGE

This form must be submitted for all theses written in programs under the Study Board of Architecture and Design, and it should be placed at the beginning of the appendix section of the assignment.

A printed copy of the form must be submitted along with the printed copy of the thesis.

The information given in this form must also be available in PURE.

(All fields must be filled out)

| | | |
|--|---|---|
| Program: | | |
| Architecture <input type="checkbox"/> | Industrial Design <input type="checkbox"/> | Urban Design <input checked="" type="checkbox"/> |
| This thesis was written by (full name): | | |
| Katrine Nygaard Brink | | |
| Sidsel Aagaard | | |
| | | |
| Title of the thesis: | | |
| Reclaiming the Waterfront: A Participatory Vision for Hobro's Sustainable Harbour Transformation | | |
| Supervisor's name: | | |
| Tina Vestermann Olsen | | |
| Submission date/year: | | |
| 28.05.2025 | | |
| Is the project confidential? | | |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | |
| External collaboration* | | |
| Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | |
| External collaboration partner (name of company/organization): | | |
| | | |
| Contact at external collaboration partner (title, name og email): | | |
| | | |

*What is an external collaboration? Read more [here](#).

08.1 AI

The use of AI – Copilot and ChatGPT - is present in this master's thesis; however, no text has been created solely by AI. Furthermore, no AI-generated text has been directly pasted into the thesis. The project group has maintained a critical approach toward AI throughout the process, and its influence has been an ongoing topic of discussion.

AI has primarily functioned as a supportive tool for grammatical assistance, as English is not the project group's native language. It has also been used as a dictionary, for finding synonyms or assisted in translating quotes from Danish to English.

In addition, Copilot was used to generate visual scenarios based on the project group's own text. These AI-generated images were developed to

explore and visualize potential design directions ahead of a meeting with the focus group.

AI was additionally employed for image generation. The results were particularly interesting, as many free AI image generators have certain limitations, and these constraints are reflected in the quality of the output.

Examples of prompts used to interact with AI include:

Correction of own material

"Is this text grammatically correct?"

"How do you understand my text?"

Research phase

"Does this text contain the following words?"

"What is the text's five main points?"

08.2 Interview Byforum

Agenda

It is important to note that the specific area had not been selected prior to this meeting. At this stage in the process, two potential project areas were still under consideration. The primary intention of the meeting was to gain insight into the city, its stakeholders, and the role of Hobro

Byforum. The following appendix includes the agenda that was initially prepared before the meeting, translated from Danish to English. The agenda served not as a fixed structure but rather as a guide for the dialogue, and as such, the meeting did not follow the agenda strictly.

May we record audio?

Presentation of us and our project:

- Who are we?
- Current status – printed map of selected site
- What is the intended outcome of the project?
- What would we like to gain from Hobro Byforum?

Introductory Discussions

- What role does Hobro Byforum play in the city? Activities, citizen engagement, volunteers, etc.
- What kind of organization is Hobro Byforum?
- Initiatives between Posttorvet and Kirketorvet
- Why is this your focus area?
- Store Torv (Main Square):
 - How is the square used? Events and everyday life?
 - Existing conditions? In relation to temporary installations
 - Test actions? Involvement of users?
 - Past use and future visions for the square? From your perspective, what does the ideal square look like?
 - What is your knowledge of the connection through the library?
- Focus on the connection between Store Torv and Kulturkajen (location?)
 - Are you currently working with Kulturkajen?
 - Do you have plans to do so in the future?
 - Do you see potential in the harbour? Campus Hobro?
- The Harbour:
 - How is the harbour used? Events and everyday life? Summer vs. winter
 - Existing conditions? Large open spaces, lots of parking
 - Past use and future visions for the harbour?

- User Involvement
 - o Experience with user involvement?
 - o What about the citizens of Hobro?
 - o Branding the city / Hobro's identity?
 - o What do you think represents Hobro?
- Concluding Questions/Discussion
 - o Possibility to share our draft questionnaire?
 - o Focus group?
 - o If we have follow-up questions, is it okay to contact you again?

Outcome

The primary takeaways from the interview have already been addressed in the report. However, additional topics were discussed during the interview that remain relevant to some extent. These are outlined below:

Local contacts Several key individuals were recommended for further dialogue, among these were local consultants, representatives from the municipality, the city's 'youth culture pilot', and the local gymnasium principal.

Issues like dust and heavy traffic from the brickwork and the industry at the Northern Quay affect the area. **Industrial context**

A popular bathing pier by Sildehagen is used year-round by both young and old. **Public use**

There is a perceived lack of a clear identity for Hobro. Hobro Byforum's suggestion was branding it as the 'City of Vikings'. **Identity**

08.3 Interview Municipality

Agenda

The meeting with the municipality primarily focused on gaining an understanding of their previous and current plans, as well as following up on materials that were unclear or had an unknown status. Prior to this meeting, the harbourfront had been selected as the project area, and

questions related to it were therefore included in the agenda. As with the other interview conducted with Hobro Byforum, this agenda is translated from Danish to English and served as a guide rather than a strict structure for the meeting.

Presentation of us and our project

- Who are we?
- Current status
- What is the intended outcome of the project?
- What we would like from them

Discussion based on "Hobro City Centre development plan"

- Have you made any further plans for how the shipyard should develop in the future?

Discussion about traffic at kulturkajen

- Is there a strategy for managing current and future increased traffic along the harbourfront? (Development plan)
- Traffic forecast for future increases?
- Is it possible to close the road along the harbourfront?
- Is it possible to close the harbourfront to traffic on Saturdays?

Transformation of Kulturkajen

- What are your plans for Kulturkajen?
- The building next to the theatre is being demolished—what is planned for that space?

Connection between Kulturkajen and Storetorv

- What is the status of the Realdania project around Storetorv? There is limited information available.
- Will it affect the connection between Storetorv and Kulturkajen?

Industry

- What are the short- and long-term plans for the industrial harbour?

User Involvement

- Experience with user involvement?

Concluding Questions

- Identity or branding in Hobro: What do you think represents Hobro?
- Do you have a 3D file of the city?

Outcome

The primary takeaways from the interview have already been addressed earlier in the report. However, additional topics were discussed during the interview that remain relevant to some extent. These are outlined below:

Interviewee F1: Background in landscape design, with a focus on strategic approaches.
F2: Background in tourism, focusing on enhancing the city's appeal.
M1: Background in strategic development, also emphasizing strategic planning.

Blank canvas The project area is currently undefined. The municipality has been occupied with other projects and has not focused on this area for several years. However, they intend to investigate it when the time is right.

Current focus At present, the municipality's primary focus is the development of the new city campus, which they describe as the future of Hobro. They are also concentrating on revitalizing the shopping district, which has faced challenges due to store closures in recent years.

There is a strong emphasis on improving the connection between the harbour and the city, as well as enhancing overall connectivity across Hobro. The upcoming development of Ny Blåkilde is also being considered in this context.

The municipality acknowledges that it cannot improve and maintain the city alone. It collaborates with stakeholders to work toward a shared vision for the city's development.

Climate adaptation is a key consideration in all new developments and strategic planning. The municipality is particularly focused on addressing future storm surges and sea level rise.

The municipality believes it is feasible to regulate heavy transport and suggests that private vehicle traffic can likely be redirected around Kulturkajen, thereby avoiding direct traffic through the area.

Connections

Common goal

Climate

Traffic

08.4 Focus Group

Invitation

A comprehensive amount of material was produced prior to the focus group. Material included in this appendix are the invitation distributed both online and at Hobro Medborgerhus, the meeting agenda, and AI-generated scenarios.

The invitation was created, reviewed, revised, and ultimately distributed primarily online through various Facebook groups and personal social media platforms, including Facebook and LinkedIn.

Bliv en del af vores fokusgruppe Hjælp os med at designe byens rum!

Hej! Vi er Sidsel og Katrine

Vi studerer Urban Design på Aalborg Universitet og arbejder lige nu på vores kandidatspeciale. Vores projekt handler om, hvordan man kan inddrage borgere i en designproces af et byrum.

Derfor har vi brug for din hjælp!

Vi søger **borgere i Hobro**, der har tid og lyst til at deltage i en lille fokusgruppe. Du behøver ingen særlige forudsætninger, bare lysten til at **dele dine erfaringer og holdninger** til et udvalgt byrum i Hobro midtby.

Det indsamlede materiale fra mødet vil blive brugt i vores specialopgave. Du kan selvfølgelig frabede dig at være med på billeder fra mødet.

Vi sørger for lidt godt til ganen!

Hvis du vil vide mere, inden du tilmelder dig, er du velkommen til at kontakte os helt uforpligtende:

Sidsel: saagaa20@student.aau.dk
Katrine: kballe19@student.aau.dk

Du kan **tilmelde** dig via linket eller scanne QR-koden.

Der vil muligvis være et opfølgende møde i uge 16 eller 17, men det aftales nærmere med deltagerne.

Det ville være fantastisk,
hvis du kan medbringe et
billede af Hobro til mødet.



Det praktiske:

Dato: Torsdag d. 13/3 kl. 19-21
Adresse: Skibsgade 8, 9500 Hobro
Hobro Medborgerhus, lokale 2



Agenda

The agenda reflects weeks of preparation, research, and thoughtful reflection. It represents the project group's own structure and speaking notes, including a presentation of the project group, the education, the exercises planned, the

focus areas, and the open, participatory format of the session. A reminder of the meeting, along with a simplified version of the agenda, was sent to participants in advance.

Project Presentation – 30 min (19:00–19:30)

- Students from Aalborg University
- This is a learning opportunity for us through user involvement: focus group, questionnaire, interview, the municipality, and Hobro Byforum.
- Our project is not limited by legislation or budget.
- Our role as students is to experiment and explore.

Two exercises:

- Talking about pictures: To learn more about Hobro as a whole
- Model workshop: To learn about Kulturkajen

Safe space – we're curious about what you know and think!

Presentation and Discussion of Pictures – 30 min (19:35–20:05)

- An exercise to start the conversation / icebreaker
- One person begins by showing their picture and saying a bit about it. Then others can comment on it.

Model Workshop – 30 min (20:15–20:45)

Model elements:

- A place that appeals to you, e.g., bench, viewpoint, building functions – green
- A place where you see challenges, e.g., traffic, wind, noise, lack of seating – red
- Traffic safety

AI Scenarios

- Your dream scenarios for Kulturkajen, e.g., planting, parking, gathering spaces, activities – post-it notes
- Presentation of our AI-generated scenarios – add green/red stickers
- Review feedback on the scenarios from the questionnaire

Model

During the focus group, participants were asked to place green and red stickers on a model to indicate which areas or functions they believed contributed to or did not contribute to the har-

bourfront. Based on this activity, the model was marked with stickers, and the result is shown below:



Illustration 72 // Model result from focus group

AI scenarios

Prior to the focus group, a questionnaire was distributed featuring four written scenarios outlining potential future developments of the harbour. These scenarios were visualized using AI-generated imagery to support discussion during the session. The aim was to present in-

tentionally exaggerated or idealized versions of possible futures, encouraging participants to reflect critically, react, and share their own visions and preferences.



Illustration 73 // AI generated - 'Life on the water'
Prompt: Floating platforms and swimming zones provide easy access to the fjord, where kayaks, paddleboards, and small sailboats can be used. A floating sauna offers year-round experiences, while steps down to the water create safe swimming opportunities."



Illustration 74 // AI generated - 'Theatre in the Urban Space'
Prompt: Himmerlands Theatre moves into the urban space with performances on plazas and promenades. A mobile stage allows for both intimate shows and larger productions. Interactive performances engage the audience, while buildings and water surfaces are used for projections and light art."



Illustration 75 // AI generated - 'The Active harbour-front'
Prompt: "An activity zone with street basketball, pétanque, parkour, and outdoor fitness equipment brings life to the harbor. In the evening, the area transforms into a glowing playground with interactive installations."



Illustration 76 // 'The Green Oasis' Prompt: At Hobro's harborfront, a green oasis emerges with trees, flower beds, and grassy areas where people can relax. Paths wind through the area, and bench formations create small community zones. Rain gardens and insect-friendly plants support biodiversity, while a small pergola with climbing plants provides shade."

08.5 Model Voxpop

Based on the outcome of the focus group, an unplanned visit to Mariagerfjord Gymnasium was arranged. Due to the spontaneous nature of the visit, the format remained open, and no formal agenda was prepared in advance. The only materials brought were the physical mod-

el, along with red and green stickers and post-it notes for the students to share their thoughts and feedback. The results from the post-it is included below.

| | | | |
|--|--|--|--|
| | | | <p>"It would be great with seating by the water."</p> |
| | <p>"Great with a good meeting place in Hobro for young people."</p> | | <p>"It's in a good location (close to the bus terminal) but lacks some seating areas and places where people can gather."</p> |
| | <p>"Water slide and benches"</p> | | <p>"The round spot – the idea is good, but it's missing some benches or similar elements for it to work as a gathering place."</p> |
| | <p>"Gasmuseet and the Lystfarts-museet may not be very attractive, but could be good places for activities, perhaps for young people."</p> | | <p>"Opportunity to swim/hang out by and in the water."</p> |
| | <p>"Seating inspired by the bathing areas in Aarhus Ø"</p> | | <p>"Outdoor cinema"</p> |

Illustration 77 // Model Vox Pop - post-it

08.6 Questionnaire

The following four pages contain the questionnaire used in this project. It was distributed both digitally, through various Facebook groups, and physically at Medborgerhuset.

The questions aimed to gather insights and preferences from the local community regarding the future development of Kulturkajen.

Gender

☐ Female

☐ Male

☐ Other

Age

☐ Under 18

☐ 18-29

☐ 30-39

☐ 40-49

☐ 50-59

☐ 60-69

☐ 70-79

☐ 80 +

Residing

☐ Lives in Hobro

☐ Lives outside Hobro

Do you have children under the age of 18 living at home?

☐ Yes

☐ No

What rating would you give the seating and recreational facilities at Kulturkajen?



What rating would you give the traffic safety at Kulturkajen?



Why do you go to Kulturkajen?

- | | |
|--|---|
| <input type="checkbox"/> Due to work | <input type="checkbox"/> To go for a walk or enjoy the area |
| <input type="checkbox"/> Visiting a restaurant or café | <input type="checkbox"/> Visiting museums |
| <input type="checkbox"/> Going to the theater | <input type="checkbox"/> Passing through the area on the way to another destination |
| <input type="checkbox"/> Other | |

Which 3 words best describe Kulturkajen today?

- | | |
|--|---|
| <input type="checkbox"/> Authentic/historical | <input type="checkbox"/> Calm atmosphere |
| <input type="checkbox"/> Noisy and disruptive | <input type="checkbox"/> Manageable and easy to navigate |
| <input type="checkbox"/> Fragmented and incoherent | <input type="checkbox"/> Diverse/welcoming |
| <input type="checkbox"/> Vibrant and dynamic | <input type="checkbox"/> Boring and lifeless |
| <input type="checkbox"/> Unique and exceptional | <input type="checkbox"/> Uniform and monotonous |
| <input type="checkbox"/> Room for mess and creativity | <input type="checkbox"/> Intimate and human scale |
| <input type="checkbox"/> Space for play and activities | <input type="checkbox"/> Space for quiet stays and relaxation |
| <input type="checkbox"/> Without hierarchy and purpose | <input type="checkbox"/> Other |

Which 3 qualities should describe Kulturkajen in the future?

- | | |
|--|---|
| <input type="checkbox"/> Authentic/historical | <input type="checkbox"/> Calm atmosphere |
| <input type="checkbox"/> Manageable and easy to navigate | <input type="checkbox"/> Diverse/welcoming |
| <input type="checkbox"/> Vibrant and dynamic | <input type="checkbox"/> Unique and exceptional |
| <input type="checkbox"/> Room for mess and creativity | <input type="checkbox"/> Intimate and human scale |
| <input type="checkbox"/> Space for play and activities | <input type="checkbox"/> Space for quiet stays and relaxation |
| <input type="checkbox"/> Other | |

The following section presents various scenarios for Kulturkajen. These scenarios are deliberately extreme and exaggerated to provide a clear picture of how a harbor area can be utilized in different ways. They are not necessarily realistic in their entirety, but they offer an inspiring insight into how an extreme concept can take shape and bring life to Kulturkajen.

The Green Oasis At Hobro's harborfront, a green oasis emerges with trees, flower beds, and grassy areas where people can relax. Paths wind through the area, and bench formations create small community zones. Rain gardens and insect-friendly plants support biodiversity, while a small pergola with climbing plants provides shade.



Life on the Water Floating platforms and swimming zones provide easy access to the fjord, where kayaks, paddleboards, and small sailboats can be used. A floating sauna offers year-round experiences, while steps down to the water create safe swimming opportunities.



The Active Harborfront - An activity zone with street basketball, pétanque, parkour, and outdoor fitness equipment brings life to the harbor. In the evening, the area transforms into a glowing playground with interactive installations.



Theatre in the Urban Space

Himmerlands Theatre moves into the urban space with performances on plazas and promenades. A mobile stage allows for both intimate shows and larger productions. Interactive performances engage the audience, while buildings and water surfaces are used for projections and light art.



“Do you have any additional comments about how you experience Kulturkajen, or wishes for how it should look in the future?”

The respondents answered the following:

“Kulturkajen is not the area in Hobro most in need of beautification. The town center and Adelgade need it more.”

“More enclosed.”

“Cars away and more greenery.”

“I could see the harbor as having potential for creative value. It could be a place where people can come and be creatively active.”

“Better use of the area so it doesn’t remain deserted, while preserving/developing the existing historic buildings.”

“Lovely place.”

“Involve the tall silo building as an active space — currently for sale for around 6 million.”

“The cobblestones need to go. They’re terrible to drive on, and it’s awful to walk along the quay and hear the noise when cars drive over them.”

“Safe access by the water is important.”

“The trucks need to go from the south side.”

“More seating and more greenery.”

*“Cozy for both residents and tourists.
Suitable for children.”*

08.7 Design Process

Sketches

A selection of sketches produced during the design process is included in this appendix. Although it may not be immediately apparent, several 3D sketches were created in Rhino throughout the process. However, these files were not considered relevant for inclusion here. The recurring themes have guided the selection of sketches presented. These themes are: concept, the wall, and infrastructure.

To explore the possibilities and challenges related to these themes, various design approaches were evaluated, for example using pros and cons analyses for infrastructure.

The following pages present a sample of this process and the considerations that shaped the design development.

Concepts

The Green Harbourfront



20.03.2025



21.03.2025

Connection to Water



20.03.2025



25.03.2025

The Active Harbourfront



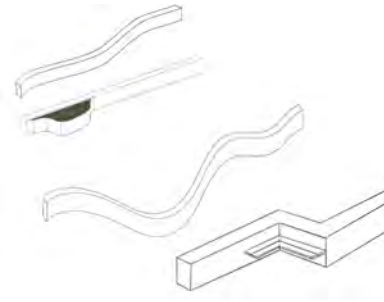
20.03.2025



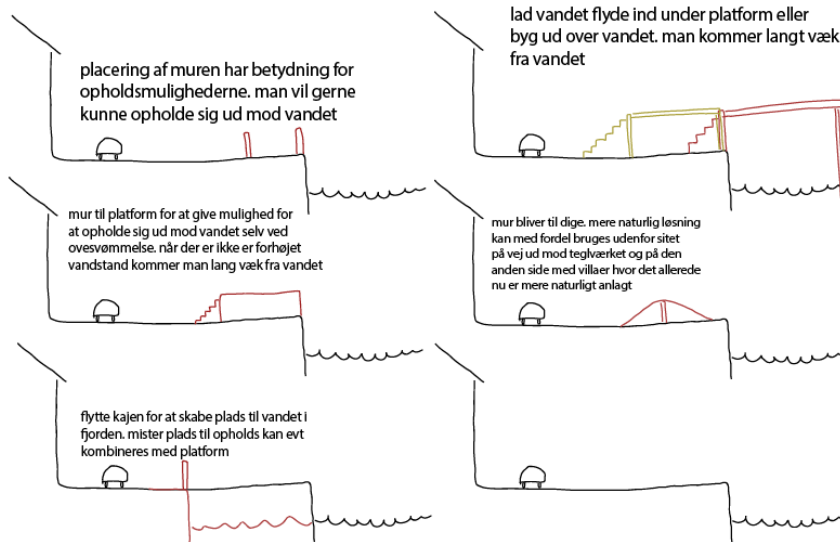
25.03.2025

The wall

02.04.2025

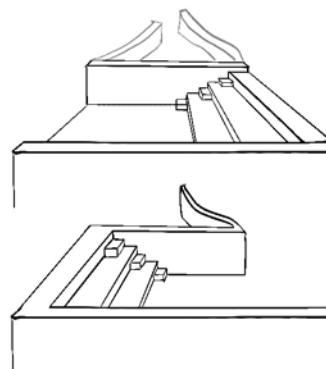


03.04.2025



15.04.2025

23.04.2025



03.04.2025

Infrastructure

06.05.2025



Pros:

- High traffic safety
- Frees up the entire space in front of buildings
- Better connection between buildings and the water

Cons:

- Most difficult traffic flow management

06.05.2025



Pros:

- Better connection between waterfront and buildings
- Frees up space in front of buildings for public use

Cons:

- Traffic still present on the harbor
- Potential disturbance to the theater
- Slower traffic flow

06.05.2025



Pros:

- Traffic from Blåkilde can be managed efficiently

Cons:

- Traffic remains on the quay
- Weaker connection between buildings and the water
- Poor traffic safety

Design Proposal

Reclaiming the Waterfront

Project *Reclaiming the Waterfront: A Participatory Vision for
Hobro's Sustainable Harbour Transformation*

Report 2 of 2 *Design proposal*

Education *Urban design, Aalborg University*

Project module *MSc in engineering, Urban Design*

Periode of project *03.02.2025 - 28.05.2025*

Submission date *28.05.2024*

Sidsel Aagaard

Supervisor *Tina Vestermann Olsen*

Number of pages *52*

Katrine Nygaard Brink

Contents

| | | | |
|---|----|----------------------------------|----|
| 01.0 Prologue | 5 | 03.0 Strategic Development | 21 |
| Reading Guide | 6 | Time Steps | 22 |
| Sustainable Development | 8 | Strategic Development | 25 |
| Dialogue about Development | | Infrastructure and Flow | 27 |
| - User Involvement | 9 | Parking | 29 |
| | | Climate Adaptation | 30 |
| | | The Flood Barrier | 31 |
| | | A Coherent Coastal Protection | |
| | | - Combining Different Approaches | 32 |
| | | Catalogue | 33 |
| 02.0 Background for Development | 11 | | |
| Framework | 12 | | |
| Vision | 13 | | |
| Districts of Interests | 14 | 04.0 Subareas | 35 |
| A Special Place - The Character of the Harbourfront | 15 | Main Approach | 36 |
| Cultural Environment | 16 | Kulturkajen | 37 |
| Maritime | 16 | Shipyard and Marina | 38 |
| Buildings | 17 | The Northern Quay | 39 |
| Landscape | 17 | Design Proposal | 40 |
| Conclusion | 18 | Design Area no. 1 | 42 |
| | | Design Area no. 2 | 44 |
| | | | |
| | | 05.0 Epilogue | 47 |
| | | Concluding Remarks | 48 |
| | | Bibliography | 52 |
| | | Illustration List | 52 |



Illustration 01 // One of the entrances to Kulturkajen

01.0 Prologue

The following chapter will delve into the framework of the design proposal, 'Reclaiming the Waterfront'. It contains a reading guide outlining the structure of the report and description of the topics which has influenced the project.

Reading Guide

This report presents a development plan for Hobro harbourfront. It consists of a strategic plan and a detail design of Kulturkajen. A vision for the entire plan is presented in the beginning to set the scene for the future Harbourfront in Hobro.

This is the outcome of an exploratory investigation, under the name Reclaiming the waterfront: 'A Participatory Vision for Hobro's Sustainable Harbour Transformation'.

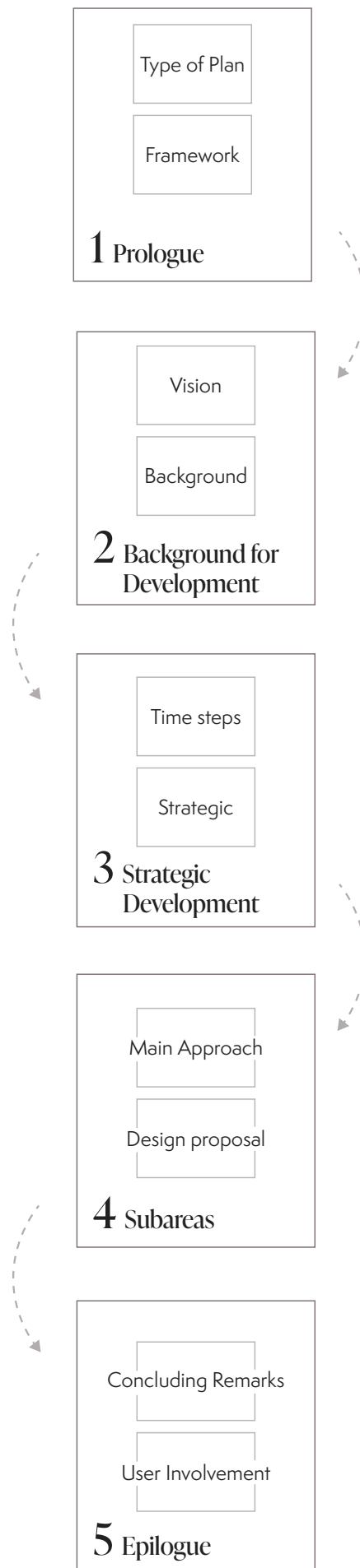
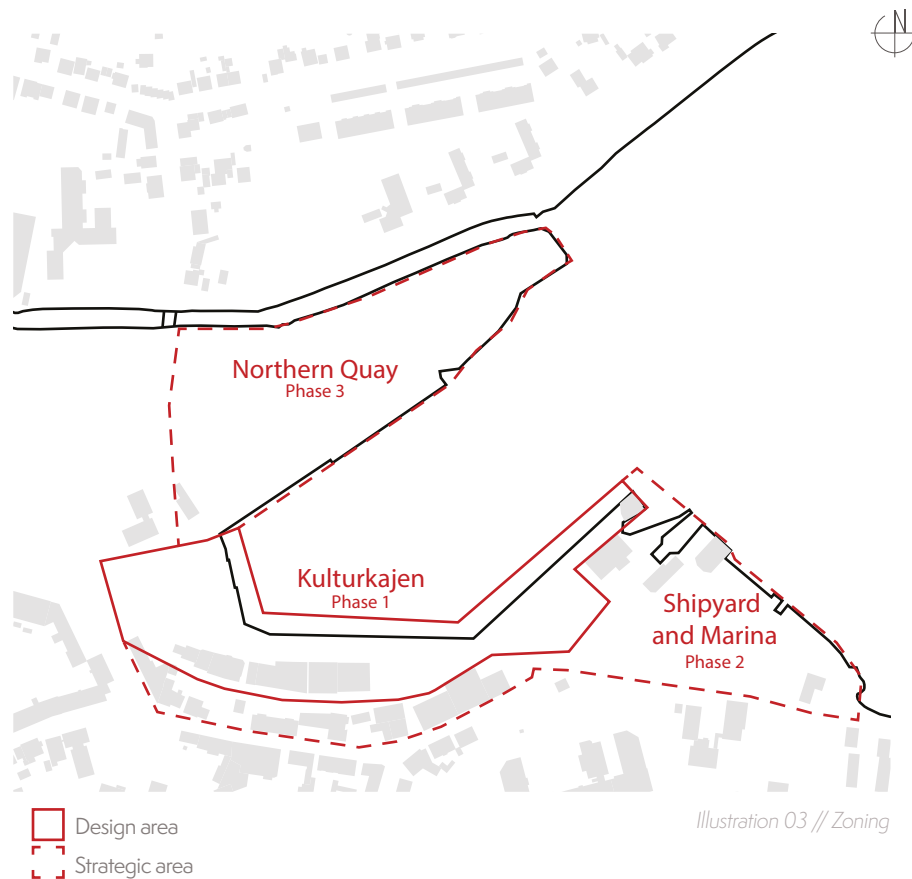


Illustration 02 // Reading guide



Type of plan The strategic plan consists of three areas: Kulturkajen, the Shipyard and Marina, and the Northern Quay. A timeline associated with the strategic plan illustrates how the phases are interconnected and details the components of each phase. It also includes a strategic plan for infrastructure and climate adaptation. The final section presents a catalogue of flood barrier solutions, which can not only be used for this specific project but also serve as inspiration for other projects where climate adaptation is integrated into the design.

The detailed plan of Kulturkajen illustrates the first phase of the overall development project. It presents a masterplan along with sections and isometric views of two selected areas within Kulturkajen.

The final part of the report contains concluding remarks on the design and includes a table of methods for user involvement, which can serve as inspiration for other projects.

The purpose of the plan is to provide a clear framework that can serve as a tool for transparency, public engagement, and understanding of the development.

It is important to note that this plan is not the final result, yet represents a proposal and a set of recommendations, which may evolve as the project progresses. This reflects the nature of long-term planning, which must remain open and flexible to accommodate new conditions and insights that may emerge later in the process (Realdania By & Byg, 2018). At the same time, it is important to emphasize the need to adhere to the overall vision of the project. The final design may differ based on further analysis, stakeholder input, and practical considerations. Therefore, the current plan should be seen as a guiding document rather than a definitive blueprint.

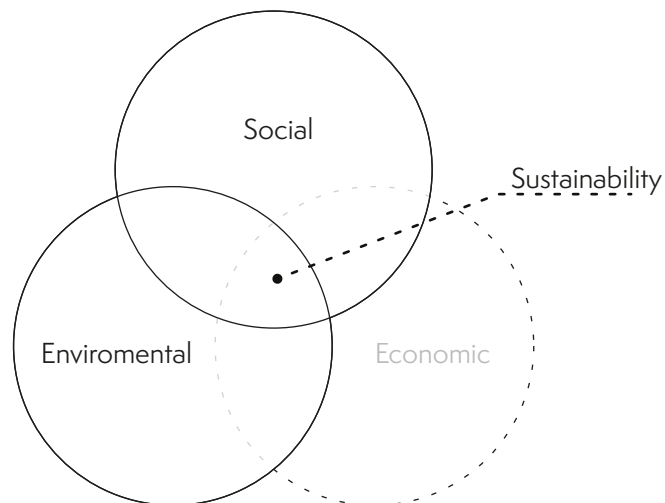


Illustration 04 // Sustainable development

Sustainable Development

A sustainable approach is fundamental to this development plan, rooted in the sustainability principles: environmental, social, and economic (Brundtland, 1987). Sustainability is a crucial aspect of any urban development or transformation. In this project, the focus is primarily on environmental and social sustainability, and how these can contribute to creating a resilient urban space. Acknowledging that the three principles are somewhat inseparable.

Enviro-mental Environmental sustainability involves caring for our planet and using its resources responsibly, ensuring we do not exceed the limits of what is available (Raworth, 2012). At the same time, the design must accommodate climate change, in-

cluding rising sea levels and storm surges.

Social sustainability is about creating room for different user groups, creating spaces where they can thrive (Raworth, 2012). Social sustainability is strengthened by actively involving users throughout the development process, ensuring that their needs and experiences influence the outcome. Social sustainability is not one-size-fits-all; it evolves with time, culture, and climate. **Social**

By embedding sustainability holistically, the project becomes more than a physical space, it becomes a living, responsive environment that supports both people and the environment.



Illustration 05 // Foto from a model voxpop

Dialogue about Development - User Involvement

The development plan is based on multiple analyses and user involvement, which has been a main focus during the process. Multiple methods of user involvement have been used through the process, to gain a broad range of insights and understandings of Hobro and the harbourfront. User involvement evolved throughout the process. In the beginning being it took form as an open dialogue with users who were approach on the streets to gather insights about Hobro for further investigations and analyses.

Later, user involvement became more specific, focusing on the harbourfront as the selected project area for the development plan. Methods at this stage included a questionnaire and a meeting with a small focus group.

At the beginning of the project, two interviews were conducted: one with Mariagerfjord Municipality and another with Hobro Byforum, which was helpful in creating a framework for the project.



Illustration 06 // Industrial harbour

02.0 Background for Development

This chapter introduces the key challenges that have shaped the need for intervention, alongside a vision for the future of the waterfront followed by a reading of the existing environment and its qualities. This is followed by a reading related to the insight gained from user involvement and analyses. The chapter concludes with an overarching development recommendation that connects the broader strategic area.

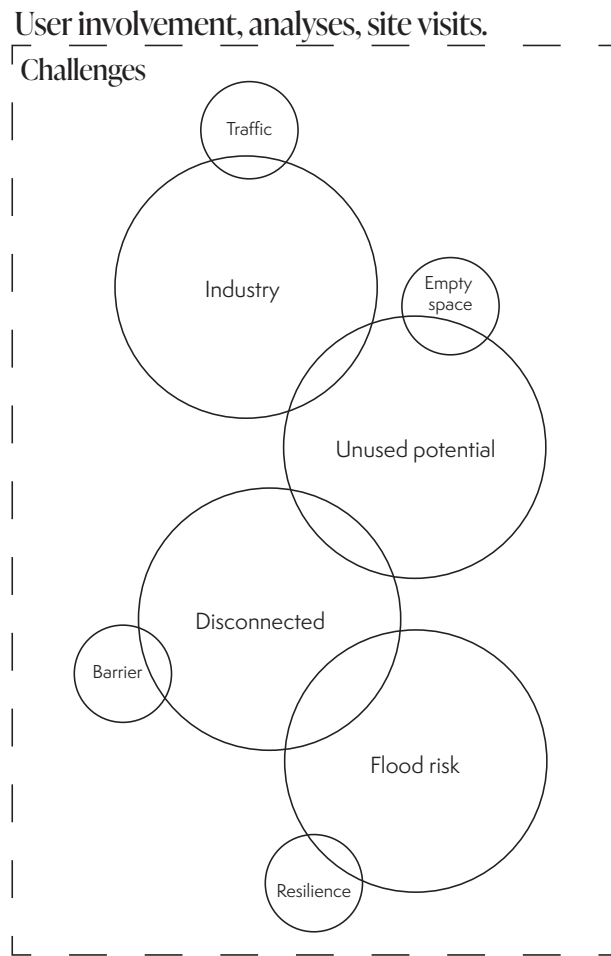


Illustration 07 // Framework and problem

Framework

The framework of the project is not only based on analyses and site visits; user involvement is also a significant part of it. One reason this aspect is so important is that the Danish Planning Act states that the public must be involved to the greatest extent possible during a planning process (Planloven, 2024).

These approaches work together to create a development plan for Hobro harbourfront, where the challenges of the area are taken into account.

Vision

The harbourfront in Hobro will become a defining feature of the city's recreational and cultural identity, offering a dynamic and inclusive space for residents and visitors alike. The area will be thoughtfully designed to support a wide variety of uses, encouraging both everyday leisure and special events.

Kulturkajen Kulturkajen will serve as a cultural hub for museums, theatre, and the area's rich historical heritage. The urban space will create a link between the dynamic city and the historic shipyard.

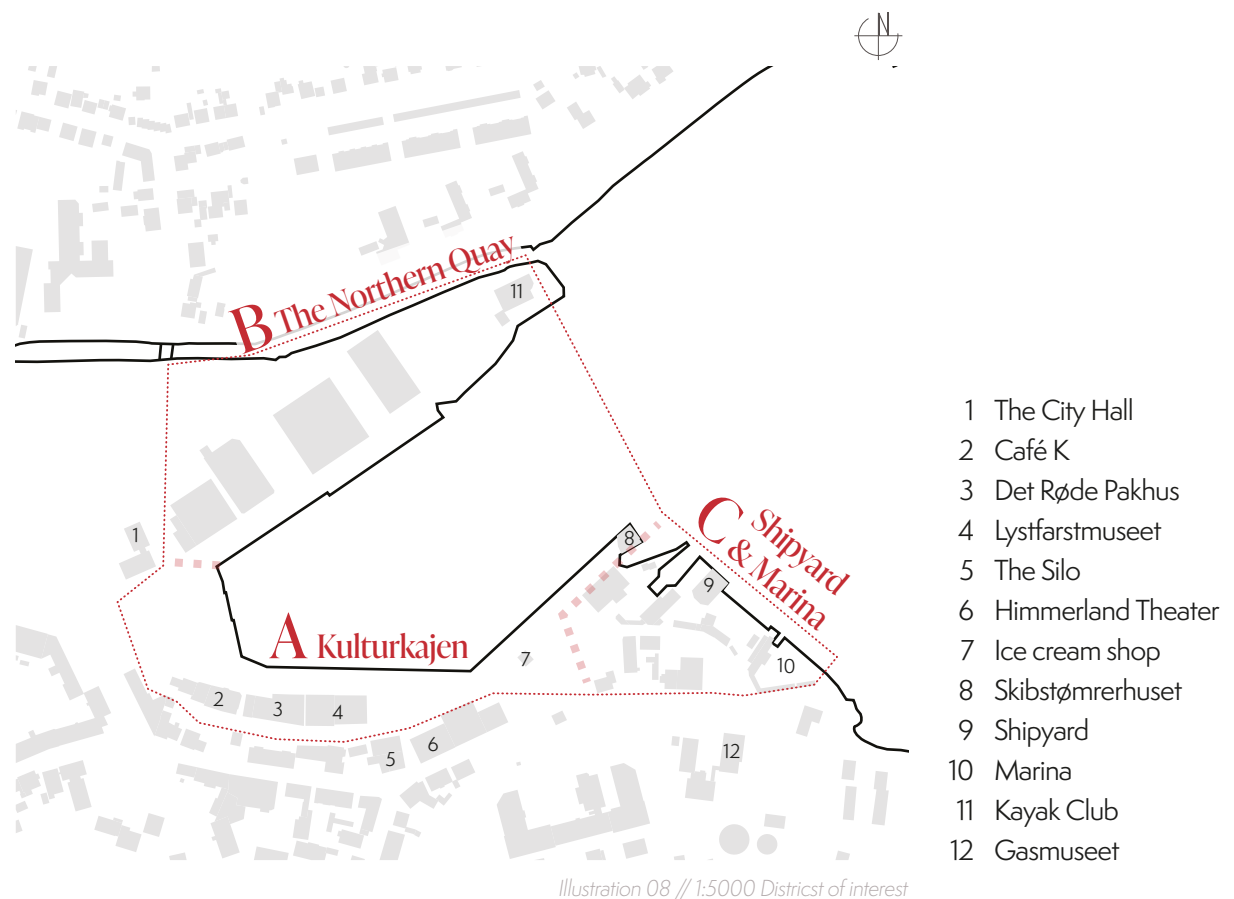
The Northern Quay will be transformed into a park along the waterfront, offering green open spaces for relaxation, play, and community gatherings. With its landscape, it will provide opportunities for quiet reflection and natural beauty.

By complementing each other, these two distinct areas will create an engaging environment that caters to a variety of activities and user needs. Providing ideal conditions for blooming tourism, social life and cultural space.

To fully realise this vision, measures must be taken to protect the area from storm surges. The redevelopment will unfold gradually over several years, evolving as industrial activities move and the spaces will be transformed.

Through user involvement at various stages, the area will be shaped in close collaboration with users, citizens and local stakeholders. Early engagement will aim to uncover existing values and challenges, while later phases will explore potential solutions through continued cooperation. In the final stages, the outcomes will be evaluated and adjusted to guide future phases of the urban development. **Users**

A cohesive development will transform the harbourfront into a dynamic recreational urban space that strengthens the connection between the harbourfront and its adjacent areas. The development will both celebrate Hobro's rich cultural heritage and actively involves its citizens and stakeholders in shaping its future.



Districts of Interests

Within the strategic area, three distinct districts shape the existing harbourfront. These contribute to the area with different possibilities and challenges, which needs to be taken into account when transforming the harbourfront. Therefore, an evaluation of each district's contribution has been carried out, influencing the

design proposal. Kulturkajen will be largely preserved, the Shipyard and Marina will be improved, and the Northern Quay, which today serves as an industrial area, will be redeveloped into a solution that enhances the overall value of the area.

A



B



C

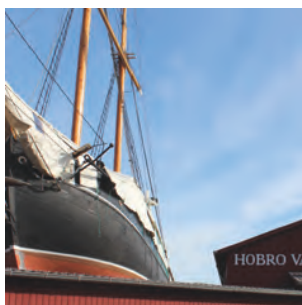


Illustration 09 // Collage of site photos

A Special Place - The Character of the Harbourfront

To understand the characteristics of the harbourfront, four photos have been selected to portray the essence of the distinctive areas.

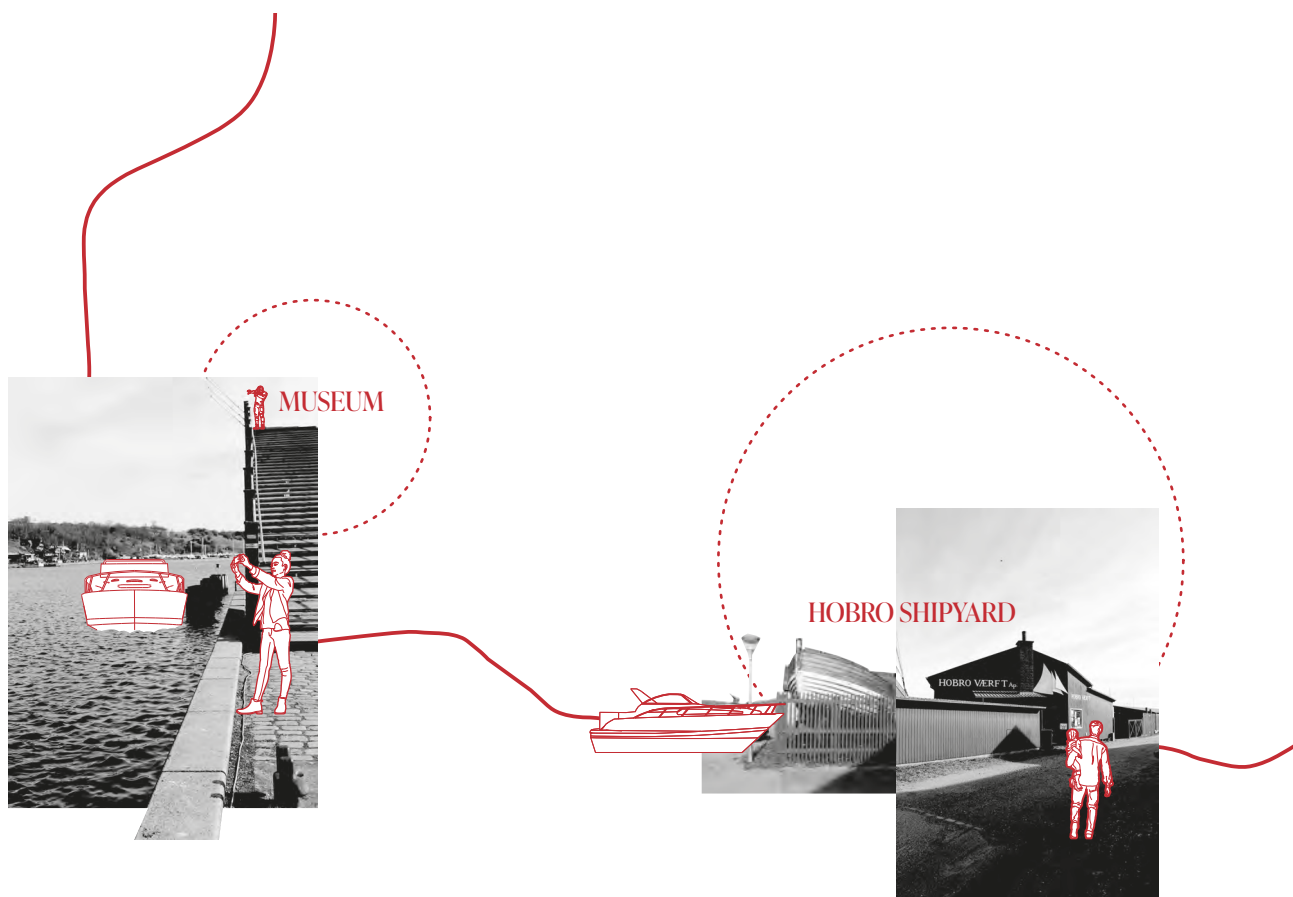
Kulturkajen Kulturkajen, is easily identified by its colourful, historic buildings that faces the water. These buildings host seasonal events, museums, and café's, all contributing to a lively harbourfront during the summer months.

The Norther Quay is an industrial zone and therefore a restricted area. Not only is the land inaccessible, but the presence of cargo ships also limits activities in the water.

The Northern Quay

The Shipyard is still working and repairs wooden ships, and it is possible for visitors to see the work by taking a walk inside the area.

The Shipyard and Marina



Cultural Environment

The cultural environment at the harbourfront is rooted in Hobro's historical heritage. Historically, the harbour played a central role in shaping the town's identity, with dominant harbour functions influencing both the physical landscape and the historical buildings. This connection to the water has fostered a strong sense of identity.

Today, Hobro continues to evolve, not only shaped by its industrial past but also by the way people interact with the waterfront. The access to the water and the harbour's location attracts both citizens and visitors, during the summer months. These seasonal gatherings reinforce the harbourfront as a cultural environment.

Maritime

Hobro's maritime identity is expressed through its active shipyard, where traditional craftsmanship is kept alive among one of the last places in Denmark. This working harbour is not only a place of existing and former industry but also a reminder of the town's close connection to the former shipyard trade.

Historical elements, such as the iconic buildings, old docks, and maritime reminders, are integrated into the harbourfront near the Shipyard and Marina. These highlight the importance of the water in shaping its character.

The close connection to the fjord remains central to daily life and the maritime identity creates a strong sense of identity and community among citizens.



Illustration 10 // Reading of the site

Buildings

Parallel to the harbourfront is historical buildings that reflect Hobro's architectural and maritime heritage. Once central to the town's industrial identity, the buildings now serve as cultural landmarks and are utilized for other purposes, among them event spaces, museums and a café.

During the winter many of the buildings lay quiet, but during summer months, many of the buildings are activated by planned events. They host exhibitions, local artists markets, and community events that attract both citizens and visitors.

Landscape

Hobro's urban landscape is shaped by its natural surroundings, with the city developing and centred around the harbour. Nestled between small hills and the fjord, the town gives the impression of a valley, where the water becomes the central focal point.

This topography not only defines the city's physical structure but also enhances the experience of the harbourfront. The sloping terrain offers beautiful views and a sense of enclosure, creating a calm and intimate atmosphere drawing people towards the water.

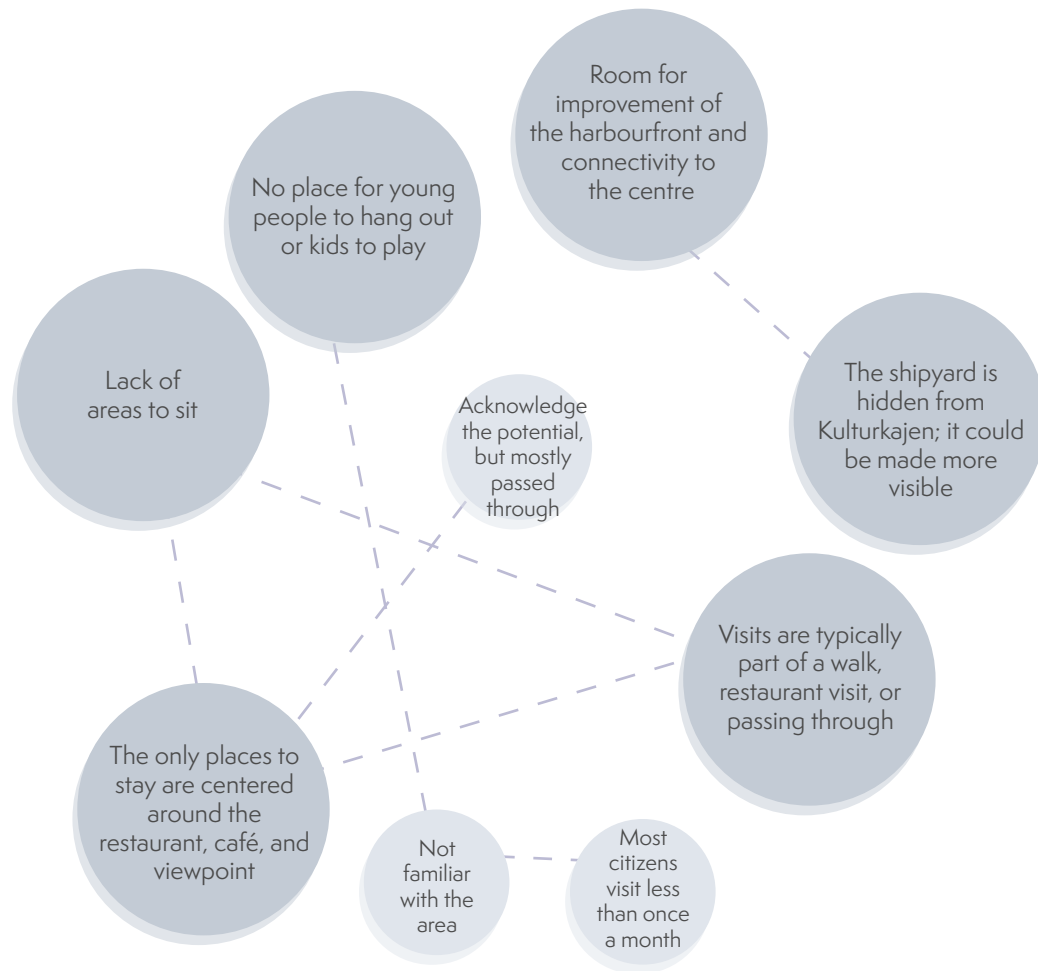


Illustration 11 // User insights

Conclusion

This is a synthesis of insights gained from user involvement during the design process of the development plan.

User insights In general, the harbourfront would benefit from having more places to sit and stay. In particular, it lacks spaces designed for young people and children. Existing gathering spots are mainly concentrated around the café, ice cream shop, and the viewpoint at Skibstømrerhuset. As a result, people often visit the harbourfront to go to the cafe, take a walk, or simply pass through.

The harbourfront aims be transformed into a lively area where pedestrians are highly prioritized, creating more space for seating and events in the urban environment. Improving connectivity between the harbour areas and the city centre can further support this transformation.

Collectec conclusion

Based on these insights, the following strategic-level recommendations have been formulated to guide the overall development of the harbourfront. These will later inform more specific guidelines for each subarea as the process continues.

Recommendation

Recommendations

Based on these insights, the following strategic-level recommendations have been formulated to guide the overall development of the harbourfront. These will later inform more specific guidelines for each subarea as the process continues.

The recommendations are incorporated throughout the development plan to highlight the most relevant aspects for each area of development.

01.0 Climate Solutions

- 01.1 Implementation of climate related solutions to create a resilient harbourfront.

04.0 Recreational

- 04.1 Implementing of different recreational spots for different purposes.

02.0 Cultural Heritage

- 02.1 The maritime culture should be preserved to the greatest extent possible.
- 02.2 New buildings and structures must respect the cultural maritime heritage.

05.0 Infrastructure

- 05.1 Prioritizing pedestrians within the area by reconstructing the infrastructure.

03.0 Connections

- 03.1 The harbourfront must be connected to the city centre and the adjacent residential areas.
- 03.2 Create a strong connection to the water.
- 03.3 Subareas must be connected to each other.

06.0 Industry

- 06.1 The industry at the Norther Quay and Vindø Brickwork will have to close



Illustration 12 // Bench on Kulturkajen

03.0 Strategic Development

This chapter presents the proposed development strategy, structured around a phased timeline that guides the transformation of the waterfront and contributes with recommendations for user involvement through the phases. It outlines strategic recommendations for each sub-area within the development area. Additionally, it introduces key planning tools designed to create a cohesive and accessible harbour-front, while addressing the critical need for coastal protection and climate resilience.

Time Steps

Due to the size of the area, implementing a phased timeline for intervention is essential. Therefore, the development plan is divided into three phases. Phase 1 is more detailed, while the later phases remain flexible, as they may evolve with new insights that emerge during the project.

The future closure of the industrial area at the Northern Quay and Vindø Brickworks opens opportunities for development. This includes enhancing activities in the harbour waters, previously occupied by industrial ships, and repurposing the former roads along Kulturkajen and Søndre Kajgade.

The basis for the phasing plan is continuously evolving, making it important to create a plan that can adapt to future changes, an inevitable aspect of any long-term development. The timeline shows the different phases along with recommendations for user involvement throughout the entire process.

For the sake of readability, the phases in the illustration are shown as distinct stages. However, this does not necessarily mean that Phase 1 must be fully completed before Phase 2 begins. Development in areas that lie adjacent to the next or previous phase may overlap and be integrated into either phase as needed.

Overall user-involvement It is recommended to assemble a working group composed of relevant stakeholders and users in the city. This should include a mix of landowners, shop owners, and representatives from community councils who work together with planners from the municipal employees. The working group should meet several times throughout the project to discuss progress and provide relevant feedback.

Development phase 1 Phase 1 begins with the transformation of Area A, the first area encountered when approaching from the city centre. This area is crucial, as its

redevelopment will strengthen the connection between the city centre and the new campus. For this reason, it serves as the opening initiative for the entire harbourfront transformation. Following this, coastal defence measures will be integrated throughout Kulturkajen. This includes the construction of a flood barrier that will act as a barrier against storm surges. The flood barrier will define three distinct zones: the arrival area, the cultural zone, and the dike area. To achieve this, it will be necessary to rearrange the road network. This reconfiguration will take place simultaneously with the development of the cultural zone.

Phase 2 focuses on the development of the Shipyard and Marina. Coastal protection measures will be implemented in parallel with the transformation of this area. A new parking area will be established to compensate for the removal of parking spaces at Kulturkajen, which will be converted into public urban spaces for recreational use.

Phase 3 focuses on the development of the Northern Quay. The kayak club will be relocated to new facilities closer to the new campus and arrival area. Simultaneously, the new recreational space, Nordre Kajpark, will be established. Coastal defences will be extended to form a secure boundary between the new park and a smaller residential area, which will be developed in connection with the campus.

In response to the increasing threat of storm floods, it is essential to extend coastal protection measures beyond the project area in focus. Given the complexity and scale of the task, it is strongly recommended to develop a coordinated strategy in collaboration with the affected districts to ensure effective and sustainable solutions.

Development phase 1

Kulturkajen

In the beginning of phase 1, citizen will be invited to a public meeting where the development plan will be presented, and they will have the opportunity to ask questions.

A. The Arrival

1. Wall phase > 2. Wall phase > 3. Wall phase

Invitation to an open house after the implementation of the 1. Wall phase, to gain insight into the use of the wall and the urban spaces it creates. These insights can be used to adjust the design of the wall in the next phases to better accommodate the needs of the users.

New infrastructure

B. Cultural zone

The theatre can be granted permission to use the area temporarily. E.g. setting up a temporary stage. Its impact of the urban space will be evaluated regularly to determine whether a permanent structure should be implemented.

C. The Dike



Prerequisites

Closing of Vindø Brickwork
Inauguration of Campus

Development phase 2

Shipyard and Marina

The overall development plan for the Shipyard must be made in collaboration with the owner of the shipyard. Continuous meetings between the various partners should be held regularly to ensure a shared understanding of the area and its transformation.

Citizens can advantageously also be included in the process. This could involve a questionnaire or an open house at the Shipyard, to gain insight into how citizens perceive the Shipyard - what they appreciate and what they would like to see improved.

D. Parking

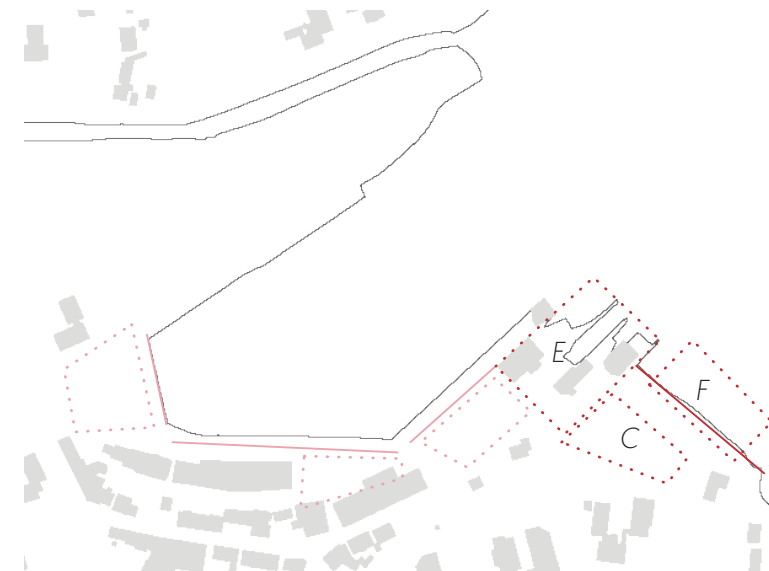
4. Wall phase

Important to use the insight gained from former user involvement regarding the wall that has already been implemented.

E. Shipyard

F. Marina

The development of the Marina must happen in collaboration with the users of the area. They have valuable knowledge about how the area is currently used and what a marina needs in order to function effectively.



Development phase 3

The Northern Quay

The Northern Quay must be planned in collaboration with interested citizens, especially young people who will have their daily lives at the campus. To ensure their engagement in the project, a voxpop or open house event at the campus can raise awareness of the project among young people.

If the open house is chosen, citizens of Hobro can be invited as well. However, it is also possible to engage them through a different event to ensure that the focus remains on the youth for this event.

The chosen method can be based on how well youth are typically represented in other urban planning events in Hobro.

5. Wall phase

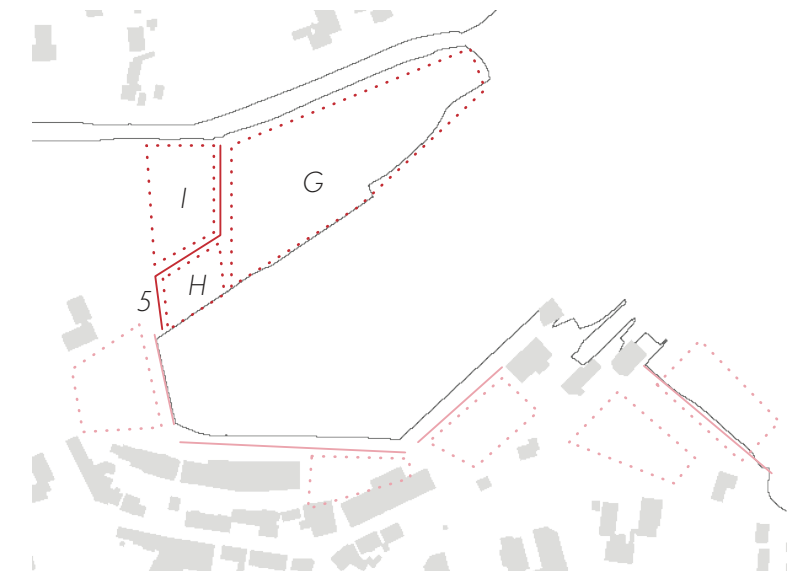
Important to use the insight gained from former user involvement regarding the wall that has already been implemented.

G. Kayak Club

Members or owners of the kayak club must be collaborative partners in the establishment of the new clubhouse. They can provide valuable insight into needed facilities to ensure the new clubhouse meets the requirements of the club.

H. Recreational park

I. Residential area



Prerequisites

Closing of the industry at the Northern Quay

- Buildings worthy of preservation
- Buildings marked for demolition

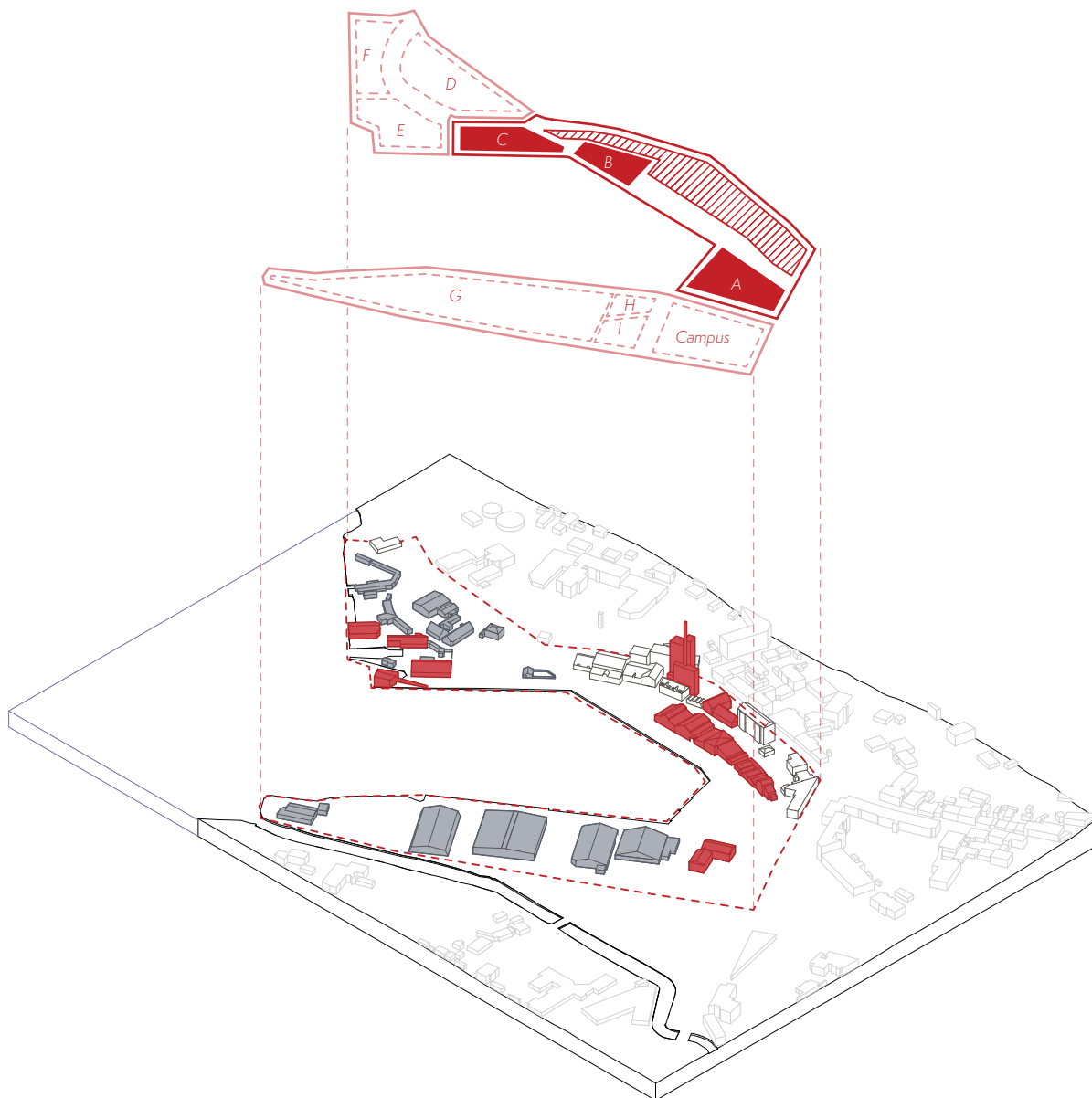


Illustration 14 // Buildings worthy of preservation

Strategic Development

The isometric view represents the harbourfront as it exists today. The illustration identifies buildings worthy of preservation and those designated for demolition. Each area within the strategic development zone has been assigned a design guideline to highlight its primary role in the overall plan. Together, these areas will form

a harbourfront with diverse possibilities, accommodating various user groups and contributing to a vibrant urban environment. All areas must be developed in relation to one another and the surrounding city to ensure a cohesive and well-integrated harbourfront.

Design Guidelines

- A** Inviting space creating a connection between the harbour, campus and the city centre.
- B** Retain an open area for gatherings and room for different markets.
- C** A recreational space to make a connection to the park, where the connection to water is important.
- D** Parking space in relation to the Shipyard, Marina and Gasmuseet.
- E** Transformed with respect for the maritime heritage, where visual connections are enhanced.
- F** Retain the Marina and strengthen its connection to the rest of the harbour.
- G** A park by the harbourfront serves as a recreational space while creating a connection between the city centre and the residential area to the north of the site.
- H** New area for the kayak club, serving as a hub between the park, campus and the arrival area.
- I** A residential area, that creates a transition between the campus and the park.
- Campus** Create connections to the harbour park and the arrival area is important to ensure that it becomes an integrated part of the redeveloped harbourfront.



- ➔ Pedestrian flow
- ➔ Two-way road
- ⋯➔ One-way road
- ⋯ Shared space

Illustration 15 // 1:5000 Future infrastructure

Infrastructure and Flow

In the existing context of the harbourfront, infrastructure plays a significant role. It supports heavy traffic during the daytime, particularly serving Vindø Brickwork east of the project site, while residential traffic and other errands are distributed throughout the week.

A closure of Vindø Brickwork will provide an opportunity to transform the current infrastructure that passes through the harbourfront. This transformation will result in Søndre Kajgade being converted from a two-way street to a one-way street. Together with Pakhusstræde this road will serve the cultural opportunities in the area. Only residents and people with errands in the buildings, will have permission to use the road. A small secondary road will connect Pakhusstræde to the main road, Brogade.

The part of Skibsgade which runs by the Shipyard and Marina will be a shared space, where car traffic will be restricted to those with errands at the Shipyard or Marina.

In the future, visitors will access the harbourfront and its amenities through Grøndalsvej, while the residents of Ny Blåkilde will primarily use Skovvej and Blåkildevej for access. To effectively manage traffic on these roads, the intersection of Skovvej and Brogade will need to be regulated with traffic light. Additionally, the width of Blåkildevej must be extended to accommodate the expected traffic volume.

Recommendations

- | | |
|------|---|
| 03.1 | The harbourfront must be connected to the city centre and the residential area north of the area. |
| 05.1 | Prioritizing pedestrians within the area by reconstructing the infrastructure. |



Parking

In the current harbourfront context, parking occupies a significant portion of valuable urban space along the waterfront.

As part of the harbourfront transformation, existing parking has been reconsidered. While the approximate number of parking spaces will be maintained, they will be reorganized and relocated closer to the Shipyard and Marina and Gasmuseet. This new arrangement will serve both visitors and the active Shipyard and Marina, creating a centralized parking hub that ensures convenient access to the surrounding area.

Additionally, a new parking area in relation to the new campus be able to accommodate visitors to the harbourfront in the hours where the campus is closed. The exact placement of the parking in relation to campus is not known but it is assumed to be located within the boundaries of the campus area.

Recommendation

- 05.1 Prioritizing pedestrians within the area by reconstructing the infrastructure.

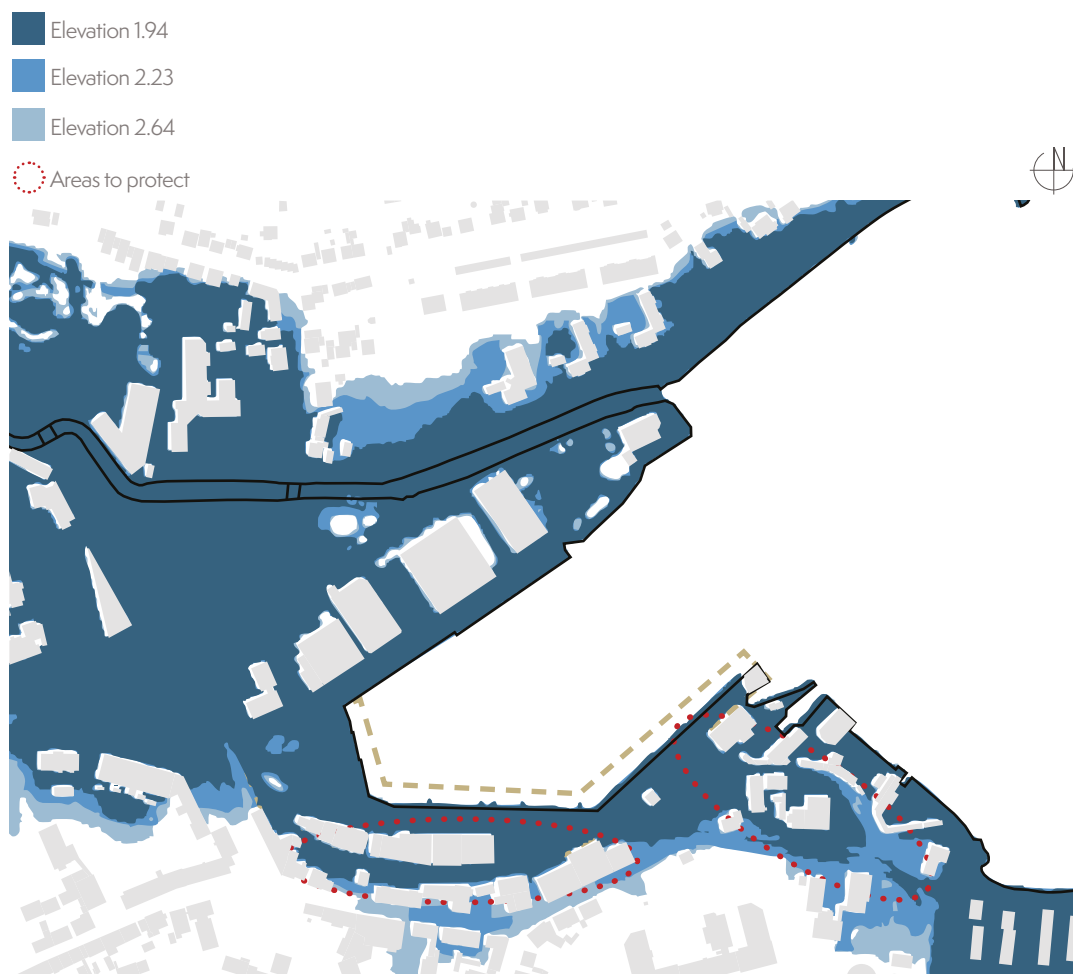


Illustration 17 // 1:5000 Future storm floods, 100 year event

Climate Adaptation

The development of the harbourfront needs to take environmental sustainability into account in order to create a resilient urban space.

This design proposal of Hobro harbourfront aims to enhance the area's resilience and is based on the scenario SSP3-7,0 towards the year 2100. Designated areas will be protected against flooding, while other areas will be devel-

oped to accommodate flooding (see illustration 17).

Recommendation

- | | |
|------|---|
| 01.1 | Implementation of climate related solutions to create a resilient harbourfront. |
|------|---|

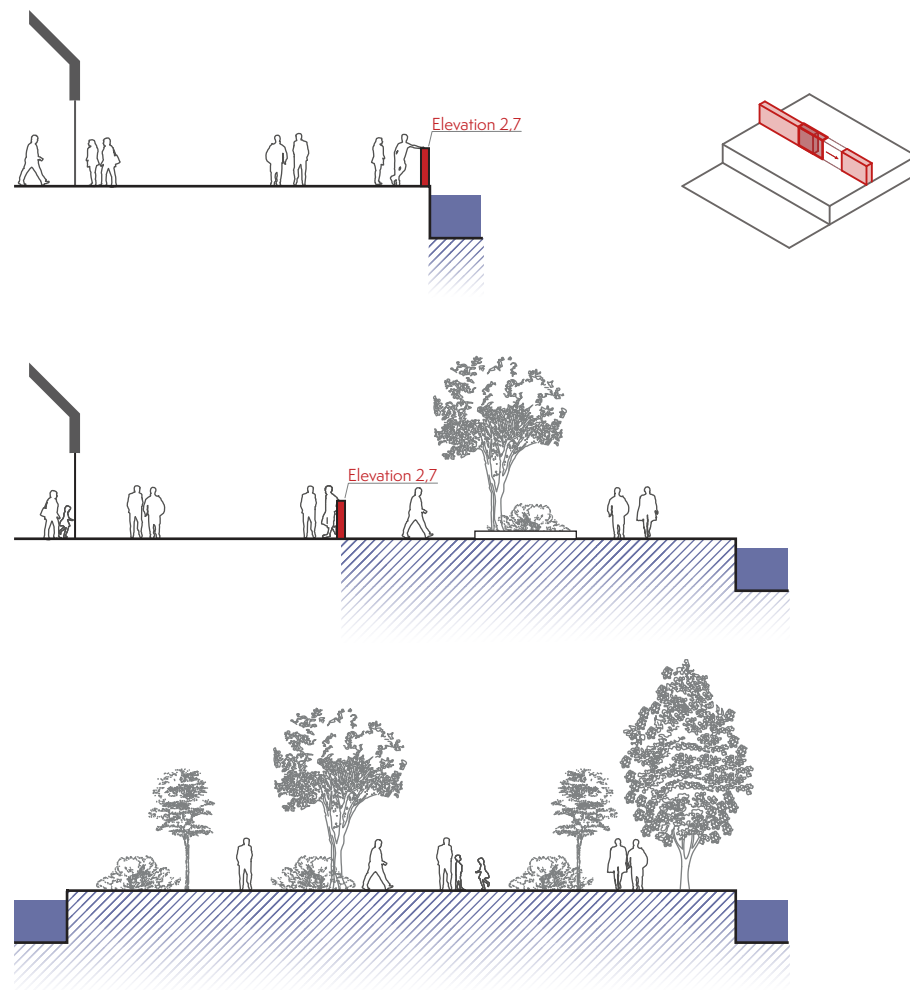


Illustration 18 // Protect and adapt

The Flood Barrier

The main approach to accommodate climate changes will be an implementation of a dynamic flood barrier, which will protect the selected areas.

The project aims to create a flood barrier with multi functions, as it should not only be a barrier for protecting but also offer different opportunities for recreation, shaping urban spaces and support a broad range of users.

The idea takes inspiration from a project at Lemvig harbourfront, where a wall protects the harbourfront (Realdania, n.d.).

When a flooding event occurs, gates will close the access openings in the flood barrier to keep the water out and thereby protect the area.

Recommendations

- 01.1 Implementation of climate related solutions to create a resilient harbourfront.
- 04.1 Implementing of different recreational spots for different purposes.

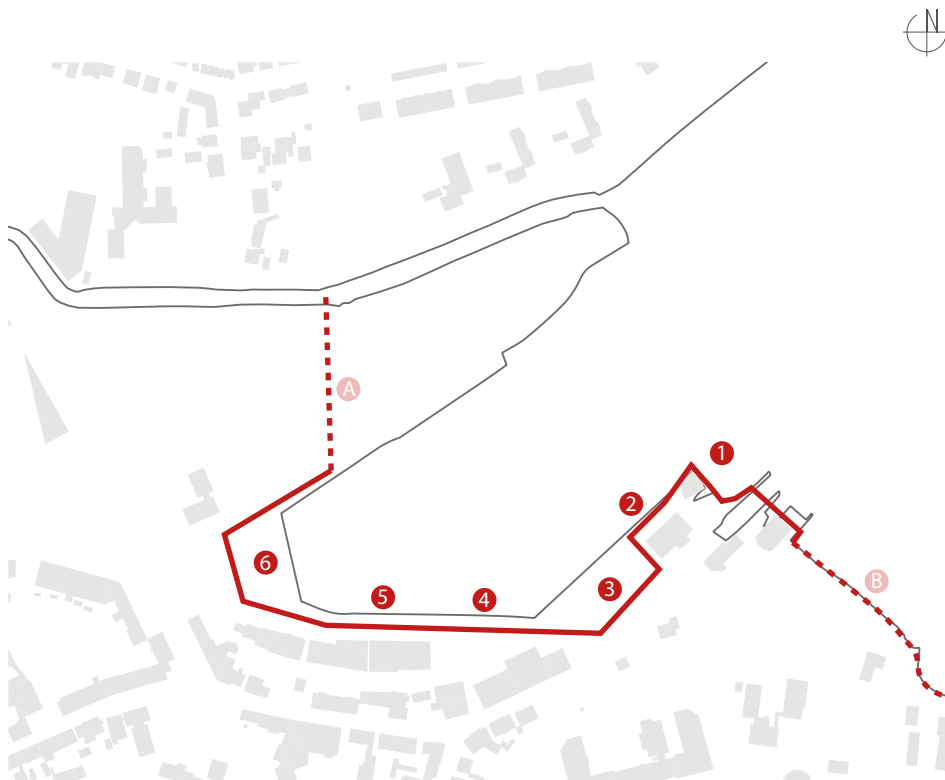


Illustration 19 // 1:5000 Placement of wall

A Coherent Coastal Protection - Combining Different Approaches

The flood barrier enhances a cohesive harbourfront by serving as a continuous element throughout the entire area. While its function and appearance may vary, it maintains as a unified element. At first glance, the idea of a flood barrier contributing to cohesive harbourfront might seem contradictory, as barriers typically divides rather than connecting.

However, in this design the barrier occasionally crosses through areas not to divide them, but to create smaller spaces within the harbourfront. These spaces cater to different users with diverse preferences.

The placement of the wall is carefully considered to avoid becoming a barrier that disrupts movement and connectivity between areas. By

integrating seating, flower beds or even concealing parts of the barrier within a dike, it becomes an integrated part of the design. The barrier does not only serve as flood protection, it also contributes to the overall experience of the harbourfront, supporting both resilience and public use.

Recommendations

- | | |
|------|---|
| 01.1 | Implementation of climate related solutions to create a resilient harbourfront. |
| 03.3 | Subareas must be connected to each other. |
| 04.1 | Implementing of different recreational spots for different purposes. |

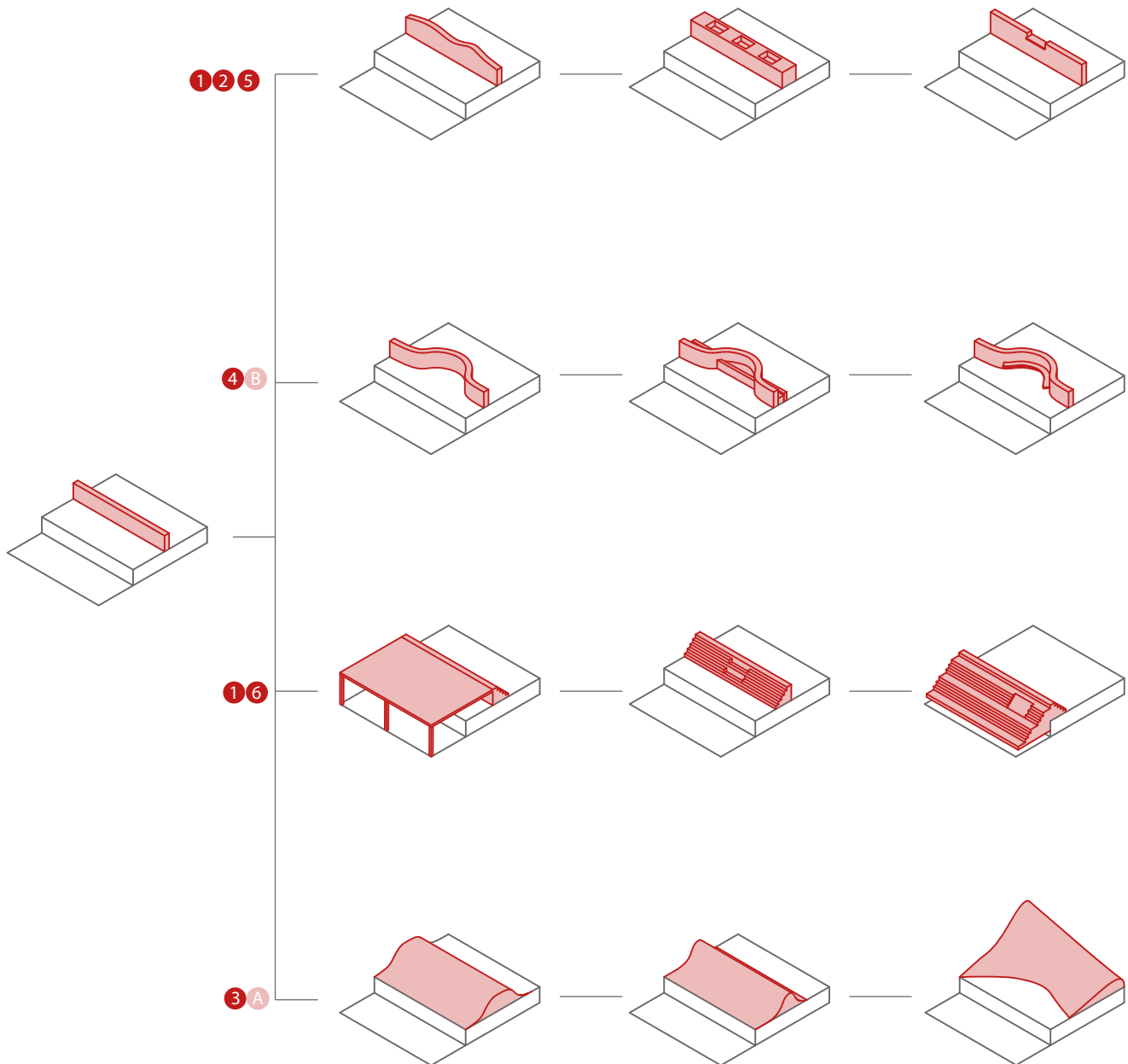


Illustration 20 // Wall catalogue

Catalogue

The catalogue presents multiple variations of how the flood barrier can be formed in this project through different areas (see illustration 20). The illustration must be understood together with illustration 19.

The catalogue can also serve as an inspiration for similar projects, where coastal protection is a topic for the development.



Illustration 21 // Parking

04.0 Subareas

This chapter begins with a representation of the strategic development of three subareas: Kulturkajen, Shipyard and Marina, and the Northern Quay. This is followed by a detailed plan of Kulturkajen, with is phase 1 of the development plan for Hobro harbourfront. The design proposal for Kulturkajen is presented through a masterplan and illustrations of selected areas to illustrate how the urban life is created.

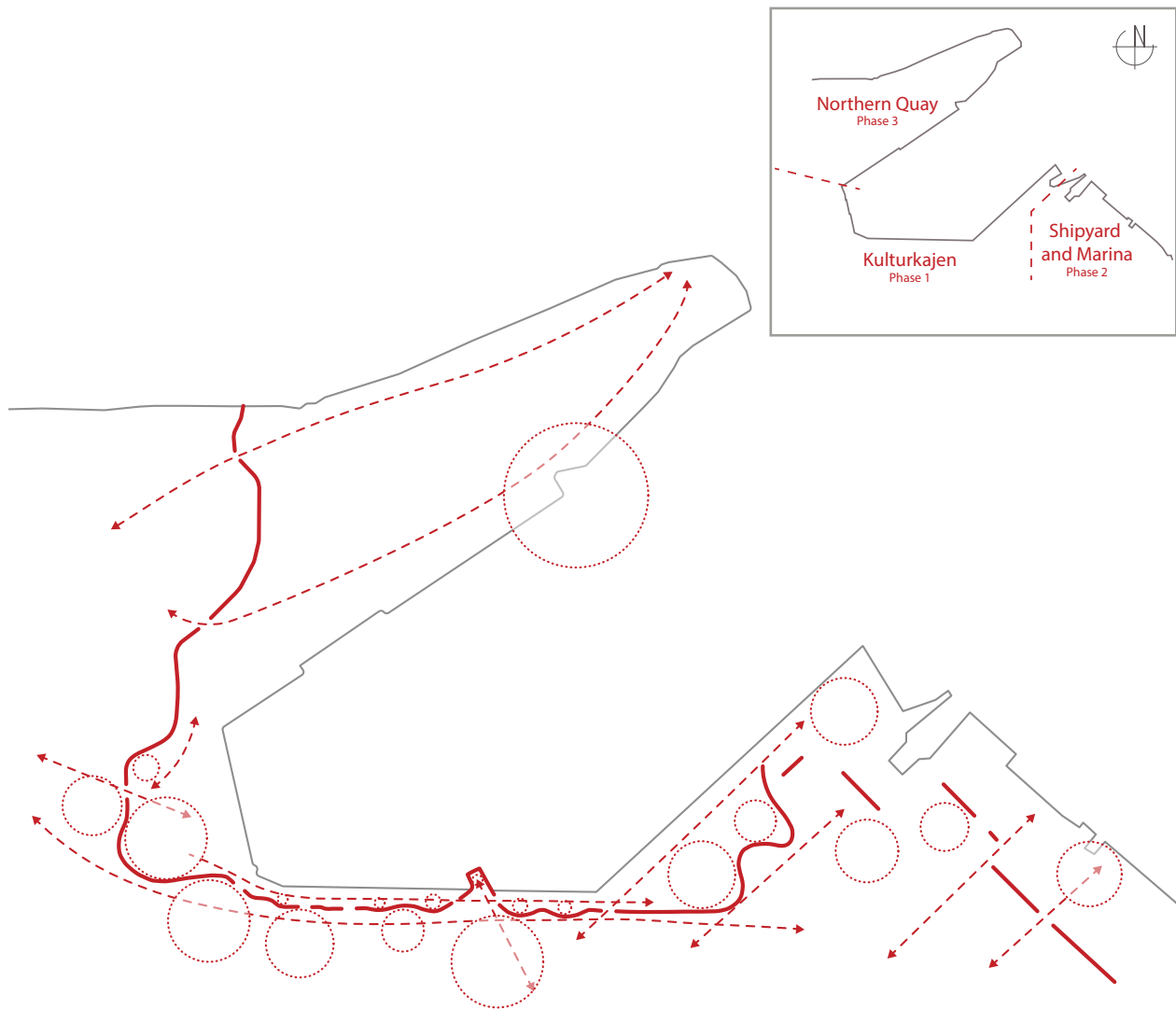


Illustration 22 // 1:5000 The subareas of the strategic development plan

Main Approach

The development plan is divided into three areas: Kulturkajen, Shipyard and Marina and the Northern Quay. The development of these areas will together create a coherent harbourfront, working with principles related to resilience, flow, infrastructure, urban spaces and new structures of buildings.

To contribute to a resilient harbourfront a flood barrier is implemented. This does as well contribute to a coherent harbourfront, as it will be an element which physically connects the different

areas at the harbourfront to each other.

The placement of the flood barrier is influenced by urban spaces, flow throughout the area and buildings which need to be protected against flooding during a storm surge. These factors and the placement of the barrier work together in a synergy, where they mutually influence each other. Openings in the barrier secure connections between the urban spaces, buildings and water.

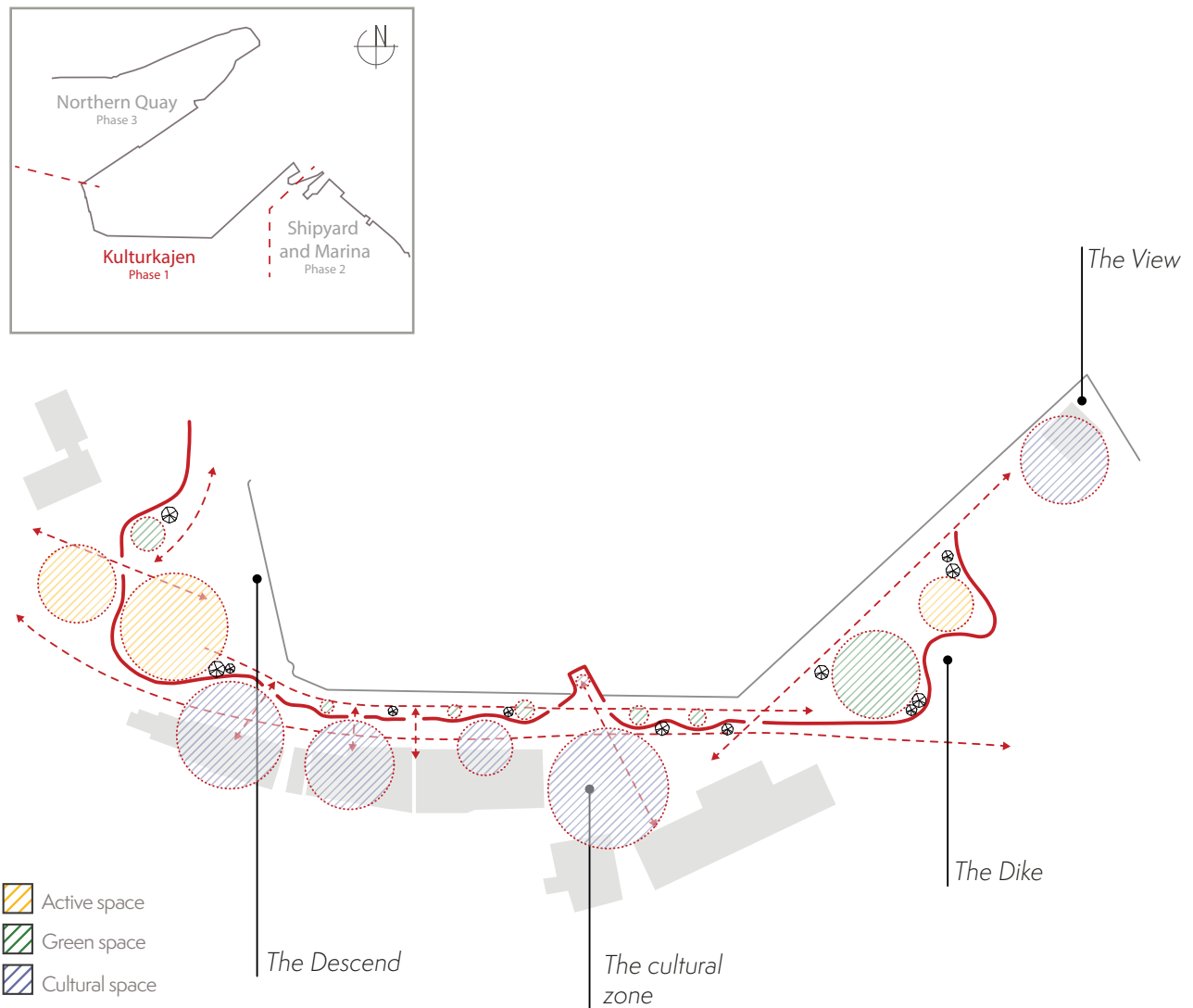


Illustration 23 // Kulturkajen

Kulturkajen

The development of Kulturkajen is about creating a connection between the city centre and the new residential area, Ny Blåkilde, while enhancing the connection between the buildings and the waterfront.

Multiple recreational spaces contribute to a lively urban space for a range of user. The design proposal of Kulturkajen will be presented later in this chapter.

Recommendations

- 03.1 The harbourfront must be connected to the city centre and the adjacent residential areas.
- 03.2 Create a strong connection to the water.
- 04.1 Implementing of different recreational spots for different purposes.

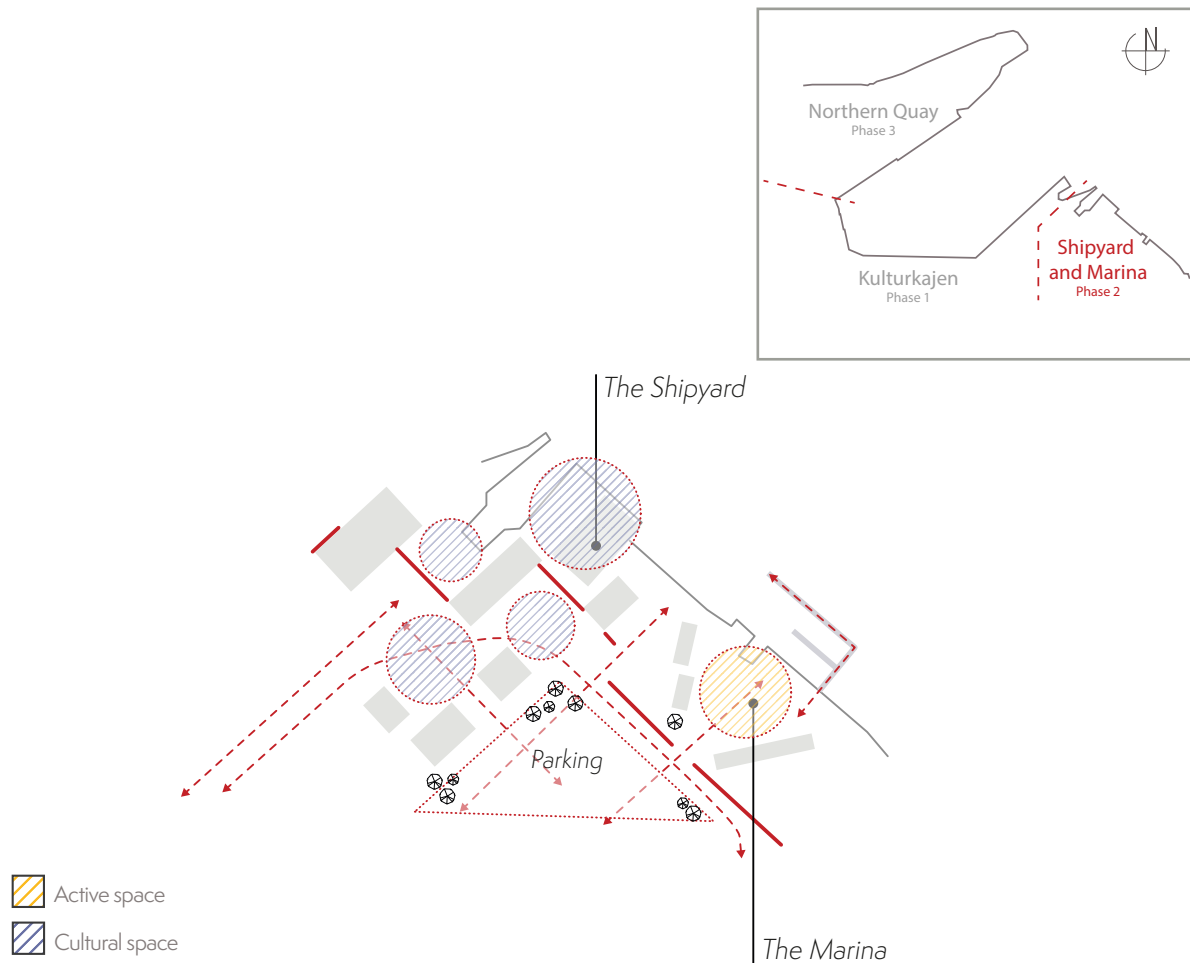


Illustration 24 // Shipyard and Marina

Shipyard and Marina

The Shipyard and Marina is the second phase of the development plan. This area must be developed with respect for the maritime heritage which must be protected against flooding. New buildings must be constructed with respect for the area's heritage. Those at the Marina must be designed to accommodate flooding, as they will not be protected by the flood barrier.

The area must be more open towards Kulturkajen to strengthen the connections between the two areas, enhancing the overall quality of the harbourfront.

Recommendations

- | | |
|------|---|
| 02.1 | The maritime culture should be preserved to the greatest extent possible. |
| 02.2 | New buildings and structures must respect the cultural maritime heritage. |
| 03.3 | Subareas must be connected to each other. |

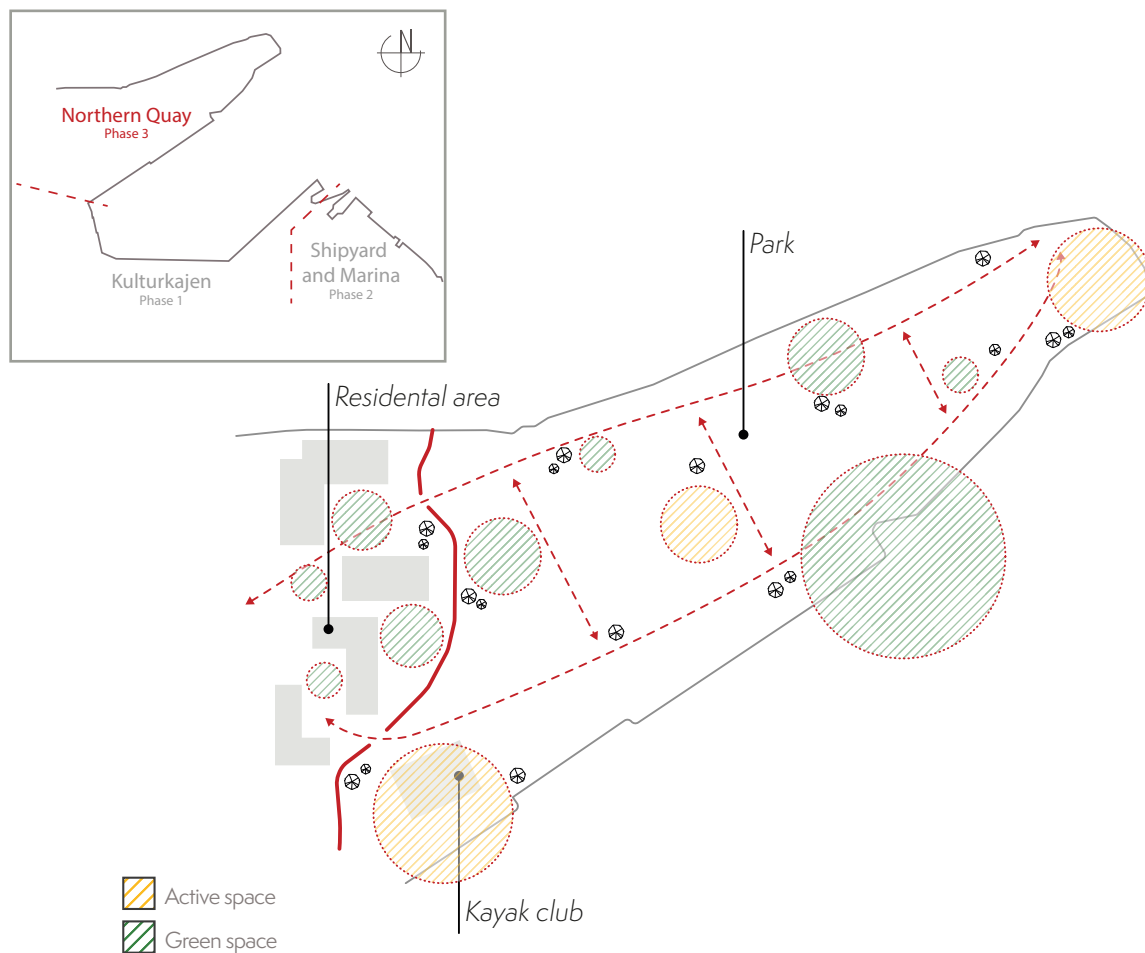


Illustration 25 // The Northern Quay

The Northern Quay

The Northern Quay is the final phase and will mostly be developed into a green recreational park which can accommodate flooding. The area will serve as a connection between the city centre and the residential area north of the site. In the western part of the Northern Quay a smaller area for apartment will be established to create a transition between the new campus and the green recreational area.

The kayak club will be moved close to the arrival area at Kulturkajen. This placement will enhance the harbourfronts connection to the water by enhancing the possibilities for people to use the water for recreational uses. By having it close to

the new campus it will be an inviting place for especially young people who can create unity around this leisure activity.

Recommendations

- 03.1 The harbourfront must be connected to the city centre and the adjacent residential areas.
- 03.2 Create a strong connection to the water.
- 04.1 Implementing of different recreational spots for different purposes.

Design Proposal

The development of Kulturkajen unfolds as an important link between districts, water, and community, transforming Hobro's historic harbourfront. Here, the meeting of land and water creates a shared urban landscape, where daily life develops alongside the fjord.

The development embraces the harbour's heritage while opening it to new possibilities, spaces to stay and gather. With views toward iconic buildings and the presence of water, Kulturkajen becomes a place of everyday encounters and neighbourly interactions. It is not just a destination, but a connective element between districts, and people, with a cultural and historical presence.





Illustration 27 // Isometric of the arrival area

Design Area no. 1

The first selected design area illustrates different zones and how they provide different opportunities to pass through or stay in various urban pockets (see illustration 27). The presence of a café and ice cream shops adds to the everyday life and enhance the activities by the harbourfront. The former identity is still present with the preservation of the historical train tracks along the iconic buildings.

Urban pockets are designed to provide the opportunity for visitors to be close to natural elements, fostering a sense of calm and connection contributing to the already existing presence of water. A staircase along the harbourfront strengthens the link between land and water, providing seating areas close to the waterfront.

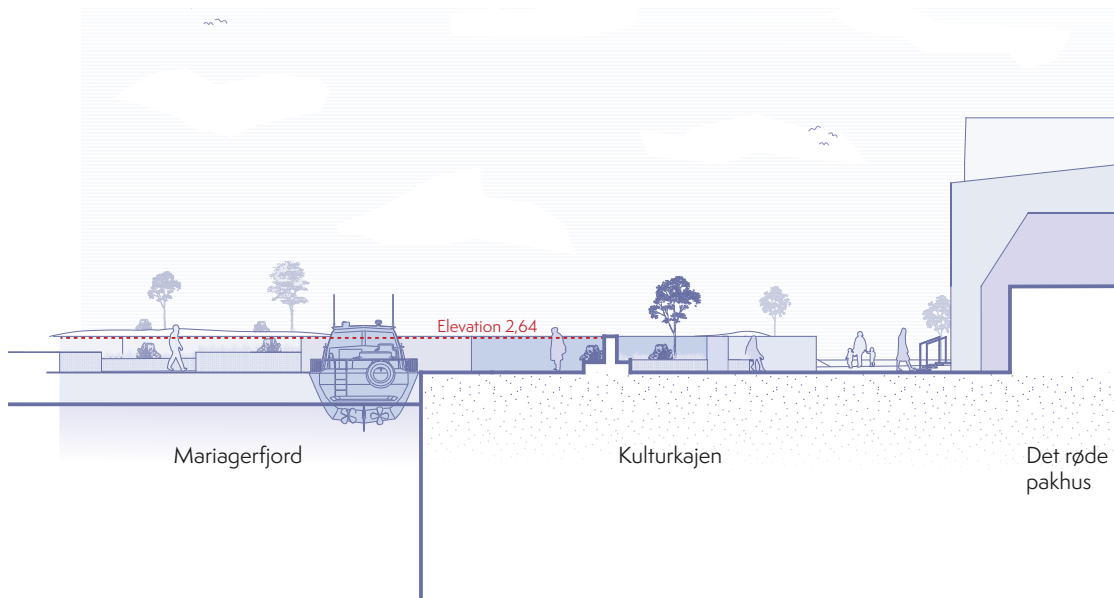
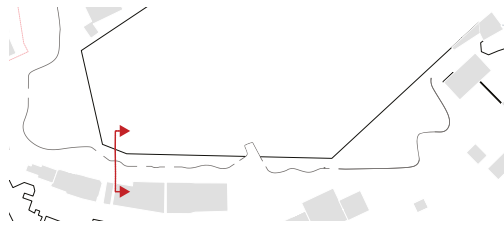


Illustration 28 // 1: 300 Section of the arrival area

During Storm Surge As previously accounted for, the harbourfront must be a resilient space, a criterion supported by the development of the flood barrier. In the event of a future storm surge, Mariagerfjord is expected to exceed its banks, leading to flooding in the area (see illustration 28).

The flood barrier ensures that access and the preservation of historical buildings will be maintained during such events, while the area between the fjord and the barrier are designed to temporarily accommodate the rising waters.

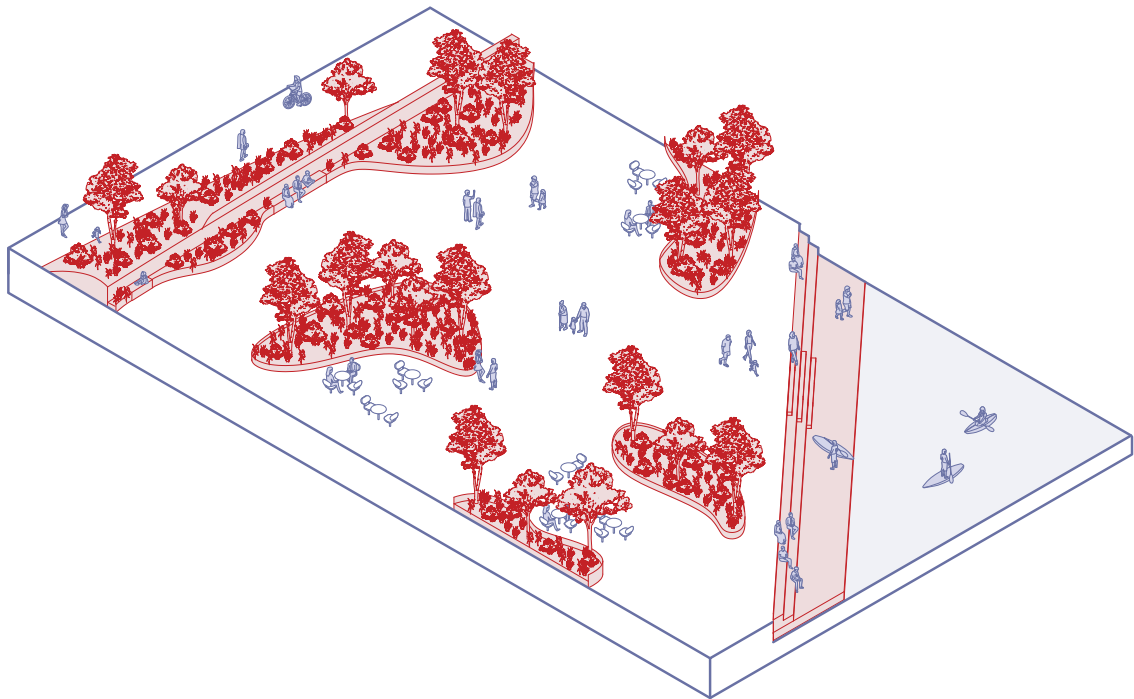


Illustration 29 // Isometric of the dike area

Design Area no. 2

The focus of the area is on creating a predominantly green recreational space, enriched with urban pockets that invite activity and relaxation (see illustration 29). This design area's primary function is to act as a destination and invites people to stay and engage with their surroundings. The flood barrier is seamlessly integrated into a landscaped dike, enhancing the experience of the recreational zone while maintaining its protective function.

A strong connection to the water remains present, reinforcing the area's identity and atmosphere. The flood barrier, once a guiding and dividing element, is now blended into the surroundings, opening the landscape and creating space for diverse activities to unfold across the area.

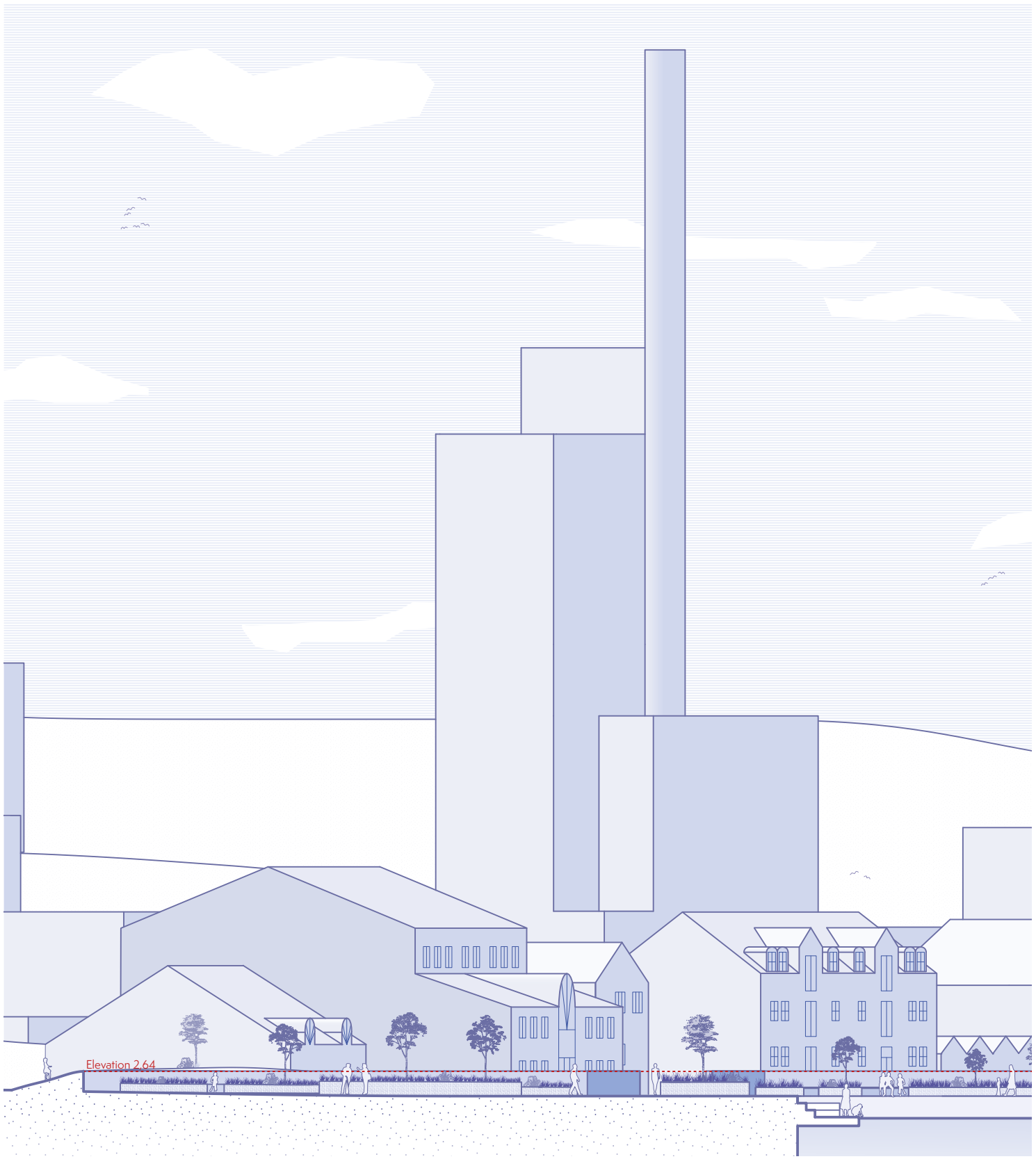


Illustration 30 // 1: 300 Section of the dike area

During Storm Surge This designated area is designed to accommodate future storm floods. During such events, the space will be intentionally flooded, temporarily limiting its use for breaks and recreational activities. However, the surrounding areas will remain protected, ensuring continued access and movement throughout the site.

In this part of the design, visitors can experience the rising water up close, as the dike remains accessible. Walking along the dike offers a unique opportunity to observe the fjord during high water levels, reinforcing the connection between people and the dynamic waterfront landscape.



Illustration 31 // Old ship

05.0 Epilogue

The final chapters present some concluding remarks and a table of user involvement, which can serve as inspiration for other projects.

Concluding Remarks

The development plan for Hobro harbourfront presents a design, where user involvement has been an important factor shaping the final proposal.

heritage. New building structures will have to be developed and be developed with respect for the cultural heritage, combining the past with the present and future.

Sustainability The design aims to create a resilient harbourfront, where both environmental and social sustainability have influenced the approach. It seeks to offer a variety of spaces to attract and accommodate a broad range of users.

Flood protection has been a central focus of the design, as future storm surges are expected to cause flooding in parts of Hobro. To accommodate this, selected areas of the harbourfront is protected by a flood barrier. This barrier serves multiple functions, incorporating benches and flower beds that contribute to the urban space

Cultural heritage The cultural heritage of Hobro is strongly present at the harbourfront. The design aims to protect the heritage, which means that some buildings are preserved, due to presenting this

Connections play a vital role in the development of the harbourfront, aiming to integrate the surrounding districts. The design emphasizes not only major connections but also internal connections between buildings, water and recreational spaces. These connections enhance accessibility and encourage movement through and to the area.

User involvement has been an important asset in the development of the project. The initiative originated from a desire to transform an urban area, with a strong focus on incorporating citizen input into both the process and the outcome. While the following table does not reflect user involvement specific to this project, it presents general methods that can serve as inspiration for similar developments.

Connections

User involvement



Illustration 32 // Old ship

| Method | Description | Recommendations | Be aware of... |
|--|---|---|--|
| Voxpop (Center for innovation, n.d.) | Spontaneous on-site interactions with users, capturing unfiltered opinions and feelings from a diverse public audience. | Conduct during early phases to gather initial impressions. Be open minded and let the citizen guide the conversation. | Be aware of potential biases and ensure diverse representation, across gender, age and ethnicity. |
| Informational walks (Svendborg Kommune, 2025) | Preplanned walks within the project area. Open dialogue with the user, allowing questions and comments in real-time, in context. | Plan a short route with designated stops to capture immediate insights during early and mid-phases. Invite citizens and experts beforehand to encourage dialogue across areas of knowledge. | Strive for diverse representation to gather a wide range of perspectives. Early phases capture immediate impressions, while mid-phases focus on verifying gained knowledge rather than acquiring new insights from citizens. |
| Open house (Agger & Andersen, 2018) | A casual, accessible event where people can drop in, review material, ask questions, and share thoughts in an informal setting. | This method can be beneficial during early phases. It is an event where information, discussions and attendance can be unpredictable. | Be aware that it might be relevant to conduct it more than once to accommodate different citizens schedules. This method might attract interested citizens, while others may not engage. |
| Questionnaire (Agger & Hoffmann, 2008) | Structured set of questions distributed physically or digitally to gather opinions, preferences, or suggestions from a larger audience. | This method, in its early phases, can ensure large results of feedback and to efficiently gather diverse opinions, with the possibility to compare data across groups. | Be aware of the length of the questionnaire and ask only for information that is relevant for the project. |

| | Method | Description | Recommendations | Be aware of... |
|--------------|--|---|--|---|
| Consultation | Interview (Agger & Andersen, 2018) | Designed to extract in-depth insights, personal perspectives, or expert knowledge. | The method provides the foundation for a solid discussion on predetermined topics and issues. It can be conducted all in early and late phases. | Ensure that the interviews conducted are relevant to the process and project. Consider contacting experts to ensure that the information you obtain is correct. |
| | Focus Group (Agger & Andersen, 2018) | Moderated discussions with selected participants to explore specific topics and generate detailed feedback through group dynamics. | Forming a focus group can be beneficial. During the meeting, incorporate smaller methods to explore various topics comprehensively. The method can be conducted several times throughout all the early and mid-phases. | Initial work can be time-consuming and should be weighed against the potential outcomes. To ensure meaningful results and broad involvement from all participants, thoughtful preparation is essential. |
| | Workshop (Agger & Andersen, 2018) | Combines an open format with interactive exercises, allowing visitors to contribute ideas or participate in problem-solving activities. | A workshop sets the framework and is an efficient way to engage stakeholders and users in idea development. They foster dialogue and shared understanding and can be conducted in the early or mid-phase of the project. | Workshops require careful planning and skilled facilitation. Some participants may dominate discussions, while others remain quiet, potentially limiting the range of perspectives gathered. |
| Partnership | Working group (Agger & Hoffmann, 2018). | A representative group of stakeholders and representatives from communities working closely with planners throughout the project. | Ensure continuous meeting throughout all phases to maintain strong collaboration. | Working groups can be time-consuming, requiring comprehensive planning and effective time management. |

Bibliography

Agger, A. & Hoffmann, B., 2008. Borgerne på banen: Håndbog til borgerdeltagelse i lokal byudvikling. København K: Velfærdsministeriet.

Agger, A. & Andersen, C. K., 2018. Stedsans - samskabelse gennem omvernsinddragelse, s.l.: Trafik-, Bygge- og boligstyrelsen.

Brundtland, 1987. Report of the World Commission on Environment: Our Common Future, s.l.: s.n.

Center for innovation, n.d. Voxpop. [Online] Available at: <https://cfiaarhus.dk/metoder/voxpath> [Accessed 21 May 2025].

Planloven, 2024. Planloven. s.l.: By-, Land-, og kirke ministeriet.

Raworth, K., 2012. A safe and just space: Can we live within the doughnut?. Oxfam, February.

Realdania By & Byg, 2018. Udviklingsplaner som værktøj i byudvikling, s.l.: Realdania By & Byg.

Realdania, n.d. Klimasikring af Lemvig havn. [Online] Available at: <https://realdania.dk/projekter/klimasikring-lemvig-havn> [Accessed 09 04 2025].

Svendborg Kommune, 2025. Forslag: Fremtidens Havn - Udviklingsplan for Svendborg Havn, s.l.: Svendborg Kommune.

Illustration List

If nothing else is stated, the photos and illustrations are conducted by the project group.

Some illustrations contain a base map containing data from Dataforsyningen. These illustrations are marked with 'Dataforsyningen'.

Illustration 3: Own illustration, 'Dataforsyningen'

Illustration 8: Own illustration, 'Dataforsyningen'

Illustration 13: Own illustration, 'Dataforsyningen'

Illustration 15-16: Own illustration, 'Dataforsyningen'

Illustration 17: Own illustration, 'Dataforsyningen' Contains data from Klimaatlas – vandstand og stormflod for hele året i Randers Fjord og Mariager fjord, Højt udledningsscenarie (SSP3-7.0), Stormflod 100-årshændelse. Available at: <https://www.dmi.dk/klima-atlas/data-i-klimaatlas?paramtype=-sea&maptype=kyst> [Accessed: 22.05.2025]

Illustration 29: Own illustration, 'Dataforsyningen'