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Challenges and Opportunities of Citylab Certification in Urban Development

A Study of Its Impact on Planning and Implementation

Master's thesis in Design and Construction Project Management

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DEPARTMENT OF ARCHITECTURE AND CIVIL ENGINEERING
CHALMERS UNIVERSITY OF TECHNOLOGY

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Management*

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Aerial picture of Kallebäck Allé and Terasser (Wallenstam, n.d)

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ABSTRACT

As sustainability becomes more and more central within urban development, certification systems has emerged as an important tool for guiding and evaluating sustainable practice. Citylab, a certification system created by Swedish Green Building Council, aims to guide developers through structured, goal-oriented planning according to environmental, social, and economic sustainability targets. The thesis investigates the challenges and opportunities companies face when pursuing Citylab certification. Through a qualitative case study of Wallenstam's Kallebäck Allé development project and interviews with respondents who have used Citylab certification system, the study examines the role of Citylab certification in the planning and implementation of urban development projects. The findings show that Citylab provides valuable structure and fosters early integration of sustainability goals. However, the system is limited by complexity, high administrative demands, and limited adaptability. The opportunities identified in the study includes the system's potential to improve collaboration between stakeholders, create organizational learning, and align projects with national and international sustainability frameworks. However, barriers such as unclear indicator requirements, limited internal knowledge, and additional costs were seen to hinder its broader implementation. The certification was perceived more as a strategic process than a trademark, where the framework contributes to internal development and goal management. The structure of Citylab was found to support early decision-making and foster long-term visions, however the system must be simplified and better align with project workflows to become more preferred. These insights contribute to the ongoing development of certification systems and offer guidance for municipalities, developers, and consultants considering Citylab in future urban planning projects.

Key words: Sustainable urban development, urban development, Citylab, certification systems, Swedish Green Building Council, urban planning

Utmaningar och Möjligheter med Citylab-certifiering i Stadsutveckling

En Studie av dess Påverkan på Planering och Implementering

Examensarbete inom mastersprogrammet Design- och Konstruktionsprojektledning

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SAMMANFATTNING

I takt med att hållbarhet blir en alltmer central del av stadsutveckling har certifieringssystem vuxit fram som ett viktigt verktyg för att vägleda och utvärdera hållbara arbetssätt. Citylab, ett certifieringssystem utvecklat av Sweden Green Building Council, syftar till att stödja aktörer genom en strukturerad och målinriktad planeringsprocess utifrån miljömässiga, sociala och ekonomiska hållbarhetsmål. Denna studie undersöker de utmaningar och möjligheter som företag möter vid en certifiering enligt Citylab. Genom en kvalitativ fallstudie av Wallenstams stadsutvecklingsprojekt Kallebäck Allé samt intervjuer med respondenter som har erfarenhet av att arbeta med Citylab, undersöker studien rollen för Citylab-certifiering i planeringen och genomförandet av stadsutvecklingsprojekt. Resultaten visar att Citylab bidrar med en värdefull struktur och främjar en tidig integration av hållbarhetsmål. Systemet begränsas dock av sin komplexitet, höga administrativa krav och bristande anpassningsförmåga. Studien identifierar möjligheter som ökad samverkan mellan aktörer, organisatoriskt lärande samt bättre anpassning till nationella och internationella hållbarhetsramverk. Samtidigt framkom hinder såsom otydliga indikatorer, begränsad intern kunskap och ökade kostnader, vilket kan försvåra en bredare användning. Certifieringen uppfattades i högre grad som en strategisk process än ett varumärke, där ramverket bidrar till intern utveckling och målstyrning. Citylabs struktur ansågs stödja tidiga beslut och långsiktiga visioner, men för att systemet ska bli mer attraktivt krävs förenklingar och bättre anpassning till projektens arbetsflöden. Dessa insikter bidrar till den fortsatta utvecklingen av certifieringssystem och ger vägledning till kommuner, byggherrar och konsulter som överväger att använda Citylab i framtida stadsutvecklingsprojekt.

Nyckelord: Hållbar stadsutveckling, stadsutveckling, Citylab, certifieringssystem, Swedish Green Building Council, stadsplanering

Contents

ABSTRACT	I
SAMMANFATTNING	II
CONTENTS	III
PREFACE	VI
1 INTRODUCTION	1
1.1 Aim	2
1.2 Research questions	2
1.3 Limitations	2
1.4 Contribution to theory and practice	2
2 BACKGROUND	3
2.1 The Swedish planning process	3
2.2 Certification systems for sustainable neighbourhoods	4
2.3 EU Taxonomy	5
3 LITERATURE BACKGROUND	6
3.1 Sustainable development	6
3.1.1 Sustainable building	7
3.2 Urban development	8
3.2.1 Stakeholders in an urban development project	8
3.2.2 The complexity in urban development projects	9
3.3 Environmental certification in practice	10
3.3.1 Benefits with using a certification system	10
3.3.2 Challenges with using a certification system	12
4 METHODOLOGY	14
4.1 Research approach	14
4.2 Literature background	14
4.3 Case study	15
4.4 Interviews	15
4.5 Data Analysis	16
4.6 Use of AI	17
4.7 Trustworthiness	17
4.8 Ethical and sustainability considerations/contribution	17
4.9 Reflection on the chosen methodology	18

5	CASE STUDY	20
5.1	Citylab	22
5.1.1	Target group and scope of application	22
5.1.2	Sustainability goals, focus areas and indicators	23
5.1.3	Key focus areas for Kallebäck Allé	24
5.1.4	The stages of the certification system in manual 4.0	24
5.2	Reference projects	25
6	RESULT INTERVIEWS	27
6.1	Opportunities	27
6.2	Challenges	29
6.3	Implementation of Citylab	31
6.4	Wallenstam's project	32
6.4.1	Interview, land- and project developer from Wallenstam	32
6.4.2	Interview, detailed plan administrator from Gothenburg City	33
7	DISCUSSION	35
7.1	Main challenges and opportunities	35
7.1.1	Limited use and perceived complexity	35
7.1.2	Flexibility and applicability	36
7.1.3	Standardization and contextual challenges	37
7.1.4	Certification as a strategy rather than proof	38
7.1.5	Practical barriers and reflections on future use	39
7.1.6	Tool for collaboration and structure	40
7.1.7	Organizational learning and cultural shift	41
7.1.8	Alignment with the Swedish planning process	41
7.1.9	Long-term vision and stakeholder integration	42
7.2	Affection on the planning and implementation phase	44
7.2.1	The importance of timing	44
7.2.2	Early integration of sustainability goals	45
7.2.3	Citylab as structuring framework	45
7.2.4	Challenges with administration and interpretation	46
7.2.5	Platform for stakeholder collaboration	46
8	CONCLUSION	48
8.1	Future research	49
	REFERENCES	50
	APPENDIX	55

Preface

This master's thesis is part of the Master's Programme in Design and Construction Project Management at Chalmers University of Technology. The work was carried out during the spring of 2025 in collaboration with Wallenstam in Gothenburg.

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This thesis has been compelling and an eyeopener. It has given us new and deeper understanding of sustainable urban development and the usage of a certification system for sustainable neighbourhoods.

Gothenburg, June 2025

Tuva Jacobsson & Lisa Kröjtz

1 Introduction

In recent years, sustainable urban development has become a global priority, as cities strive to balance rapid urbanization with environmental responsibility, social equity, and long-term economic resilience (Green City Times, n.d). Urban areas now house more than half of the world's population and in Sweden its nearly 90 percent. As these urban areas continue to expand, the need for sustainable planning practices that address climate change, resource management, and community well-being has expanded (World Bank Group, 2023; Svenska FN-förbundet, 2023). When urban growth exceeds an area's natural limits, it can strain resources and trigger a range of challenges, including traffic congestion, housing shortages, unaffordable prices, overcrowded streets, ecosystem degradation, air and water pollution, rising waste disposal demands, social conflicts, wealth disparity, and community fragmentation (Wei et al., 2015). The ongoing urbanization, associated with the relatively larger environmental footprint of city dwellers, underscores the critical role of cities in driving overall sustainable development (Wangel et al., 2016). Consequently, sustainable urban planning has emerged as a guiding principle for shaping future construction, as rising demands call for both sustainable building practices and the integration of sustainability throughout the development process (Svenska FN-förbundet, 2023). To support these efforts, certification systems have become an essential tool to guide, structure, and validate sustainability measures in urban projects, gaining significant attention across the global building sector (Berardi, 2012). The reason for starting to develop these systems at the district level was the significant success that tools for assessing the sustainability of the buildings had had (Sharifi et al., 2021). In 2019, 80 000 projects were registered for LEED certification and 2 million were registered for BREEAM certification, which are two of the largest certification systems for sustainability in the world (Dunne, 2020).

In 2010, the Swedish Green Building Council (SGBC) who is Sweden's leading membership organization for sustainable community building, started developing Sweden's own certification system for sustainable neighborhoods called Citylab (SGBC, 2023). The development of Citylab involved thousands of experts from various fields. As part of the process, an evaluation of the international sustainable urban development system, BREEAM Communities, was conducted. SGBC (2023) expresses that Citylab aims to foster a collaborative process that drives sustainable urban development by translating national and international sustainability goals into practical, locally relevant strategies for urban projects. It offers a structured approach to sustainable urban design, focusing on key areas such as energy efficiency, ecosystem services, mobility, and social sustainability (SGBC, 2023). By comprehending to Citylab's criteria, companies can demonstrate their commitment to sustainability while gaining a roadmap for integrating best practices into their projects.

Despite its benefits, the Citylab certification process can present significant challenges for companies seeking to align their project with its precise standards (Wangel et al., 2016). Developers may face difficulties interpreting and implementing requirements, balancing sustainability goals with financial constraints, or coordinating various stakeholders to meet certification criteria. While Citylab is designed to guide sustainable urban development in Sweden, there is still limited empirical research on how companies interpret and apply the system in practice. Understanding how Citylab functions as both a tool and a process in real-world projects is therefore crucial to evaluating its effectiveness, usability, and broader impact.

1.1 Aim

This thesis aims to investigate the challenges and opportunities companies face when pursuing Citylab certification, with a specific focus on the case study of Kallebäck Allé, a development project by Wallenstam. By exploring Citylab, this research will provide insights into what role the certification process has on the planning and implementation phases of an urban development project.

1.2 Research questions

- What are the main challenges and opportunities companies face during the certification of sustainable urban districts according to Citylab?
- What is the role of Citylab certification in the planning and implementation of urban development projects?

1.3 Limitations

To narrow the scope and ensure a clear and structured report, certain limitations have been established. This study primarily focuses on the Swedish Green Building Council's certification system Citylab, and its role in supporting sustainable urban development. The study is based on the Swedish construction and planning process and specifically examines Wallenstam's housing project, Kallebäck Allé, where new residential development is planned. The analysis primarily explores the latest manual (4.0) which certifies new urban development projects however the study also includes interviews with people who have used previous manuals since Citylab is relatively new and few people have used the certification system. As a result, the findings of this study are context-specific and may have limited applicability to construction projects outside the Swedish regulatory framework. Additionally, since the study is centered on a residential urban development project, its conclusions may not be directly transferable to other types of construction projects, such as commercial, industrial, or infrastructure developments.

1.4 Contribution to theory and practice

This study contributes to the field of sustainable urban development by highlighting how actors involved in early-phase urban planning, perceive and engage with sustainability certification systems. While previous research has primarily focused on internationally recognized tools such as BREEAM and LEED, with an emphasis on their impact on environmental performance, this thesis offers a unique perspective by turning attention to the Swedish context through an in-depth case study of Citylab. By collecting empirical insights from both private and public stakeholders involved in the early planning of the case study, this study provides valuable reflections on Citylab's perceived benefits, challenges, and implementation. The study contributes to theory by filling a knowledge gap regarding how sustainability frameworks are approached before formal adoption. The study also offers relevant implications for developers, municipalities, and sustainability consultants by analysing how certification systems like Citylab are evaluated in terms of costs, internal knowledge capacity, and long-term value creation. Furthermore, the findings could inform the further development of Citylab itself, offering feedback on how the system might become more adaptable and better aligned with complex, long-term urban projects.

2 Background

This chapter will present how the Swedish planning process works, what a certification system for sustainable neighborhoods is, and what the European Taxonomy is. This content will represent as a base for the study.

2.1 The Swedish planning process

Physical planning determines how land- and water areas should be used to meet the needs of society (Boverket, 2024a). The Planning and Building Act (PBL) is a Swedish law that regulates the planning process and serves as a framework for the physical planning. It aims to ensure transparency and inclusivity, and that both collective and individual interests are considered. The planning system consists of regional plans, comprehensive plans, area regulations and detailed development plans.

Municipalities have the authority to approve the comprehensive plans and determine if planning should proceed (Boverket, 2024a). Each municipality are required to maintain a comprehensive plan that includes the entire area. This states the general plans for land- and water use, development, preservation and management of the built environment. It also specifies how environmental quality standards will be met and how the municipality aligns its planning with relevant national and regional goals to support sustainable development. Area regulations control the general use of land and water to either align with the objectives of the comprehensive plan or to safeguard national interests. It may include regulations regarding the maximum size of vacation homes and specify weather building permits are required for certain action. When there is new development established, the detailed development plan defines the public spaces, private lots, water areas, their use and design. It includes detailed rules for construction, for example building placement, height, size, and distances from the property boundaries. It may also include rights to infrastructure such as utility lines. This plan is legally binding for future building permits and property owners are granted building rights. This means that the plan cannot be changed during its implementation period.

Below, the process of developing a detailed plan is described as presented by Boverket (2020).

Preliminary planning decision: A planning process can be initiated either by the municipality or in response to a request for a planning decision from a private actor or a company. When an external party presents a proposal, approval from the municipality is required for the work to proceed. A planning decision must be submitted by the municipality that provides a general overview of the project's scope, estimated timeline, and authorization to begin the planning work.

Proposed development plan: The municipality must provide maps of the area, and a property register that lists properties that are affected by the project. The municipality can during this time develop a program to simplify the process. This program outlines the fundamental principles and objectives of the project, giving the public, authorities and other organizations the opportunity to provide input.

Public consultation: During this phase, property owners, affected tenants, authorities and other interested parties are given the opportunity to raise concerns of express

opinions on the proposal. The municipality usually arranges a meeting for this and takes the opportunity to inform the participants about the proposal.

Review: The proposal with final adjustments is presented for public review, providing affected parties with a final opportunity to submit their input during a two-week period. At the conclusion of this phase, the municipality compiles all feedback, including comments from the public consultation, into a review statement and informs those whose input has not been considered.

Adoption of the detailed development plan: The municipality formally adopts the detailed plan.

Appeal: The parties that submitted comments during the consultation or review phase have the right to appeal the municipality's decision to adopt the detailed plan, if they are directly affected. Individuals were considered affected if they lived in the planning area, owned property, held rights within the area, or were neighboring landowners. An appeal could also be made if the planning process had been conducted improperly. Appeals had to be submitted within three weeks from the date the municipality announced the plan's adoption on its notice board.

The detailed development plan gains legal force: Once the appeal period has expired, the plan gains legal force. If an appeal is made, the plan only becomes legally binding once the Land and Environment Court or a higher authority has made a final decision that is not challenged. In some cases, an appeal can lead to a plan being revoked and not coming into force.

2.2 Certification systems for sustainable neighbourhoods

Certification systems for sustainable neighborhoods began emerging about two decades ago, building on the foundation of building certification systems and driven by the momentum of Agenda 21, which is an action plan that aims to create sustainable development for all (Wangel et al., 2016). Alongside various policy and planning initiatives, sustainable urban development has grown into an expanding market, attracting urban planning consultancies, green-tech companies, and city branding efforts. These certification systems are designed to guide urban development projects by establishing clear processes, criteria, and indicators for integrating sustainability into planning and development. They also function as voluntary market drivers, enabling projects to benchmark their sustainability performance and position themselves as "sustainable". Unlike broad sustainability principles, certification systems assess an area's sustainability based on predefined criteria and measurable indicators, effectively providing a concrete definition of sustainable development.

During the last two decades numerous environmental certification systems has evolved around the world. The first certification system for sustainable neighborhoods were the European system HQE2R that launched in 2004 (Wangel et al., 2016). After many countries had developed their own certification system, the two most common one's are LEED Neighborhood Development (LEED-ND) and UK BREEAM Communities (BREEAM-C). In 2019, 1674 developments from 47 different countries had adopted a certification system to assess their sustainability performance (Sharifi et al., 2021).

Beyond assessment, certification systems serve multiple functions (Wangel et al., 2016). It encourages planning organizations to define and incorporate sustainability targets early in the process, increasing the likelihood of achieving long-term sustainable outcomes. Moreover, these systems help identify environmental and other sustainability issues that might otherwise be overlooked.

Certificates can be valuable tools for property owners, landlords, architects, and municipalities, serving both marketing and procurement purposes (Wangel et al., 2016). Additionally, certification systems establish a shared platform and common language for communication and collaboration among stakeholders, fostering a unified understanding of the project and its intended goals.

2.3 EU Taxonomy

As the pressure on building sustainably increases, EU also created a classification system for sustainable neighbourhoods called EU taxonomy. The EU taxonomy is a key element of the EU's sustainable finance framework, serving as a vital tool for market transparency (European Commission, n.d). It guides investments toward essential economic activities that support the transition to sustainability, aligning with the goals of the European Green Deal. The European Green deal is a policy initiative launched by the European Commission, aiming to make the EU climate neutral by 2050 through actions related to energy, industry, circular economy, biodiversity, and infrastructure. As a classification system, it sets criteria for economic activities that contribute to a net-zero trajectory by 2050, along with broader environmental objectives beyond climate action. The EU Taxonomy involves third-party verification to ensure that projects meet the established sustainability criteria. It also provides financial and non-financial companies with a shared definition of environmentally sustainable economic activities. By doing so, it plays a crucial role in scaling up sustainable investments across the EU. It enhances investor confidence, protects private investors from greenwashing, supports companies in transitioning to more climate-friendly practices, and reduces market fragmentation.

The Taxonomy Regulation came into effect on July 12, 2020, with two climate-related goals (European Commission, n.d; Boverket, 2024b). The commission has continually been updating the regulation and now has six climate-related goals. The six climate-related goals are (Boverket, 2024b):

- “Climate change mitigation
- Climate change adaptation
- Sustainable use and protection of water and marine resources
- Transition to a circular economy
- Pollution prevention and control
- Protection and restoration of biodiversity and ecosystems.” (third paragraph)

The regulation lays the foundation for the EU taxonomy by outlining four key conditions an economic activity must meet to be considered environmentally sustainable (European Commission, n.d). Under the Taxonomy Regulation, the European Commission was tasked with creating a comprehensive list of sustainable activities by establishing technical screening criteria for each environmental objective through delegated and implementing acts.

3 Literature background

This chapter provides an overview of sustainable development within the construction industry. It will also outline the concept of urban development and identify the key stakeholders involved. Finally, the chapter will explain how certification systems function in practice, highlighting both the opportunities and challenges associated with their implementation.

3.1 Sustainable development

Growing emphasis on sustainability is driving rapid transformation in the construction sector, pushing it towards developing more sustainable buildings to meet evolving societal and environmental demands (Berardi, 2012). One of the foundational concepts guiding this transformation is sustainable development (Jabareen, 2006). A widely recognized definition comes from the Brundtland Commission, which states:

“Sustainable development is development that meets the needs of the present without compromising the ability of the future generations to meet their own needs” (United Nations, 1987, p. 43)

Before the publication of the Brundtland Commission, sustainable development was primarily associated with environmental concerns (Elkington, 1997). However, the commission broadened this perspective, introducing the interconnected dimensions of economic, social, and environmental sustainability, and that these three dimensions together should build an economic growth that at the same time is socially and environmentally sustainable. Shortly afterward, John Elkington introduced the concept of the Triple bottom line in the 1990s, which further helped express how investments and development projects can generate economic, environmental, and social value (Hammer & Pivo, 2017).

From an urban development perspective, economic sustainability emphasizes the need to preserve core wealth by utilizing only the returns of capital (Mieg, 2012). Traditionally, economic development has been defined through metrics such as job creation, per capita income, tax base, and gross domestic product (GDP) (Hammer & Pivo, 2017). In sustainable urban development, however, economic growth must align with long-term environmental and social goals to create lasting well-being.

Environmental sustainability, described as the maintenance of natural capital, seeks to protect global life-support systems and ensure the well-being of current and future generations (Goodland, 1995). Morelli (2011) expands on this definition, describing environmental sustainability as a state of balance, resilience, and association where human society can meet its needs without governing the capacity of ecosystems to regenerate essential services or reducing biological diversity through human actions. In urban contexts, this means designing cities that prioritize energy efficiency, green infrastructure, and circular resource flows.

The third pillar, social sustainability, is essential for creating inclusive and thriving urban communities. In an urban context, social sustainability involves two main dimensions: social equity and community resilience (Dempsey et al., 2011). Social equity ensures fair and equal access to essential services, housing, public spaces, and employment opportunities while eliminating exclusionary practices that limit

participation in social, economic, and political life. Community resilience, on the other hand, refers to a community's ability to sustain itself over time through strong social networks, trust, and active civic engagement. Elements such as social interaction, participation in local activities, residential stability, a shared sense of belonging, and safety all contribute to fostering vibrant, sustainable communities.

Throughout the years, several studies have emphasized that sustainability can be interpreted and approached in various ways (Holmberg & Larsson, 2018). However, the three dimensions are interconnected and interact in complex, non-linear ways, meaning they cannot be treated as separate, isolated elements. According to Dwaikat & Ali (2018), the construction industry, compared to other production and manufacturing sectors, has one of the greatest needs to adopt sustainable practices, making sustainability a key driver for sustainable building within the industry.

Achieving sustainability in the urban environment requires significant changes, often described as transitions, explained as long-term, complex, and multi-actor processes that are naturally ambiguous (Holmberg & Larsson, 2018). Before strategies can be developed to address sustainability issues, a preparatory phase is necessary. During this phase, the overarching process is designed, key stakeholders are engaged, and the project scope is defined. According to Holmberg and Larsson (2018), skilled facilitation is essential to support various actor groups throughout the transition. One example of such a transition in the construction industry is the increased adoption of sustainable building tools, driven by the sector's environmental impact and the growing demand for urban areas (Mattizzioli et al., 2021).

3.1.1 Sustainable building

The concept of sustainable building is defined in various ways. Sustainable buildings can be defined as structures that minimize negative impacts on both the built and natural environments, considering the buildings themselves, their immediate surroundings, and the wider regional and global contexts (John et al., 2005). According to Zhang et al. (2019), a sustainable building involves creating structures through processes that prioritize environmental sustainability across the entire building lifecycle. Rwelamila et al. (2000) provide a broader definition of sustainable buildings, describing them as structures that integrate environmental, social, and economic standards, along with technical considerations. Regardless of this, the authors claim that the absence of clear definitions for the concept of sustainable building creates challenges in promoting and implementing the concept, as measuring sustainability can become difficult (John et al., 2005; Zhang et al., 2019; Rwelamila et al., 2000).

The growing awareness of sustainability has pushed the construction industry to adapt and evolve (Berardi, 2012). Regulations, laws, and policies are continuously updated to drive the industry toward more sustainable practices, with tools like life cycle assessments (LCA's) and environmental product declarations (EPDs) playing a crucial role (Brockmann, 2019). Since sustainability is both time- and location-dependent, buildings should be designed to adapt to evolving needs, promoting resilience and flexible use (Berardi, 2013). Moreover, Berardi (2013) argues that sustainability extends beyond the building itself, interacting with the neighborhood, infrastructure, and local culture. A truly sustainable building actively contributes to the regenerative resilience of its surrounding environment. Therefore, a well-established tool that

supports the sustainable development is certification systems for urban development (Wangel et al., 2016).

3.2 Urban development

The nature of Urban development is divided into three aspects (Downs, 1981). The first aspect is the dynamic nature of urban neighbourhoods, characterized by the constant inflow and outflow of residents, resources, and capital. The second one is the dual nature of urban neighbourhoods, which refers to neighbourhoods not only as valued places to live, but also as units of urban development that are naturally connected to other neighbourhoods and the wider metropolitan area. The third and final aspect is the direct link between two urban frontiers: the suburban periphery and the inner-city neighbourhoods. These aspects of urban development can cause major social dilemmas if they are not handled in a right way. Many of the poorest urban households are concentrated in neighbourhoods alongside other low-income residents, typically in older parts of the city. These areas are often marked by high levels of unemployment, crime, vandalism, drug addiction, family instability, and general neighbourhood decline.

Urban development aims to enhance the quality of life in a city by integrating ecological, cultural, political, institutional, social, and economic components (Yigitcanlar & Teriman, 2015). The goal is to create a sustainable city without placing a burden on future generations, such as damaging natural resources or accumulating excessive local debt. Therefore, the aim is to achieve holistic investment and transformations by encouraging urban functions and reuse urban spaces (Zhang et al., 2021). Urban development involves complex, interconnected relationships and diverse subjects, requiring careful management and coordinated efforts (Holmberg & Larsson, 2018; Zhang et al., 2021). Feretti (2016) emphasizes the importance of involving multiple stakeholders in urban development decision-making, including contractors, real estate developers, citizens, and political organizations. Engaging diverse perspectives not only enriches the decision-making process but also encourages future participation and collective responsibility. In transition processes like sustainable urban development, involving both internal and external actors not only requires supportive organizational structures but also strong leadership (Gluch et al., 2019). Zhang et al. (2021) further emphasizes that when multiple parties are involved, an established framework is essential to guide and facilitate effective collaboration.

3.2.1 Stakeholders in an urban development project

A stakeholder is generally defined as an interested party, any group or individual who can influence or be influenced by the achievement of an organization's goal (Esteban-Narro et al., 2025). The stakeholders involved in an urban development project can be divided into four different groups: knowledge and innovation, political and public administration, social, and economic and financial administration. An urban development project is complex and unique, so the stakeholders involved can vary between one project to another. Esteban-Narro et al. (2025) identifies several stakeholders that can be involved in an urban development project and those are presented in Table 1.

Table 1 Stakeholders involved in urban development projects (Esteban-Narro et al., 2025)

STAKEHOLDER GROUP	STAKEHOLDERS
KNOWLEDGE AND INNOVATION	Research centres, University researchers, Consultants
POLITICAL AND PUBLIC ADMINISTRATION	Municipal government, Political parties, Municipal technicians, Urban security or health services, Public entities at a super-municipal level, Urban planners
SOCIAL	Citizen groups, NGOs (Non-Governmental Organization), Unions, Neighbourhoods and citizen association, Media
ECONOMIC AND FINANCIAL ADMINISTRATION	Private companies managing urban services, Telecommunication operators, Telecommunications service companies, Local businesses, Transportation companies, National businesses, Investors and financial entities, Energy companies, Real estate development companies, Professional associations, Business associations, Associations of self-employed workers

The four stakeholder groups have different interests when it comes to an urban development project (Esteban-Narro et al., 2025). The knowledge and innovation stakeholders often focus on planning and strategy development as well as human capital. The political and public stakeholders' interests include governance, environment and human capital, with goals such as sustainability, efficiency and quality of life. They manage administrative, technical and economic-financial resources and are often the starting point for the transformation process. The social stakeholders, citizens, are considered the main actors involved in all areas and the most important phases of the processes and are the core of some models. The economic and financial stakeholders contribute with financial resources and expertise, especially the private sector and small and medium-sized enterprises. Their interests include governance, economics and the environment.

Stakeholder participation and engagement play a crucial role in achieving sustainable urban development (Esteban-Narro et al., 2025). Rather than being passive subjects, stakeholders are recognized as active contributors to urban transformation processes. Given their diverse areas of focus, it is essential to consider all perspectives, and a certification system should support dialogue and knowledge exchange among them (Lind et al., 2019).

3.2.2 The complexity in urban development projects

Urbanization in today's society has led to numerous urban development projects around the world (Luo et al., 2017). Cities are viewed as complex systems influenced by bottom-up processes, resulting in outcomes that are difficult to predict and plan for (Komninos et al., 2019). Further, del Cerro Santamaria (2020) says that the design of an urban development projects depends on the socio-economic, developmental, institutional, and geographical contexts in which they arise, therefore these varying contexts themselves contribute to complexity. Urban planning is a process in constant

change, discontinuous and non-linear, but which offers unexpected opportunities. Since urban planning occurs in open systems with numerous purposeful components, it is challenging to directly connect planning activities to the resulting outcomes in the urban reality (Lim & Kain, 2016). Lim & Kain (2016) further emphasize that parameters such as timing, density, diversity in building scale, and decentralisation of planning and design activities to multiple actors are critical factors both in small- and large-scale development projects.

It is not only the cities that are complex, but the urban development projects are also often characterized by high complexity, frequently resulting in cost overruns and schedule delays, challenges that are also typical of the broader construction industry, which is specified as both complex and conservative (Dubois & Gadde, 2002; Lou et al., 2017). Gidado (1996) initially highlighted that the complexity of the construction industry arises from various factors: the environment in which construction occurs, the resources used, the specialized knowledge required, and the interactions among the many components in the workflow. Similarly, Dubois and Gadde (2002) argue that due to these factors, it is more effective to tailor the process to each individual project, in contrast to other industries where standardized solutions are easier to find.

3.3 Environmental certification in practice

Certification systems for urban development are widely used to guide districts and communities towards sustainability (Wangel et al., 2016). Systems such as BREEM Communities (BREEM-C) and LEED for Neighborhood development (LEED-ND) aim to translate sustainability principles through structured processes, defined criteria, and measurable indicators. They both follow a hierarchical structure, where certification is based on an evaluation of sustainability aspects categorized into different thematic areas. Each category includes specific criteria that are evaluated through specific indicators or parameters. BREEAM-C applies a three-stage certification process that focuses on the principles, layout, and details of the development. The system includes 47 criteria divided into six categories. In contrast, LEED-ND has a simpler structure, including five categories and a three-step certification process that involves conditional approval, pre-certification, and full certification.

To assess sustainability performance, these systems include different types of indicators (Wangel et al., 2016). These can be categorized as procedural indicators, which evaluate processes and activities; functional indicators, which assess the presence of specific solutions or equipment; and performance indicators, which measure actual sustainability outcomes. In practice, BREEAM-C relies primarily on procedural indicators, while LEED-ND places greater emphasis on functional indicators. Both systems underrepresent performance indicators, resulting in an assessment approach that focuses more on development processes and design choices rather than on the actual sustainability performance of the completed district.

3.3.1 Benefits with using a certification system

Using a certification system has its benefits. A certification system promotes sustainability principles and practices (Sharifi et al., 2021). They encourage the integration of principles of smart growth, new urbanism and green building into district design (Szybbo, 2015). However, the methods alone do not enhance the sustainability of the built environment; it is their application and implementation by the actors involved in urban development projects that truly make an impact (Häkkinen & Belloni,

2011). By applying and implementing the system, it provides a structured framework to incorporate sustainability principle into urban planning and development processes (Wangel et al., 2016). The certification system provides measurable indicators for assessment, and this creates a clear reference point which makes it possible to quantify and follow up on sustainability aspects (Sharifi et al, 2021; Ramiller, 2019). These systems facilitate the distribution of sustainable development strategies between local communities and create a common point of reference for actors from different backgrounds (Ramiller, 2019). They have the potential to facilitate conversations across different local contexts through shared definitions of sustainability. A certification system is also designed to influence the organization to define and use sustainability goals early in the planning phase, which helps create better conditions for achieving sustainable outcomes (Wangel et al., 2016). As some of the systems serves as a third-party evaluation, certified projects gain credibility through independent assessments, ensuring that sustainability claims are backed by recognized criteria. This transparency can enhance trust among stakeholders, including municipalities, investors, and the public.

Wangel et al. (2016) identify key elements of a successful certification system. First, the framework should be grounded in core principles of sustainable development. Additionally, it must be adaptable to the unique characteristics of each location while remaining general enough to enable comparisons across cities and neighbourhoods. Lastly, the design of the certification system should consider its target audience and intended use. Further, Sharifi et al. (2021) studied reports on 40 different certification systems from various parts of the world and two key categories of success were identified: structural and procedural. Structural successes include the continuous improvement of tools over time, the development of measurable indicators for assessment, and the recognition of context-specific challenges through the creation of localized tools. Procedural successes involve promoting sustainable design, enhancing environmental performance and usefulness for identifying priority development areas.

As a certification system can help stakeholders form a unity towards sustainability, using a certification system also has its benefits towards the planet. However, there has been limited evidence towards socio-economic performances (Sharifi et al., 2021). When it comes to the economic aspects of using a certification system, it is difficult to calculate the benefits. However, research shows that using a certification system creates voluntary market drivers, developers can use the certificate for marketing and procurement, can offer low-income residents significant cost savings through lower energy costs and improved transportation efficiency, and density bonuses and faster processing of building permits (Wangle et al., 2016; Sharifi et al., 2021). For the social aspects, research show that a certification system helped broader the community engagement and focus on justice and community resilience, improved living satisfaction through improved environmental quality, and create urban areas where various people with different income levels can live (Ramiller, 2019; Sharifi et al., 2021; Szibbo, 2015). The environmental benefits with using a certification system are that the system highlight environmental and other sustainability aspects that otherwise risk being overlooked, and can lead to improvements in environmental performance, such as reduced travel demand and control of urban sprawl (Wangel et al., 2016; Sharifi et al., 2021).

3.3.2 Challenges with using a certification system

Although certification systems have become more common globally, their usefulness and applicability as tools for achieving comprehensive and global sustainability in urban areas remain questioned (Wangel et al., 2016). Studies compare the fundamental functions of these systems and examine their applicability in specific local contexts. They use a range of indicators and criteria within specific areas that consider factors such as size, population, and project impact on transportation and infrastructure.

One of the primary concerns is the complexity and resource intensity of certification systems, as they incorporate many indicators and sometimes integrate additional standards (Häkkinen & Belloni, 2011). This makes certification a time-consuming and costly process. These obstacles limit their effectiveness and reduce their actual use within the construction sector. Many construction professionals consider existing assessment tools and labeling systems to be overly complicated, making it difficult for various stakeholders to understand and apply the criteria effectively (Häkkinen & Belloni, 2011). Additionally, specialized knowledge and resources are often required, which can be a barrier for smaller companies or projects. The process of gathering necessary information, conducting assessments, and documenting results often takes a long time, making it difficult to manage within the tight schedules and budgets that construction projects typically follow. An increased workload like this becomes an obstacle, even if the long-term benefits of certification are recognized.

To increase the adoption of certification systems, the need for improved usability is emphasized (Häkkinen & Belloni, 2011). Current tools and processes are often complicated to use, making it difficult for users to navigate the systems, find relevant information, and understand how to apply the criteria in practice. Therefore, simplifying procedures is necessary to facilitate broader implementation. The importance of integrated assessment and calculation methods is highlighted. Existing certification systems are not sufficiently well-adapted to function alongside other tools and processes used in the construction sector, such as design tools and Building Information Models (BIM). Better integration between certification systems and these technologies could make sustainable building more accessible and efficient.

Another concern is the prioritization of certain indicator areas, particularly active and public transportation (Wangel et al. 2016). This is reflected in the higher number of criteria and the significant weight assigned to these aspects. Many frameworks promote walking and cycling to encourage active mobility. However, such measures may not always be feasible or relevant, particularly in developing countries where infrastructure limitations, cultural differences, and geographic constraints may pose challenges. For the certification systems to be effective, they should consider the integrated connections between neighborhoods and sustainable transport. The requirements and certification systems should be adopted to local conditions rather than merely adopting global standards.

The systems include a combination of mandatory and optional criteria (Wangel et al. 2016). Some requirements must be met to obtain certification and in addition to this, projects can gain additional points through optional criteria to achieve higher certification levels. However, the way mandatory criteria are distributed does not always ensure that all key sustainability aspects are appropriately covered. As a result,

projects may prioritize accumulating extra points over addressing the most critical sustainability factors, potentially leading to imbalanced or less effective outcomes.

Another issue that Wangel et al. (2016) raises is that certification systems tend to favor specific sustainability aspects while focusing primarily on internal sustainability within the project area. This means that external effects, such as supply chain sustainability and consumption patterns, are often overlooked. In addition to this, since performance requirements are often defined in relative terms, a certified district is not necessarily sustainable in absolute terms. The flexibility provided by the optional criteria also allows projects to trade points across categories, potentially resulting in neglect of critical sustainability aspects. For instance, BREEAM-C does not require the certification of individual buildings within a district for the area to achieve certification.

4 Methodology

The following chapter will present the chosen methodology for the thesis. To achieve the aim and answer the research question various methods have been used. The primary method for this thesis is a case study of Wallenstam's urban project, Kallebäck Allé. As the focus of the thesis is to understand the opportunities and challenges with Citylab certification, a qualitative research approach has been used. The various steps of the study will be outlined in detail in this chapter, along with a reflection on the chosen methodology.

4.1 Research approach

By choosing to investigate the challenges and opportunities companies face when certifying an urban development project according to Citylab, the authors aim to understand project dynamics and provide well-informed suggestions to support decision-making regarding certification. Within this framework, the research approach of this thesis is qualitative, as it seeks to capture the human aspects of a perceived situation (Bengtsson, 2016) rather than focusing solely on quantitative values and variables (Bell & Bryman, 2015).

In addition to a qualitative approach, the thesis adopts an abductive reasoning approach, which involves “the process of associating data with ideas” (Richardson & Kramer, 2006, p. 500). Abduction, or hypothesis formation, occurs when researchers develop insights or beliefs about the significance of their data during analysis, based on reasoning that is neither purely deductive nor inductive (Lipscomb, 2012). This approach is particularly suitable for the thesis, as it enables the authors to navigate between theory and data, continuously refining their understanding.

A key process within the abductive approach is “systematic combining” which is a dynamic process where the theoretical framework, empirical fieldwork, and case analysis evolve simultaneously (Dubois & Gadde, 2002). This process is especially useful for developing new theories and will be applied throughout the project to ensure a continuous interplay between theory and empirical findings.

The idea of this thesis emerged from the authors interest in sustainable urban development and the changes a company must make to certify a project through a formal certification system. As the focus on sustainability has grown, discussions have emerged about whether to adopt internal sustainability measures or pursue certification through established systems like Citylab. This divided opinion was something that interested the authors and from that the idea for the thesis were developed.

This thesis was carried out through a collaborative process between the two authors, with the workload shared equally.

4.2 Literature background

A literature background was conducted as part of this research, focusing on key themes such as sustainable development, urban development, and environmental certification. Relevant information was gathered from research papers accessed primarily through databases such as Scopus and Google Scholar. Keywords used in the search included sustainable development, urban development, complexity in urban development, and benefits and challenges of environmental certification systems.

The purpose of the literature background was to critically analyse existing knowledge to compare it with findings from the interviews and the case study. The literature background outlines the concepts of sustainable and urban development, highlighting the inherent complexity of urban development processes. Additionally, it provides an in-depth exploration of environmental certification in practice, including a discussion of its associated benefits and challenges.

4.3 Case study

A case study is a research strategy that involves an in-depth analysis of a subject, method, organization, system, or individual (Hartley, 2004). The process involves gathering information from a specific case, carefully processing the data, and conducting a thorough analysis. Case studies are especially valuable for research questions that demand a deep understanding of social or organizational processes, as they provide rich, context-specific data.

The case study for this thesis is an urban development project called Kallebäck Allé, located in Gothenburg. The authors have chosen this case in collaboration with Wallenstam, which is currently in the early planning phase of the project. This made it a suitable project for the thesis, as Wallenstam aims to explore the potential advantages and challenges of certifying the project with Citylab, as well as identify any potential obstacles that may arise in the certification process. In the earlier project, Kallebäck Terasser located besides Kallebäck Allé, SGBC certification system Miljöbyggnad has been used.

4.4 Interviews

To gain a deeper understanding of how Citylab is used and opinions on using it, semi-structured interviews with different stakeholders were chosen. Semi-structured interviews mean that all respondents are asked the same questions in the same order, but the follow-up questions can vary depending on the respondent and their given answer (Academic Work, n.d.). By using semi-structured interviews, it gives room for both direct questions but also open-ended question, letting the respondent talk freely (Kallio et al., 2016). The open-ended questions help gain a bigger picture of the problem and gives new insights that might not had been discussed if only direct questions were asked. Structured interviews may have limited the depth of information gathered for this report and unstructured interviews could have broaden the topic too much gathered information that was not relevant. Therefore, the authors determined that semi-structured interviews were the most effective method for extracting relevant insights. Interviews were chosen because they offer valuable opportunities to capture diverse perspectives and experiences from different respondents regarding a specific phenomenon (Säfsten & Gustavsson, 2019). After doing research on the topic, the interview questions were designed based on the study's purpose and questions. The interview questions are presented in Appendix 1.

The stakeholders that were chosen for the research had previous knowledge on working with Citylab. All interviews except two were held with one respondent, the other two were with two respondents from the same projects. The knowledge captured is focused on the opportunities and challenges companies face when pursuing Citylab certification and what role the certification process has on the planning and implementation phases of an urban development project. Selecting interviewees from diverse roles and projects

provides a more comprehensive understanding of the issues studied and reduces the risk of overlooking important facts and perspectives. The respondents in the interviews were also using various Citylab manuals when trying to certify their projects. These interviews helped to map opportunities and obstacles for the future with Citylab. Table 2 illustrates what role and certification manual the respondent was involved in and whether they completed the certification or not. Further, two of the interviews were with people related to the case study. One working at Wallenstam (Respondent 5) and one working at Gothenburg City (Respondent 4). Both respondents are working in the detailed planning stage of the project Kallebäck Allé. By interviewing these respondents, it provided valuable insights from both a municipal and a developer perspective, offering a nuanced understanding of the opportunities and challenges associated with implementing Citylab into Kallebäck Allé.

The interviews were conducted through Microsoft Teams and were transcribed through either Teams transcribed tool or Chalmers AI Portal. This was done with verbal consent from the respondents before the interviews were conducted. The interviews were also recorded with the authors phone to make sure the transcript would not be accidentally deleted. The interviews were held in Swedish and translated with the help of AI. The transcription helped the authors to facilitate compilation of the respondents' answers and made sure no important information were missed out. The interviews were between 25-50 minutes long and the interview data are presented in Appendix 2. A description of the different projects is presented in chapter 5.2 Reference projects.

Table 2 Respondents for conducted interviews

	ROLE	CERTIFICATION MANUAL	CERTIFIED OR NOT
RESPONDENT 1	Environmental strategist	1.0	No
RESPONDENT 2	Architect	4.0	Ongoing
RESPONDENT 3	Sustainability manager	3.0	Yes
RESPONDENT 6	Sustainability specialist	3.0	Yes
RESPONDENT 7 & 8	Project manager's	3.0	Yes
RESPONDENT 9 & 10	Project manager & Community planner	3.0	Yes

4.5 Data Analysis

In this thesis a thematic analysis was used to process and obtain meaning from the data collected through the interviews (Clarke & Braun, 2017). A thematic analysis provides accessible and systematic procedures for generating themes and codes from qualitative data. The method is flexible and useful for identifying patterns within qualitative data.

When the interview data were conducted, the authors collaboratively developed a set of codes that emerged inductively from the discussions, beginning with the most content-rich data to capture the broadest range of insights. After coding the data, the various codes were grouped into themes and those themes were then refined to capture key insights. The coding process in this study were performed multiple times, with repeated reviews of the interview material to enhance result reliability. This approach

also uncovered additional topics for further exploration in the literature background. By utilizing this method, it helped get the richest answers to the thesis research question.

4.6 Use of AI

AI was utilized in the development of this report to enhance its quality and clarity. AI tools were selected to generate ideas, refine grammar, and improve overall readability. AI was also used to transcribe interview recordings. The resulting transcripts were carefully reviewed and manually corrected to ensure full accuracy. While AI provided valuable support in structuring and expressing content, all decisions, interpretations, and conclusions were made by the authors to ensure accuracy. The use of AI was intended to complement, rather than replace critical thinking and analytical reasoning in the research process. We take full responsibility for the content of this report and can justify all choices made. This includes explaining how AI was used and how it contributed. All use of AI was handled responsibly, with attention to ethics, accuracy, and academic integrity.

4.7 Trustworthiness

Qualitative research requires a strong focus on trustworthiness and reliability to ensure accurate and meaningful results, as researchers' interpretations and perspectives can influence the results (Adler, 2022). The thesis is based on scientific reports in the field of sustainable urban development and certification systems, with a particular focus on Citylab. The authors have adopted an inductive approach, exploring how Citylab can promote flexible urban development rather than testing predetermined hypotheses. Adler (2022) emphasizes that while inductive research is often exploratory, it still requires a clear theoretical framework. Therefore, the authors have chosen to use Citylab as a framework and relate it to theories on sustainable urban development.

To ensure a high degree of reliability, multiple methods have been combined. A literature background was conducted to establish a theoretical foundation and review previous research in the field. Through a case study of Wallenstam's Kallebäck Allé project, we examined how Citylab can be applied in practice which provided empirical data and insights into real-world applications. Qualitative, semi-structured interviews were conducted with individuals who have experience of working with projects where the certification system has been implemented. These provided valuable insights from professionals with direct experience of Citylab in practice, ensuring applicability of the results. The respondents were given the opportunity to review the material produced from the interviews to ensure that their original intentions were preserved.

According to Adler (2022), reflexivity is important for managing researcher subjectivity and potential bias. Reflexivity refers to the process where researchers critically examine their own role, bias, and influence on the project. The study is conducted in collaboration with Wallenstam which contributes with value to the results in terms of increased access to expert knowledge and guidance. However, this also introduces potential bias. This is minimized by maintaining transparency and rigor in the study.

4.8 Ethical and sustainability considerations/contribution

Ethical considerations are essential in qualitative research and researchers must consider their responsibilities and be aware of potential conflicts of interest (Govil, 2013). The study contains interviews examining the experiences of professionals with

Citylab and explores the opinions and perceptions of various actors involved in urban development projects. Their contributions in the interviews may raise ethical considerations. To ensure integrity, all interviews were kept anonymous, and participants were informed of this. It is important to recognize that researcher subjectivity and potential bias can influence the findings. Since this study is conducted in collaboration with Wallenstam, there is a risk that close ties to the company could affect the analysis. To mitigate this, the authors remain aware of their role as researchers and take active measures to maintain objectivity.

This master thesis contributes to future sustainable urban development by examining what challenges and opportunities companies face when certifying projects through the Citylab certification system. By identifying potential challenges companies may face, this report aims to support Wallenstam and similar firms in successfully implementing the Citylab certification system. Citylab contributes to sustainable urban development by providing structure, collaboration and goal management for urban projects (SGBC, 2023). The certification system ensures an approach on sustainability that includes the environmental, social and economic perspective. It simplifies sustainability management by aligning with global and national goals and fosters a learning process where stakeholders share knowledge and experiences.

Wallenstam includes sustainability as a core component in all operations and focuses on efficient resource use and circular construction methods with the aim to reduce energy consumption, water usage and material waste (Wallenstam, 2023). A key part of Wallenstam's sustainability work is environmental certifications and the company aims to certify all new residential developments according to Miljöbyggnad Silver. Citylab offers Wallenstam a structured framework to further develop and certify urban development projects. Citylab can be used as a tool for the company to ensure that key indicators and targets are met and help strengthen Wallenstam's position as a sustainability leader, attracting investors and tenants who prioritize sustainability.

4.9 Reflection on the chosen methodology

As presented in the opening of this chapter, a qualitative research approach has been used to capture the human aspects of a perceived situation (Bengtsson, 2016) rather than focusing solely on quantitative values and variables (Bell & Bryman, 2015). Aligned with the qualitative approach, semi-structured interviews were conducted to gain a deeper understanding of how Citylab is used and opinions on using it. Due to the limited use of Citylab's latest manual 4.0 only one respondent in the study were utilizing it. If more people would use manual 4.0 it could provide a deeper and more comprehensive perspective, thereby strengthening the study's conclusions on the latest manual.

The study also aimed to interview someone from Swedish Green Building Council who are familiar and work with Citylab. Interviewing someone from SGBC would gain an understanding of their work and additional perspective on challenges and opportunities from their side. Also, their future work with Citylab. Unfortunately, after many emails none of them answered which resulted in not gaining any knowledge from SGBC perspective.

The collaboration between the thesis authors and the representative from Wallenstam has been highly constructive, leading to valuable discussions and ongoing support. In

addition, the interview respondents demonstrated openness and transparency, which significantly contributed to the quality of the study's findings. Although all participants, including the authors, have been self-reflective and receptive throughout the process, there is still a risk that personal biases may influence perceptions of Citylab. To mitigate this, the authors have made it a priority to remain objective and avoid incorporating personal opinions, instead focusing on presenting evidence-based findings. This approach has been essential to ensuring the credibility, reliability, and overall quality of the research.

5 Case study

The case study for this master's thesis is Kallebäck Allé, an urban development project by Wallenstam in Gothenburg. It is designed to create a vibrant area with housing, commercial spaces, and services (Wallenstam, n.d). The project is currently in the early planning phase and plays a strategic role in connecting different parts of the city (Wallenstam, 2022a). A central part of the project is the transformation of Mejerigatan, into an attractive urban street with a green avenue, linking the area of Kallebäck Allé to Kallebäck's Terrasser in the south. Kallebäck's Terrasser is a project that Wallenstam is currently in the process of building and that, when completed, will include approximately 2 000 apartments, commercial spaces, shops, etc, located in close connection to Kallebäck Allé. The area of Kallebäck Allé will contain approximately 830 apartments. It will include a public square that will serve as a gathering area and the ground floor spaces along Mejerigatan will contain local services and cafes. There will be office spaces, sports facilities, retail spaces, and a preschool, to foster a lively, secure community. There will be a mixture of housing options including student apartments, senior housing, rental apartments and condominium, to make the area attractive to a wide range of people. The project also puts great emphasis on design and adaption for pedestrians and cyclists. Several stakeholders are involved in the development, including Wallenstam, Ernst Rosén, Almlövs and Stena Fastigheter.



Figure 1 Illustration of what Kallebäck Terrasser looks like 2025 (Wallenstam, 2022a)



Figure 2 Illustration of Kallebäck Allé (white) and Kallebäck Terrasser (grey) (Wallenstam, 2022a)

Kallebäck is located between highway 27/40 on the north and east, and E6/E20 on the west (Wallenstam, 2022b). These are two important traffic routes that are heavily trafficked and have a significant impact on the area's development opportunities and challenges. Alongside these highways, there is also a railway track. Public transportation and car traffic to Kallebäck goes through the Kallebäck interchange which is a major traffic node that often experience heavy traffic and high noise levels. Other roads located in the area, for example Mejerigatan and Mölndalsvägen will experience increasing traffic flows due to the increased development in the area (Göteborgs stad, 2017).

Kallebäck has a strategic location close to the centre of Gothenburg, with easy access to nature (Wallenstam, n.d). A short distance eastern of Kallebäck is the Nature Reserve Delsjön located, which is one of Gothenburg's most popular natural areas with both running paths and swimming areas. The area is also closely connected to Lackarebäcksberget which is a forest area with small rivers and diverse wildlife. The area where Kallebäck Allé is planned to be developed, currently contains larger warehouse buildings and offices (Wallenstam, 2022a). The eastern side of the area is

primarily characterized by parking lots. The existing buildings, such as Arla's former facility, are large and surrounded by fencing. The ground area is mostly paved surfaces.

The ambition with the project is to create a vibrant and attractive residential area and neighborhood. The project faces some challenges due to infrastructural and geographical factors. Particularly due to the noise exposure from nearby traffic routes.



Figure 3 Location of Kallebäck Allé (Google, 2025)

5.1 Citylab

This section present in-depth information about Citylab. It focuses on the target group and scope of application, sustainability goals, focus areas and indicators, and key focus areas for Kallebäck Allé. Further, the section includes the different stages of a certification process according to manual 4.0.

5.1.1 Target group and scope of application

Citylab is designed for anyone working with sustainability in urban development (SGBC, 2023). The manual can be applied to projects of all sizes and types, including both new and existing areas with varying combinations of housing, commercial spaces, services, and recreational facilities. Citylab's target audience includes municipalities, property developers, construction companies, and other stakeholders involved in urban development projects. A project's certification process can be led by one or multiple actors, both public and private. To be able to certify with Citylab, the project must have a Citylab Coordinator who has completed a course at SGBC. The Citylab Coordinator can work at any company and must be a part of the project. Citylab has released two different manuals, along with an updated version of one of them. One manual, version 3.0, is intended for certifying the planning process of new urban development projects, while the other, version 1.0, focuses on certifying already built districts. In early 2023, an updated version of the manual for new urban development projects was introduced, version 4.0.

Citylab is primarily intended for the early stages of a project, as integrating sustainability considerations early in the process helps shape goals and priorities to achieve the desired outcomes (SGBC, 2023). The latest manual has strengthened its alignment with Sweden’s Planning and Building Act (PBL), which regulates land and water planning as well as construction (Boverket, 2024a). While the legally required strategic environmental assessment for detailed planning is not included in the certification, the sustainability program serves as a key document, emphasizing vision, goals, measures, and the implementation of the area (SGBC, 2023).

If decided to certify an urban development project according to Citylab, a fee is paid for registration, review and certification (SGBC, 2024). The fees vary depending on which manual is used. For manual 4.0, new urban development projects, the fees are 16 000 SEK for registration, 25 000 SEK for precertification 1, 150 000 SEK for precertification 2, and 50 000 SEK for the final certification. In total it costs 241 000 SEK to certify a project with the Citylab certification. However, if you are a member of SGBC you get 20% off each fee. If help is needed from SGBC there may be additional costs for that. If an extra project question is asked that costs 3 000 SEK, an advance notice per indicator costs 8 000 SEK, and for an extra revision review per indicator costs 4 000 SEK.

5.1.2 Sustainability goals, focus areas and indicators

Citylab defines ten overarching sustainability goals that all urban development projects should strive to achieve (SGBC, 2023). These goals are based on global sustainability targets, Sweden's environmental objectives, and policies on public health and equality. See figure 4 for reporting on the overall sustainability goals.

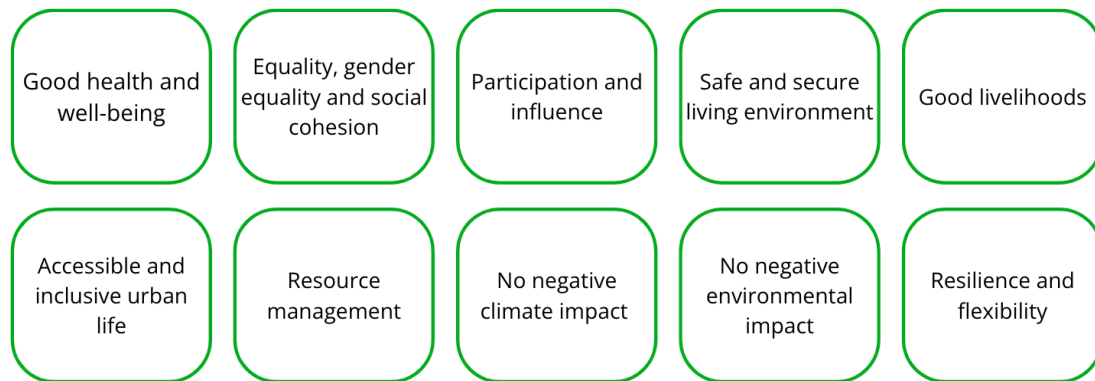


Figure 4 Citylab’s overall sustainability goals (SGBC, 2023).

To meet the overall sustainability goals, Citylab’s certification system is built around 17 key focus areas, which form its foundation (SGBC, 2023). Each focus area is further broken down into various indicators, covering different aspects and stages of the certification process. These indicators must be fulfilled to meet the requirements of each focus area and achieve certification under Citylab. See figure 5 for the 17 focus areas.



Figure 5 Citylab's 17 focus areas (SGBC, 2023).

Each focus area outlines the global sustainable development goals it supports, as well as the indicators from Citylab's management stage manual that it relates to (SGBC, 2023). Additionally, it highlights how the focus area aligns with other certification systems, such as BREEAM SE 6.0 and LEED 4.1, and its connection to the EU Taxonomy.

5.1.3 Key focus areas for Kallebäck Allé

This section presents two focus areas that may be crucial for Wallenstam to address to achieve a successful certification with Citylab in their Kallebäck Allé project.

5.1.3.1 Focus area 9 Residential, indicator mix of housing

Since Wallenstam is a company that builds and manage their own buildings, the new district, Kallebäck Allé, is only including rental apartments and in the Kallebäck district there are already mainly rental apartments. To fulfil the indicator, mix of housing, a thorough description of the current housing supply and future housing needs in the area are needed (SGBC, 2023). Wallenstam must present how they contribute to a more mixed housing situation in the district, and this can be difficult for them since the district already has mainly rental apartments. The indicator also includes a requirement to have 2,5% of the rental apartments with a maximum rental price of 950 SEK/m² and year, and at least 12,5% must have a rent that is lower than the average rent for a newly built apartment (SGBC, 2023). This can also be difficult to achieve since the economy in Sweden is poorly at present.

5.1.3.2 Focus area 16 Sound, indicator good sound environment

Due to its proximity to two major highways and a railway, the area experiences elevated noise levels. For the indicator good sound environment, the project "should be related to guideline values and target levels for sound quality" (SGBC, 2023, p.185). In Sweden, the recommended traffic noise limit is 60 decibels (dBA) at the exterior façade of residential buildings, and 50 dBA equivalent sound level with a maximum of 70 dBA at patios alongside to the building (Sveriges Riksdag, 2015). Wallenstam therefore must come up with methods to lower the sound level in the area.

5.1.4 The stages of the certification system in manual 4.0

The certification process consists of three stages: two precertification's and a final certification (SGBC, 2023). The first precertification takes place early in the process to ensure that sustainability is integrated from the start. It provides a general overview of

the project's current status and includes 19 assessment criteria focused on project planning and process control.

The second precertification takes place once the project has a clearer framework and a developed proposal for the area's development (SGBC, 2023). At this stage, 95 assessment criteria are evaluated, accompanied by detailed documentation outlining the results of supporting documents and the measures that have been implemented or are planned within each focus area.

The last phase, called final certification, takes place once the development plan for the area is finalized (SGBC, 2023). This stage includes 119 assessment criteria and typically occurs when the detailed plan is adopted, or the detailed plan program is approved. At this point, any adjustments or additions made since precertification 2 are documented, along with a plan and measures for the implementation phase.

5.2 Reference projects

Respondent 1 works as an environmental strategist at a company on the west coast. They were involved in the pilot project with Citylab manual 1.0, certifying an already built district. The district is 104 hectares and includes various building such as industrial- and residential buildings. The project did not complete the certification with Citylab due to not achieving multiple indicators.

Respondent 2 works as an architect and is developing a new urban district in the middle of Sweden. A former golf course of approximately 100 hectares will be transformed into an area with 1200 residences. The project is located on the countryside and is planned to be developed under a duration of 25 years. Emphasis is placed on integrating social and environmental sustainability objectives from the outset of the planning process. The project is the first in Sweden to be certified with manual 4.0 and are now in the precertification 2 stage.

Respondent 3 works as a sustainability manager at a firm collaborating with several developers to transform an area located on the west coast. The area will contain 1 300 residences, parks, preschools, hotels and 5 000-6 000 workplaces. The focus of the project is densifying this cultural area and integrate sustainability objectives throughout the planning and construction process. The project was a part of the Citylab pilot project and was the first urban development project in Sweden to be Citylab-certified with manual 3.0 for its planning phase and has received the award “Citylab-project of the year” from SGBC. The project is now under construction and some of the buildings are built.

Respondent 6 is a sustainability specialist at a construction and development company collaborating with the municipality to develop a new urban development district in the south of Sweden. Approximately 550 residences will be constructed, and the development will feature a varied built environment with a small-town character, where different types of detached houses are mixed with multi-family buildings. The area also contains multiple types of services. The project is planned over several phases but has not get started the construction phase. The project has been certified with manual 3.0.

Respondents 7 and 8 are employed as project managers at a private company working in partnership with the municipality to develop a new urban district in the south of

Sweden. The project involves the construction of approximately 2 600 residences, divided into three development phases. The second phase, consisting of 800 residents, is the phase that aims to be certified with Citylab. The project is the first privately initiated project in Sweden to certify its sustainability program according to Citylab and they used manual 3.0 when certifying their project.

Respondents 9 and 10 are project manager and community planner at a municipal department developing a new district in the south of Sweden. The project covers approximately 3 000 planned residences, complemented by schools, preschools, an indoor sports hall, and a large activity park. The area will be built in several phases, with the first detailed plan currently under review and construction expected to begin around 2026/2027. The project is certified with manual 3.0.

6 Result interviews

This section presents the findings from 6 conducted interviews with individuals connected to various projects, highlighting their perspectives and experiences. The chapter is divided into focus areas, featuring opportunities, challenges and the implementation of Citylab. The chapter also includes two interviews with people who is involved in project of Kallebäck Allé. One with a land- and project developer at Wallenstam and one with detailed plan administrator from Gothenburg City.

6.1 Opportunities

Based on the interview results all respondent agree that Citylab is a good tool for working with sustainability at the district level. Respondent 1 describes Citylab as *“A process tool that you could see all the parts”* meaning that Citylab includes a broad spectrum of sustainability aspects. Further, the respondents mention Citylab as a broad tool that provides a wide sustainability perspective, including social sustainability. It is adapted to Swedish conditions and helps ensure that important aspects are not overlooked.

One aspect that multiple respondents mention is that Citylab forces you to examine multiple areas of sustainability which in turn leads to including many measures and activities in your sustainability program. In the interview with Respondent 3 they quote:

“I would still like to argue that I believe that the best, greatest added value of this type of certification may not depend on absolute values of what the district should achieve but rather on really considering and looking at all the pieces and organizing a process that allows you to solve complex challenges.” (Respondent 3)

Respondent 7 also concludes this in another way *“You don't look at it piece by piece, project by project or like public space ..., but you try to see the whole”*. As the design of certification systems is based on individual indicators, requiring each to be addressed, it ensures a comprehensive sustainability program. Several respondents acknowledge that this approach encourages planners and developers to explore new ways within sustainability, particularly in areas where they might lack existing knowledge. Respondent 1 noted that even though they have a background in sustainability, Citylab helped rise new areas and guidelines. Respondent 1 point out *“I'm trained in sustainability. But I have no idea about all of these things. What is reasonable? What is good in terms of what it's about?”*. Additionally, the structure of Citylab pushes iterative thinking. Respondent 2 describes how the process requires going back to reassess earlier assumptions and goals:

“By certifying these three steps, you more naturally need to go back and work in loops. So, you work with the current situation ... Then when we are now in precertification two, we develop the current situation again. Which we may not usually do” (Respondent 2)

A common thought that respondents had during the interviews were that Citylab requires collaboration and commitment from all stakeholders at an early stage, which they all saw as an opportunity. The certification system helped raise issues early on, that might not otherwise have been raised at that stage. In Project 5, Respondents 7 & 8 held meetings with representatives from various administrations within the

municipality during the Citylab process which contributed to a big appreciation, not only for the company but also for the municipality. This municipal involvement was almost seen as a prerequisite for starting the project in Respondent 7 & 8's case. Workshops were used not only as planning tools but also as learning platforms. In Project 3, stakeholders from various organizations came together in cross-sectoral groups, allowing for joint learning and problem-solving. Respondent 3 comments their success with their work *"But it was very successful and then we got everything anchored and we got the developers to have very high ambitions. Citylab became more of a solution for us, rather than a challenge actually."* Further, respondents highlighted how Citylab supports a structured but flexible collaboration format. Respondent 2 mention:

"... Citylab doesn't just talk about what you're going to achieve but also how you're going to achieve it. You kind of have to show how you organize yourself and set resources and skills to achieve what you say you're going to achieve." (Respondent 2)

As Citylab engages all stakeholders at an early stage, respondents believe that the process of Citylab can be seen as a driver and a way to clarify the sustainability work for all stakeholders. Respondent 6 explains the usage of Citylab in their project as *"... it became a rallying point, a boost, a clarification, a level-up. Something to be proud of."* The respondent also explained how involving a broad group of actors early through Citylab inspired new initiatives that may not have happened otherwise, such as deeper collaboration around commercial premises and more active citizen dialogue.

Another opportunity highlighted by respondents during the interviews was the early integration of sustainability into the project by pursuing Citylab certification, something they had not done in previous projects. Several respondents noted that this early focus on sustainability provided significant benefits as the project progressed. Respondent 3 expresses it by saying *"Start at an early stage by doing this joint journey around what to do, what to achieve, then you gain a lot in the rest of the planning and implementation."* Further, Respondent 9 explains it by telling *"Here we have still been able to take an existing methodology and use it. That has made it easier. Otherwise we might have spent a year just writing down what our sustainability program should look like ..."*. The certification process has helped to concretize the project's long term sustainability goals. Further, Citylab's focus areas and indicators have influenced which investigations has been required in the planning phase.

One opportunity that is mentioned during the interview with Respondent 3 is the involvement in Citylab's pilot project, Citylab Action, where they collaborated with six or seven other projects who wanted to certify with Citylab 3.0 manual. Respondent 3 expresses that they met and discussed how they worked, helped each other find gaps in the reasoning and cover them, and received a lot of input from the other projects. Further, respondent 3 explains how this network worked as a peer review: *"... this was really good input for our work, and I think we gave a lot of input to others too and that particular thing of getting a network that works like you have some peer reviews ..."*. Respondent 1 were also involved in a pilot project with Citylab, but with their 1.0 manual and they likewise saw an opportunity to be a part of a pilot project even though they never certified the project. The respondents express that being part of a pilot project gave them additional help and support, and they had the opportunity to help

shape the certification. As the Respondents 3 and 1 had a network within the pilot project to discuss various questions with, other respondents express that they investigated projects that had come further in the certification process to seek a reference point for their own project.

6.2 Challenges

While Citylab offers several opportunities, the interviewees also highlighted a number of challenges encountered during its implementation. The challenges mentioned during the interviews included the scope and level of detail of the process, difficulties in meeting certain specific criteria, conflicts with other project requirements and the need to adapt working methods and collaborations.

One of the most prominent challenges is the extensive scope and complexity of Citylab. Multiple respondents mentioned that the certification process was detailed and placed a heavy demand on resources. It was crucial for the projects to have support from management and a clear project management role to navigate through the process. Respondent 7 and 8 described that the project team initially underestimated the scope. Several requirements were perceived as complex or difficult to interpret and time and budget estimates were often inaccurate, which created a need for additional resources. Several respondents emphasize that it was difficult to be among the first to certify, since there were no previous examples to take guidance from. Especially in terms of reporting and knowing how to meet the requirements. Respondent 6 explained that the criteria clearly describe what to report but fails to describe how.

” It takes an indescribable amount of time just to figure it out. The requirements are very specific or the assessment criteria. It says exactly what to report but it doesn't say anywhere how to report it...there's no description anywhere of an exact example of how to report things, we were also the first to do the fourth. There was nothing to look at ... And so, if our material becomes somehow public, then others will have an easier time.” (Respondent 2)

The respondents also described that Citylab lacked adaptability to specific location conditions. This was highlighted by respondents from Project 6. They expressed that the manual was considered *“not adapted to the specific conditions of the location, and the requirements were the same regardless of whether it applied to a new area or an existing “city centre”* (Respondent 9 & 10). Respondent 1 also mentions that it was difficult to meet today's standards in areas with older buildings. Specific requirements, such as access to preschools in relation to the number of children, were difficult to meet in areas with few homes. Noise from motorways and other impacts from infrastructure made it challenging to meet the required standards for air quality and sound environment.

Some interviewees expressed that Citylab and the support around it could feel theoretical or distant from practice. Respondent 7, who later on participated in the Citylab operational council, expressed concern that the discussions there could become *“maybe a little academic, a little theoretical... We often had to be the ones here who got the more practical perspective...”*. They believed that the practical perspective and a more hands-on approach needed to be brought in by those working directly on the projects. Further Respondent 9 expresses:

” ... they suffer a little from the fact that not many people use Citylab, and they don't have much experience with it themselves either. But there is also a bit of torsion on their part... yes you have been in the working group and developed the system and these indicators and so on. But you haven't really tested it in reality fully.”

Respondents 9 and 10 from Project 6 discussed that the support from SGBC is theoretical rather than practical. They describe workshops where representatives from SGBC *“almost sat and read the manual out loud”*, which they interpreted as that SGBC did not have enough practical experience of applying the tool. They had expected more guidance from SGBC, since the manual is so extensive and raises many questions. Respondent 9 explains that there were *“a lack of opportunity to brainstorm ideas”*, especially for those who were among the first to use the new manual.

An additional challenge was raised during the interview with respondent 6, who explained that timing was an important factor. Initiating the certification process late created the need to *“supplement with certain material”* that should have been developed earlier. Respondent 6 also describes what effects this had on the municipal involvement. *“The municipality, we were, since our detailed plan was almost finished, to be honest, the city wasn't really interested either from their perspective”*. Respondent 2 mentions on the other hand that being in a very early phase (before the detailed plan) meant that *“the municipality was not a formal party”* in the same way, which complicated the process since Citylab typically assumes municipal participation. As a result, adapting the framework and reporting requirements has been challenging.

” ... the biggest difficulties we have with this project are also that it's kind of out of date because Citylab is very focused on the detailed plan ... We're kind of one stage ahead. ... It's really hard to adapt because the criteria are so rock-solid that you have to work through every point. A lot of the points don't fit in our stage but it fits in the detailed plan stage.” (Respondent 2)

Some specific requirements were perceived as particularly difficult to meet. Respondent 2, among others, mention that the requirement for affordable housing was perceived as more or less impossible to meet with new production.

“It is more or less impossible how you can even succeed with that in this society that we live in in any way. With the rules that exist, the legislation that exists ... It is like no one can see how you can even work with it on newly built housing and get down to those prices and the number of prices that are being asked for.” (Respondent 2)

Respondent 1 mentioned that follow-up of social issues based on surveys and interviews was challenging, especially for housing associations where the developer no longer has direct contact with the residents.

“There were surveys that we were going to send out to residents that were really complicated ...you were going to answer a question. Then you were going to click on to something else. I just felt like this. God, if we get someone who can even bear to answer this, we'll be happy. I think we changed it a bit

because we felt it was too difficult. And you would answer on a certain day also.” (Respondent 1)

6.3 Implementation of Citylab

In the interviews, the respondents bring up various ways in which the Citylab certification process impact companies planning and implementation phases in urban development projects.

One key aspect mentioned by several respondents is that working with Citylab has provided them with a methodology for addressing sustainability issues more broadly within their projects. Rather than treating sustainability as a separate area, it is integrated into all aspects of their work. Respondent 9 explains this by saying:

“Then we have another document that talks about what we are going to do as well in the area of sustainability and then we have fifty-one other documents ... but here you bake everything together into one ... single document ... that guides us so that I think that is a great advantage.” (Respondent 9)

By integrating sustainability in all the work, Citylab has helped multiple projects to formulate visions and goals for the projects and has helped make the sustainability goals more concrete. Respondent 2 expresses that the work they have done this early in the project has been a big advantage in the long run. Respondent 2 says “... *it becomes more and more concrete the further along you get now. I think there's something positive about the certification, that it makes specializations concrete*”. However, respondents also note that the Citylab certification process is highly comprehensive and detailed, requiring significantly more time and effort compared to similarly sized projects that are not pursuing certification. The manual is clear on what to achieve but how to present it is not mentioned. Therefore, a lot of the work that is put into the certification process goes to figuring out how to present the data for a specific indicator.

Citylab can also influence the way things work, for example by working with detailed plans and sustainability programs in parallel and conducting impact analyses based on sustainability goals when making plan changes. However, this requires integrating new processes and more expertise than you may be used to. Respondent 3 explains how they worked with it by saying:

“When we had sorted out our sustainability goals and the planning process was going on and we got the sustainability program, we kind of started making cross-connections between what happened in the detailed plan and what we want based on the sustainability program.” (Respondent 3)

Respondent 3 further explains:

“... I probably want these sustainability goals even earlier than what we had for Project 3 if you want to have the sustainable program before you start the detailed plan to make sure that the detailed plan follows the sustainability goals and maybe not the other way around”. (Respondent 3)

In what way Citylab influence the work depends on which stage in the planning process you decide to proceed with Citylab. Unlike Respondent 3, Respondent 2 integrated

Citylab earlier in the planning process, even before the detailed planning phase began. Respondent 2 expresses in their interview “... *it's just that we feel that it's a little too difficult for us at this stage*”. Therefore, choosing the time to proceed with Citylab can have different impact on the work.

Another change respondents mention during the interviews is the involvement of stakeholders earlier than they used to. The certification process of Citylab has forced cooperation and commitment from many stakeholders at an early stage, including municipal administration, consultants and developers. Respondent 2 says “*But absolutely that we have had actors involved at a very early stage that we might not have had before*”.

Respondent 2, who is certifying the project using the latest Citylab manual (version 4.0), explains that the system's three phases have prompted them to critically evaluate each step, revisit initial goals, and reflect on how best to address them. However, these phases also require extensive documentation, which has significantly expanded the project's scope.

6.4 Wallenstam's project

This chapter will present material from the interview with a land- and project developer from Wallenstam who is a part of the Kallebäck Allé project. Further, an interview with a detailed plan administrator from Gothenburg City.

6.4.1 Interview, land- and project developer from Wallenstam

As Kallebäck Allé remains in its early planning stages, no final decision has been made regarding the use of Citylab as a certification system. However, according to the respondent, sustainability is already a central component of the project. The vision is to create a high-quality, liveable urban environment that emphasizes good access to daylight, noise control, and energy efficiency. The respondent highlights the importance of designing with the end user in mind: “*Yes, because our end customer is our tenant and if they like it, they stay for a long time*”. This long-term tenant perspective is viewed as essential to the success and sustainability of the project.

Wallenstam has prior experience using the SGBC's building-level certification system, Miljöbyggnad, and has previously certified buildings at a minimum of “Miljöbyggnad Silver.” Despite this, Citylab as a broader neighbourhood-scale certification has not yet been implemented within the company. The respondent suggests that it could be valuable from a learning standpoint: “*That we have the opportunity to learn more about what it would be or what it is and what it would mean for our project*”. Nevertheless, the respondent also emphasizes that the cost-benefit balance would play a major role in any decision. A clearer understanding of the actual impact and effectiveness of Citylab is needed before committing to it.

In terms of benefits, the respondent acknowledges that Citylab could support a more holistic planning process. They point to potential advantages such as improved integration of green spaces, opportunities for social interaction, and stronger environmental outcomes across the entire development. The respondent also sees potential alignment between the current project stage and the integration of Citylab principles: “... *that now is the right time to bring it in*”. However, the respondent also identifies several barriers. These include the additional costs and time investment

associated with certification, as well as internal uncertainties regarding the practical implementation. Since Wallenstam has limited experience with Citylab, the respondent notes that there is some hesitation about how effective it would truly be.

The respondent also reflects on the long-term relevance of certification systems like Citylab, especially in projects that occurs over many years: *“A building today should last a hundred years. I have a little difficulty seeing that the certification systems we use today will be relevant”*. This leads to questions about how certification systems can remain meaningful over time. The respondent further expresses on how shifting societal priorities, especially the growing focus on economic challenges considering current global events, may also affect how much emphasis is placed on environmental sustainability in development decisions moving forward.

6.4.2 Interview, detailed plan administrator from Gothenburg City

As a municipal planner involved in the early phases of the Kallebäck Allé project, the respondent from Gothenburg City emphasized the municipality's ambitions to promote holistic and long-term sustainable development. Although the Citylab certification has not yet been decided upon for this project, the respondent acknowledges its value as a structured framework for implementing sustainability in urban planning processes.

The respondent highlights that Citylab can function as a valuable dialogue tool between public and private stakeholders, facilitating a shared vision and clearer sustainability goals. The certification system provides a structured working method, where the actors are forced to reflect together on issues that may otherwise be left out. In early-stage development projects such as Kallebäck Allé, this kind of dialogue is crucial to set the tone for integrated, cross-sectoral planning.

A key benefit of using Citylab, according to the respondent, lies in its ability to strengthen collaboration and clarify roles and responsibilities early in the project. The respondent sees certification systems like Citylab as mechanisms to anchor sustainability goals from the start. While Citylab is not required by the municipality, it is encouraged in many development contexts because it helps ensure that sustainability ambitions are not only discussed but also tracked throughout the process.

However, the respondent also expressed awareness of some of the barriers to certification, particularly from the perspective of developers. These include costs, administrative burden, and a perception that some of the certification work is redundant if sustainability is already being addressed through other channels. The respondent also argues that Citylab can offer legitimacy and credibility both internally in organizations and externally toward the public by showing that sustainability goals are systematically pursued.

The municipality's ambition is not to enforce the use of Citylab but rather to create conditions where developers themselves see its added value. In this way, the system can be integrated more organically into the planning and implementation processes. Gothenburg City see the system more as a tool that facilitates project quality rather than something that should be forced upon the developer.

Regarding Kallebäck Allé, the respondent believes that the early stage of the project provides a window of opportunity to explore the potential of certification. Integrating

Citylab from the beginning could help frame sustainability discussions and align different actors' perspectives, especially given the project's long timeline and complex stakeholder environment.

Ultimately, the respondent views certification systems like Citylab as part of a broader cultural and organizational shift in how cities approach urban development. If implemented thoughtfully, Wallenstam can guide the transition from ambition to action in sustainable urban planning.

7 Discussion

This chapter is structured into two sections, each corresponding to one of the study's research questions. These two sections are further divided into different themes. Together with the literature background, these sections will analyse and discuss the findings from the case study and the interviews.

- What are the main challenges and opportunities companies face when certifying according to Citylab?
- What is the role of Citylab certification in the planning and implementation of urban development projects?

7.1 Main challenges and opportunities

7.1.1 Limited use and perceived complexity

An aspect that is raised in the interviews is that Citylab is a relatively new and a limitedly used certification system. Unlike established systems such as Miljöbyggnad, LEED or BREEAM, which are widely used for individual buildings, Citylab has so far been applied in a few urban development projects, were many are not yet finished. This means that it is still difficult to determine the long-term results, and the limited use also affects the possibility of knowledge transfer between projects. Respondent 2 expressed that there was no previous project to take inspiration from when working with manual 4.0 and described that future projects will have an easier time certifying when being able to observe their work.

A possible explanation to the limited use, may lie in the complexity. Several respondents describe how the system is perceived as difficult to understand without previous experience. Respondent 7 describes the work as a *“really tough journey”* and that it required great commitment to even understand how the system was intended to be used. Similarly, Respondent 2 reflects that two days of training are not enough to understand such a complex system: *“It’s a two-day course. It’s really short in relation to how incredibly complex this is.”* It is possible that an underlying reason for this perceived complexity is that Citylab has partly been developed within an academic context by experts and researchers (Respondent 9). Although this ensures scientific anchoring, it may also have contributed to the tool becoming difficult to apply in practice, especially in projects where resources are limited.

At the same time, several interviewees who were involved in the early pilot projects provide a different picture. Their experiences indicate that Citylab was initially developed in close dialogue with practitioners. Respondent 3 describes how six to seven projects actively collaborated and helped each other to identify gaps in reasoning, which created an informal network where experiences and solutions could be shared. The respondent believes that *“we helped each other to find the gaps in the reasoning and cover them”* and that this collaboration was crucial for understanding and applying the tool. Respondent 3 also later participated in the SGBC's operational council for the further development of the tool, which shows continuous feedback between theory and practice.

This suggests that the complexity problem may not primarily lie in the fact that researchers developed the tool, but rather in the fact that it has gradually become more

formalized and detailed, which may have increased the thresholds for new users. According to Wangel et al. (2016), this is a known risk that certification systems can lose the flexibility and learning support that made them useful in earlier stages when they are scaled up and formalized. It is also worth addressing that support functions and exchange of experience between projects might be a determining factor for how well the certification process works in practice. The difference in experience between the pilot projects and the project working with the latest manual, might indicate that access to cooperative dialogue and reflection between projects is crucial. Against this background, it may be reasonable to consider how Citylab can be further developed to become more user-friendly. A clearer differentiation between support materials, guiding criteria and strict requirements, as well as an increased focus on application in different types of projects, could lower the threshold and increase the willingness to use the system even by less experienced organizations.

7.1.2 Flexibility and applicability

Another interesting area of discussion concerns whether Citylab is as flexible as it is presented. According to SGBC (2023), Citylab is intended to be adaptable to different project requirements and support sustainable urban development of diverse contexts. However, several respondents questioned this adaptability in practice. Respondent 1 expressed that *“it was basically the same assessments if you were building a completely new area out in a meadow and one here in the middle of town where there are old industries and a lot of businesses”* suggesting that the system does not account for specific constraints that are given due to the project characteristics and location. Projects located in central areas, including existing buildings, with exposure to noise from infrastructure, and limited opportunities to influence the structural plan at an early stage, face greater barriers fulfilling certain criteria. These observations strengthen the idea that local context plays a critical role in determining the feasibility of certification.

Another continuous theme was the question of timing. Respondent 2 noted that, despite Citylab’s stated ambition to be flexible, its structure is strongly aligned with the detailed planning phase, which poses challenges for projects operating at earlier stages. Respondent 2 describes despite its stated flexibility, that Citylab is primarily designed to be implemented at the detailed planning stage, making it difficult to apply in earlier phases where many of its fixed criteria are not yet relevant. These perspectives suggest that there may be a gap between how flexible Citylab aims to be and how it works in practice. It also raises the question of whether the system is better suited for projects with certain characteristics, for example projects in new development areas with fewer limitations, and less suitable for complex projects in dense urban settings where many conditions are already set.

Similar criticism is raised in literature. Wangel et al. (2016) emphasize that a certification system should be adaptable to specific conditions of the location, while at the same time it should be based on general principles that enable comparisons between projects. However, this requirement for both generality and context sensitivity appears to be difficult to achieve in practice. Wangel et al. (2016) describes that certain indicator areas, such as public transport or active mobility, risk having a extremely large impact, even though they are not always possible to meet due to geographical or infrastructural limitations. Several respondents in this study point to precisely such challenges. These observations made by the interviewees in this study support Wangel et al.'s (2016)

concern that certification systems risk becoming rigid in practice and less useful as tools for driving sustainable urban development projects.

7.1.3 Standardization and contextual challenges

An important reflection on this that emerges in both the interviews, and the literature is the question of whether it is reasonable to apply a standardized approach to sustainability certification in urban development projects. Several respondents addresses that the different locations have completely different circumstances to meet specific criteria, and it is not always realistic to achieve all goals. Instead, the focus may need to be on identifying the criteria that are most relevant for the project, to do the best possible based on the conditions. Respondent 5 highlights the challenges with noise requirements in Kallebäck Allé. As they put it: *“You can’t build a big wall just to meet the noise requirements.”* This highlights an important limitation of standardized systems. They can sometimes require solutions that are either costly or unreasonable in certain contexts. This is in line with Wangel et al.'s (2016) criticism of rigid criteria that do not sufficiently consider the contextual conditions of the site. Against this background, it can be questioned whether the goal of certification should always be to achieve a certain number of points or fixed thresholds. Instead, perhaps the focus should be on making visible in a transparent and systematic way which areas can be improved, and which compromises are necessary in the project in question.

When significant measures are required to meet specific Citylab criteria, this can lead to tensions between stakeholders over responsibility and cost. For instance, if the only viable solution to meet noise requirements is to construct a large wall, questions arise around who should fund and implement this measure. Is it the responsibility of Wallenstam, as the project developer, or of the municipality, which sets the planning conditions and requirements. These kinds of ambiguities can create friction in the collaboration process. Similar concerns were raised in relation to traffic and infrastructure. The development of a new urban district will likely lead to increased population density, which places additional pressure on an already strained traffic network. Today, travel to and from Kallebäck is already challenged by traffic jam. If the new residential area intensifies traffic, who should bear the responsibility for upgrading roads and transportation infrastructure.

These questions highlight a potential downside of applying a standardized certification system like Citylab. Without built-in flexibility or clearly defined roles, Citylab’s strict requirements may unintentionally create conflict, particularly when solutions demand large-scale interventions that cross organizational boundaries. Moreover, if responsibilities are not clearly assigned, there is a risk that important stakeholders may withdraw from the process altogether, leaving developers with increased workload and reduced collaborative support. Such outcomes could weaken the very purpose of Citylab, which is to encourage holistic and cooperative sustainable urban development.

Several respondents express that the primary value of Citylab is not necessarily the certification, but the structured way of working that the tool provides. Respondent 3 describes this as:

“Citylab became more of a solution for us, rather than a challenge actually ... what is positive about Citylab then is precisely this that it becomes an anchoring

of the way of working and organizing that was clear at the time.” (Respondent 3)

This view is well in line with the reasoning presented in the literature by Wangel et al. (2016). They emphasize that certification systems often gain greater practical significance when they function as support for learning, collaboration and reflection, rather than as mechanisms for measuring compliance. Their point to that is that the greatest benefit can be found in creating structure, making goal conflicts visible, and providing a common language for sustainable development, rather than in the final score or certificate itself. This suggests that the value of Citylab should perhaps be needed more in its procedural contribution than in achieving a certain number of criteria.

Several other respondents also support this idea. Respondent 2 describes how Citylab helped address important issues at an early stage in the project and created a more iterative and interdisciplinary work process, even if the certification was partly difficult. The respondent also highlight that the tool promoted collaboration with actors who normally wouldn't participate until later stages. This suggests that the value of Citylab does not primarily lie in achieving a certain level or quality mark but initiating a structure that simplifies complex urban development projects with many stakeholders. Considering this, it can be questioned whether Citylab in its current design places too much emphasis on the certification element, at the expense of the guiding role that many experience as its real strength.

7.1.4 Certification as a strategy rather than proof

Another critical aspect is that none of the projects studied are completed, meaning that it is currently not possible to draw any definitive conclusions about whether the projects have led to the construction of sustainable urban districts. It is therefore important to note that at this current state, Citylab may primarily be evaluated as a strategic communication tool rather than a guarantee of actual sustainable development. Several of the respondents raises this subject during the interviews. Respondent 2 describes how Citylab was used to create a profile for a very long-term project with high sustainability ambitions, but with a development time of up to 50 years. For the developer, the certification was seen as a way to *“market it as a very future-proof sustainable residential area”*, rather than as a tool to immediately measure actual sustainability. Respondent 5 also describes that it is difficult to say anything about Citylab's long-term effects because, so few projects have completed the certification, which makes it difficult to evaluate the overall benefits.

The uncertainty about the effect of certification systems is addressed by Wangel et al. (2016) who discuss that these systems often focus more on process and documentation than on actual outcomes. They emphasize that a certification system risks becoming a symbolic tool if it does not include structures for follow-up, transparency and verification of long-term results. In this context, it is worth noting that Citylab does offer the possibility of certification of the implementation phase, but that none of the projects studied in this report have yet reached this point. The question therefore becomes whether planning certification should be seen as a first step in a longer sustainability effort, or whether there is a risk that it will be used as a stand-alone marketing tool, without a guarantee of actual goal achievement.

7.1.5 Practical barriers and reflections on future use

Specialized knowledge and resources were one challenge Häkkinen & Belloni (2011) recognized when certifying with a certification system. Hearing the amount of increased workload it requires can become a deterrent for projects, even though the long-term benefits of certification are recognized. Many of the respondents also recognized this challenge when pursuing with the certification. Respondent 1 expressed that even though they had a background in sustainability some of the focus areas in Citylab felt new and knowing what was reasonable was difficult. As the documentation of the certification system is so heavy and extensive, respondents needed expertise people. This problem was not only seen by smaller scaled companies, but also by one of the largest organizations in Sweden. When one of the largest organizations in Sweden finds the certification system demanding, that could raise concerns about the broader accessibility of the system. Although Citylab offers a flexible and adaptable framework, its detailed requirements and the absence of clear templates or support may limit its usability for less-experienced actors as Wallenstam would be if they decide to certify with Citylab. Also be one of the first to certify with manual 4.0, since Respondent 2 expresses even more uncertainties and increased workload when being the first to certify with a new manual.

One potential limitation of Citylab is the absence of third-party verification. Unlike EU Taxonomy, which requires external validation to confirm sustainability claims (European Commission, 2021), Citylab relies on self-assessment and internal reporting. This could affect its perceived credibility from external stakeholders where they question the certification and demand a verification of it. As noted by Berardi (2012), third-party certification can strengthen a system's legitimacy and increase market acceptance. While none of the respondents questioned Citylab's trustworthiness explicitly, the growing emphasis on accountability and transparency in sustainable finance, including through frameworks like the EU Taxonomy, may influence how developers perceive and choose certification tools in the future. For Wallenstam, Citylab provided a useful structure for organizing sustainability goals and aligning internal and external stakeholders during the early stages of the project. However, if future urban development projects seek for more verification and trust, using a certification system that has third-party verification will more likely be used. The credibility of self-assessed models like Citylab could be questioned, possibly affecting their long-term relevance in projects that require externally validated sustainability performance.

Certain focus areas/indicators have been described as particularly difficult to meet. The two examples that are mentioned by interviewees is the indicator for mixed housing and good sound environment. The indicator for mixed housing aims to promote social sustainability and address segregation. Respondent 2 emphasizes that the purpose of this indicator is very positive but addresses that this is *“more or less impossible ... in this society that we live in today”*. It is highlighted that market and legislative frameworks for new production limits the possibility of building affordable housing in larger volumes. She explains that even if the will is there, *“no one can see how you can even work with it on newly built housing and get down to those prices.”* This suggests that the indicator, despite its social value, is difficult to implement without deeper structural changes in the housing market. Sharif et al. (2021) describes the importance of developing systems to fit the local physical, legal and social conditions. This strengthens the reasoning that indicators should not be formed as rigid demands but

should be constructed so that projects can show how they have worked on the issue to the best of their ability based on the circumstances.

The indicator of a good sound environment is also described as particularly difficult, especially in projects with urban or infrastructure-intensive locations. Respondent 5 highlights the challenge in the Kallebäck Allé project, which is located between two major traffic routes. They note that it is difficult to meet the sound requirements without compromising other qualities of the urban environment. This addresses how the conditions of the location sometimes conflict with the objectives of the indicators, and it is interesting to discuss that maybe a more context-adapted application of indicators could increase the relevance of the tool. These observations again reflect that it may be necessary for Citylab to expand its focus beyond ambitious indicators and enable context adapted application where projects can identify alternative solutions and justifications for why certain goals are not achieved. This aligns with the research of Wangel et al. (2016) that suggests that certification systems should function as support rather than static control tools.

A curious note that Respondent 3 mentions in the interview is that although they had gained valuable insights from certifying with Citylab and were satisfied with the work accomplished, they were uncertain about using the system again in future projects. An interesting fact since the project won the “Citylab project of the year” award. Multiple times in the interview the respondent mention how pleased they were with the certification process and that the system forces them to see the bigger picture and organize processes to solve complex challenges. Despite the positive experience, Respondent 3 stated that in future projects, they plan to develop their own sustainability goals tailored to each project's specific context, rather than continuing with Citylab certification. They believe that the knowledge and valuable insights from using Citylab will help them form their sustainability goals by themselves. This finding resonates with the literature on sustainability certification systems, where tools such as LEED, BREEAM, and Citylab have been praised for providing frameworks to operationalize sustainability but also critiqued for being demanding and sometimes difficult to scale across projects (Berardi, 2012; Sharifi & Murayama, 2013). Even though Citylab adds clear value during planning and implementation its continued use may depend on perceived return on investment and internal capacity.

7.1.6 Tool for collaboration and structure

Despite the challenges that the respondents raise regarding the implementation of Citylab, there is also a recurring pattern in how the tool is perceived to contribute positively from several perspectives. The greatest benefits appear to lie in the usage of Citylab as a process tool rather than as a technical certification, according to the interviewees. It seems to function as a tool for increased collaboration, internal organization and strategic dialogue. Citylab gave them a structured working method where actors are forced to reflect together on issues that might otherwise be overlooked. The system helped formulate visions and goals for the project and to concretize sustainability goals. For the Kallebäck Allé project, the potential is seen in the fact that Citylab could provide a structured framework for implementing sustainability and help to concretize specializations as the project progresses.

Another important value with Citylab is how it can improve sustainable urban development in Sweden. As seen from both literature and the interviews, encourages

the certification system planners and developers to explore new routes in sustainability, especially in areas where they lack knowledge. Respondent 1 expresses that even though they had a background in sustainability there were new areas explored when using Citylab. It can be valuable from a learning perspective for companies like Wallenstam, who have not used Citylab before. It promotes a learning process where stakeholders share knowledge and experiences, something that can be very valuable in the future. Although the respondent from Wallenstam noted a shift in focus from sustainability to economic priorities in the current climate, it remains likely that attention will shift back toward sustainability in the coming years as regulatory, financial, and societal pressures intensify. Sustainability often becomes less of a focus during economic downturns but usually gains importance again when the situation improves, or new rules are introduced. While economic concerns may currently dominate decision-making, Wallenstam has the opportunity as a large organization to be strategic and stay aligned with long-term expectations by continuing to integrate sustainability practices, even when market conditions are challenging.

Sharifi et al. (2021) identify two key factors that contribute to the success of sustainability certification systems: structural and procedural achievements. Structural success includes the continuous improvement of the certification tool over time, the refinement of measurable indicators, and the ability to adapt to local contexts. In this study it is shown that Citylab does improvements and refinements on their manuals. SGBC has continuously revised and improved the Citylab manual, with the most recent version (4.0) reflecting updated sustainability priorities, clearer guidance, and better alignment with current planning practices and policy frameworks. This ongoing refinement can be seen as a significant opportunity for actors like Wallenstam. As Citylab becomes more user-friendly, context-aware, and better structured, it increases the likelihood of successful integration in future projects. Furthermore, SGBC's commitment to adapting Citylab based on feedback and changing urban challenges enhances the system's long-term relevance and usefulness, reinforcing its value not only as a certification tool but as a dynamic support system for sustainable urban development.

7.1.7 Organizational learning and cultural shift

One clear advantage often mentioned is that Citylab helps raise important questions early on and brings various stakeholders together to work towards common objectives. The discussion around its benefits is less about achieving a certain number of points, and more about how the application of the tool itself contributes to organizational learning and interdisciplinary work. Sharifi et al. (2021) argue that certifications that work best are often characterized by creating structures for communication, shared understanding and long-term capacity building. This aligns with the findings in this study, where Citylab is described as a tool for a structured and inclusive planning processes. The value lies in how it shapes the way projects are discussed, managed, and developed, that is encouraging a culture of transparency, early engagement, and cross-sectoral cooperation.

7.1.8 Alignment with the Swedish planning process

One important finding from the study is that Citylab, despite being an external certification system, aligns well with the Swedish Planning and Building Act (PBL) and does not conflict with the traditional municipal planning process. Instead, all respondents emphasize that Citylab serves as a complementary methodology that can

be integrated within the frameworks set by PBL. They saw Citylab as an extended version of PBL with higher requirements for sustainability. The latest version, manual 4.0, has further strengthened its alignment with PBL to simplify the work between Citylab and PBL. These findings are also recognized by literature, Wangel et al. (2016) highlights the importance of aligning sustainability tools with national planning traditions to ensure effective integration and implementation. In the case of Kallebäck Allé, the Citylab process can be implemented in an early stage of the project allowing the project to align the certification with the municipal planning traditions and visions for the project, and therefore give the project the best possible conditions. Furthermore, Sharifi et al. (2021) note that certification systems at the district level often aims to translate great sustainability targets into actionable local strategies. This was also recognized by multiple respondents as they argue that Citylab were a better fit for Sweden than other certification systems such as BREEAM-C and LEED-ND. While some respondents noted challenges in aligning Citylab's documentation with the formats typically used in municipal planning, these were viewed more as practical hurdles than systemic contradictions.

In the interview with Respondent 4, who represents Gothenburg City, it is clear that certification systems such as Citylab are perceived as an interesting complement to the planning and implementation process. They expresses that the municipality is of course open to such tools, although it is up to the developers to drive the certification work. The municipal role is to support processes where sustainability is prioritized, which can be done through, for example, dialogue, planning regulations and steering documents. The respondent emphasizes that it is positive if such certifications are introduced early in the process, especially in connection with planning decisions or planning programs, and that the municipality would like to see more initiatives in this area. This attitude indicates that there is political and organizational support for working with Citylab, which is an important requirement for the long-term establishment of the tool. It is also mentioned by the interviewees that the support from the municipality is an important factor for a successful certification.

7.1.9 Long-term vision and stakeholder integration

The respondent from Wallenstam describes the area they own, where they will further develop Kallebäck Allé, as a variety of different function such as housing, educational facilities, commercial spaces, restaurants and other services. The integration of diverse functions within the project enhances its potential to develop into a cohesive and sustainable urban district, offering favorable preconditions for aligning with the ambitions and criteria set out in the Citylab certification framework. Respondent 5 describes how this type of property ownership can be an advantage by providing the opportunity for long-term planning and control, especially when it comes to meeting social sustainability goals such as mixed housing and access to public services. This creates favorable conditions for managing issues such as access to services, green spaces and the noise environment, which can otherwise be challenging in more fragmented development areas. For the case of Kallebäck alle, Citylab can potentially play a central role in coordinating sustainability work and create a long-term perspective.

A valuable opportunity for Wallenstam is how Citylab brings stakeholders together and form a common vision for the area. Seen both in literature and heard from respondents is that Citylab helps to clarify roles and responsibilities early on and serves as a platform

for communication and collaboration. It facilitates dialogue between public and private actor. By involving a broad group of stakeholders early on, Citylab can inspire new initiatives. The system supports a structured but flexible form of collaboration and requires projects to show how they organize themselves and uses resources to achieve their goals. Several respondents believe that Citylab has become a gathering point that clarifies sustainability work for everyone involved. Wallenstam has a stated vision of creating a high-quality, vibrant urban environment in Kallebäck Allé and places great emphasis on designing the area with the end user in mind. The respondent from Wallenstam emphasize that the tenants' well-being and willingness to stay for a long time are crucial to the project's success and long-term sustainability. Since Wallenstam plans to own and manage most of the area itself, they are in a unique position to act on the feedback and insights gathered from early stakeholder dialogue, including dialogue with future tenants or representatives of the residents' perspective. This long-term management role means that Wallenstam has a direct interest in ensuring that the sustainability goals set early on are followed and maintained over time. The early collaboration that Citylab drives can provide Wallenstam with valuable input to create an environment that is sustainable not only upon completion, but also in the long term. Citylab provides Wallenstam with a structured framework to further develop and certify urban development projects, which can help them ensure that important indicators and goals are met, also from a resident and user perspective.

Table 3 Summary challenges and opportunities

KEY ISSUES	
CHALLENGES	<p><i>Citylab is still new and rarely used, making it hard to learn and apply without prior experience or practical examples.</i></p> <p><i>The system is perceived as complex and not adapting well to complex or built-up urban environments.</i></p> <p><i>Certification systems often not flexible and include rigid criteria that are difficult to adapt to local conditions, making them challenging to apply contextually in diverse urban development projects.</i></p> <p><i>None of the projects studied are completed, and it is not possible to draw any definite conclusion on whether the projects have led to the construction of sustainable urban districts.</i></p> <p><i>Citylab is sometimes used more for marketing than for achieving verifiable sustainability results.</i></p> <p><i>The certification process requires extensive documentation, specialized knowledge, and significant internal resources, which can be challenging for even experienced developers.</i></p> <p><i>The lack of third-party verification.</i></p>

OPPORTUNITIES

The rigidity of certain indicators raises concerns about both usability and long-term credibility. Two indicators were perceived as particularly difficult to meet.

Citylab is perceived as a valuable process tool that fosters collaboration, strategic dialogue, and internal organization.

It supports setting goals early and helps stakeholders reflect together on sustainability issues that may otherwise be overlooked.

The system encourages learning and exploration of new sustainability areas.

SGBC has continuously updated and redefined the manual with result in structural success.

Citylab contributes to a cultural shift by promoting early stakeholder engagement, shared understanding, and interdisciplinary collaboration.

The tool aligns well with the Swedish Planning and Building Act (PBL) and is seen as a complementary methodology that can be integrated into existing municipal processes.

Citylab creates a long-term vision, where diverse functions and long-term ownership support sustainable development.

Citylab helps clarify roles and responsibilities early in the process, acting as a communication platform between public and private actors.

The structured collaboration and early dialogue driven by Citylab are seen as critical to achieving user-focused and long-term sustainable outcomes.

7.2 Affection on the planning and implementation phase

7.2.1 The importance of timing

The findings from this study indicate that Citylab certification system influence both the planning and implementation phases of urban development projects. One of the important insights from the study concerns the timing of Citylab integration. Projects that began working with Citylab before the detailed planning phase, such as Respondent 2's project, experienced clearer alignment between sustainability program and the planning process. However, Respondent 2 also expresses that they might be too early in the process sometimes which has been difficult for them. In contrast, respondents who engages Citylab later encountered conflicts between establishing planning plans and certification requirements. Respondent 3 expressed that if they would use Citylab again they would pursue with it earlier than they did the first time. This suggests that while Citylab has the potential to guide sustainable development effectively, its influence is

strongly dependent on when it is introduced into the project timeline. For Kallebäck Allé, this insight is particularly relevant, as the project is currently still flexible. Deciding on Citylab now could enhance the project's ability to implement sustainability goals systematically before the design and planning frameworks are decided. The respondent from Wallenstam believe that they are in a phase of the project where they could proceed with Citylab.

7.2.2 Early integration of sustainability goals

Another aspect is how Citylab encourages the integration of sustainability considerations early in the planning process. Several respondents emphasizes that when using Citylab as a certification system, sustainability became embedded in the core project structure rather than treated as a separate or parallel process as other urban development projects. Respondent 9 expresses that “... *we have fifty-one other documents ... but here you bake everything together into one ... single document ... that guides us ...*”. This integration often helped clarify goals and align the sustainability agenda with the project’s overall direction, supporting what Wangel et al. (2016) and Sharifi et al. (2021) describes as the benefit of incorporating sustainability from the early stages of urban development. However, some of the respondents also mentioned that it was difficult to apply concrete criteria at such an early stage, before the detailed planning phase had begun.

In the case of Kallebäck Allé, sustainability has been presented in the project vision from the beginning and Wallenstam has been using a certification system for buildings before. However, Wallenstam has not yet committed to using Citylab. The respondent from Wallenstam recognized that Citylab could be a helpful structuring tool to guide sustainability effort and potentially improve long-term quality but also expressed uncertainty around the value relative to cost and resource investment. Since none of the certified projects are completed, the outcomes and long-term returns are still unknown. This hesitation reflects broader concerns raised by multiple respondents about the administrative demands of the system and the difficulty of assessing its long-term return. It also highlights that the decision to certify has strategic implications where certification must be weighed against flexibility, internal capacity, and competing priorities.

7.2.3 Citylab as structuring framework

Citylab is designed to provide a structured process, defined criteria and measurable indicators for sustainable urban development. Several respondents perceive Citylab as a process tool and a methodology that helps them work more broadly with sustainability than they would otherwise have done. They also express that the system helped structure documentation and integrate sustainability more consistently across project phases. This aligns with the literature where Wangel et al. (2016) and Zhang et al. (2021) claims that a certification system provides a clear reference point and is an established framework. Respondent 2 explains that Citylab functions as a structure that not only talks about what is to be achieved, but also how the work is to be organized, and what resources and skills are needed. Further, Respondent 9 described how Citylab allowed them to unify many fragmented documents and sustainability ambitions into one cohesive program, making internal planning clearer and more traceable. Similarly, Respondent 3 shared how they aligned the sustainability program with the detailed development plan, enabling them to conduct impact assessments and influence planning outcomes based on predefined goals. These cases show how Citylab can act

as a methodological framework that supports the implementation decisions and alignments, something that could be particularly valuable in large-scale, multi-actor projects such as Kallebäck Allé.

Further, the newest manual, 4.0, is structure with three phases, two precertification's and one final certification. The certification process is designed to follow the process of the project, something that Respondent 2 is in favor of. Respondent 2 argues that this multi-stage system naturally drives an iterative approach, where one needs to go back and reevaluate previous assumptions and goals. This shows how the very structure of the system affects the dynamics of the planning process and make you reflect on every decision you make.

7.2.4 Challenges with administration and interpretation

However, these benefits can also come with compromises. Several respondents describe how the extensive documentation requirements and the ambiguity around how to present material made the certification process more time-consuming than anticipated. They argue that it was much more time-consuming than similar sized project that is not pursuing with a certification. While the manual clearly states what outcomes to achieve, it is often less clear on how to demonstrate compliance, which creates administrative uncertainty. Respondent 2 were one of the respondents that expresses this: *“It takes an indescribable amount of time just to figure it out. The requirements are very specific or the assessment criteria. It says exactly what to report but it doesn't say anywhere how to report it ...”*. These findings were brought up in early research where Häkkinen & Belloni (2011) highlighted how rigid and overly complex certification systems can become demanding in practice. For developers with limited experience or no one to talk to, this can delay decision-making and pressure internal resources. Häkkinen & Belloni (2011) also expresses that specialized knowledge and resources are often required which further puts pressure on companies trying to certify. As noted by the respondent from Wallenstam, a key consideration is weighing the costs against the benefits. Therefore, being aware of the extensive documentation requirements and the need for specialized knowledge can be frightening. An observation also highlighted by Häkkinen and Belloni (2011).

7.2.5 Platform for stakeholder collaboration

Another change when implementing Citylab into the planning phase is the structured approach it has. According to respondents the structure forces collaboration and engagement from various stakeholders at an early stage. It is seen as a worthy dialogue tool between public and private actors. Citylab's structure helps to clarify roles and responsibilities early in the project. The collaboration and engagement were succeeded through different methods such as workshops and meetings. Something that were not done before. In one of the projects, they expressed that the fact that different administrators in the municipality were involved early on via Citylab were greatly appreciated in the project. Respondent 3 explained that working with Citylab became more of a solution for them rather than a challenge because it got all the actors together on a common journey around what must be done. These statements are also seen in various articles. Feretti (2016) emphasizes the importance of involving multiple stakeholders in decision-making in urban development projects. Engaging diverse perspectives enriches the decision-making process and encourages future participation and collective responsibility. Citylab is therefore a system that can help engage all four stakeholder groups; knowledge and innovation, political and public administration,

social, and economic and financial administration, who Esteban-Narro et al. (2025) identifies in their article. Further, according to Wangel et al. (2016) certification systems establish a shared platform and a common language for communication and collaboration between stakeholders. This promotes a shared understanding of the project and goals. The respondent confirms this statement by describing Citylab as a “valuable dialogue tool” and that it became a “rallying point, a boost, a clarification” for them.

In the Kallebäck Allé case, while Citylab has not yet been applied, both Wallenstam and the City of Gothenburg recognize the potential of the system to support such multi-stakeholder coordination. The municipal representative expressed openness to using Citylab as a shared platform for collaboration, although it is not a requirement from their side. Having the City of Gothenburg on board if deciding to proceed with Citylab, can be a significant advantage. As noted by respondents, early municipal involvement fosters a sense of shared ownership and can strengthen the legitimacy of sustainability ambitions, making it easier to implement long-term measures that align with both developers and city objectives.

Table 4 Summary affection on the planning and implementation phase

KEY AFFECTIONS	
PLANNING AND IMPLEMENTATION PHASE	<p><i>The impact of Citylab depends on timing; early integration enables better alignment with planning processes, while late use can cause conflicts and missed opportunities.</i></p> <p><i>Citylab helps integrate sustainability into the project's structure from the start, making it a natural part of the process rather than a separate task.</i></p> <p><i>The tool provides a structured framework that helps organize sustainability efforts across project phases and supports project objectives, documentation, and traceability.</i></p> <p><i>Citylab's process requires extensive documentation and lacks clear guidance on how to demonstrate compliance, which can lead to administrative burden and uncertainty.</i></p> <p><i>Citylab fosters early collaboration across public and private stakeholders by clarifying roles, encouraging shared responsibility, and supporting dialogue-based planning.</i></p>

8 Conclusion

This thesis aims to investigate the challenges and opportunities companies face when pursuing Citylab certification, with a specific focus on the case study of Kallebäck Allé, a development project by Wallenstam. By exploring Citylab, this research will provide insights into what role the certification process has on the planning and implementation phases of an urban development project. To address the overall aim and conclude the study, the two research questions will be examined and answered.

What are the main challenges and opportunities companies face when certifying according to Citylab?

This study shows that Citylab offers compelling opportunities for companies engaged in urban development. Citylab supports a more structured, inclusive, and reflective planning process, helping actors formulate clear sustainability goals and align common project objectives across stakeholders. Respondents highlighted Citylab's strength as a process tool, not only guiding sustainability work but also encouraging early communication and collaboration. The system creates value by making sustainability issues visible early, demand learning and cross-disciplinary engagement.

Several challenges have also emerged in this study. Many respondents described Citylab as complex and demanding, particularly in terms of documentation and administrative workload. The absence of detailed instructions on how to present required material adds uncertainty, and the lack of third-party verification may limit the system's credibility in contexts where external validation is critical. Some respondents also questioned whether Citylab is truly adaptable across diverse urban contexts. Projects in dense urban areas struggled to meet certain criteria. Despite these barriers, several respondents noted that the real strength of Citylab lies in its ability to initiate a structured, collaborative, and long-term approach to sustainable urban development.

What is the role of Citylab certification in the planning and implementation of urban development projects?

The findings of this study demonstrate that Citylab's certification process plays an active role in shaping both the planning and implementation phases of urban development projects. Respondents described how Citylab helped embed sustainability into the core project logic. It was not seen as a separate object, but as a guiding principle throughout the process. It fostered coordination between stakeholders, encouraged systematic documentation, and enabled a holistic view of the project. In many cases, Citylab served as a common platform for cross-sectoral collaboration, supporting both public and private actors in navigating complex planning conditions.

The timing of implementation emerged as a critical factor. Projects that introduced Citylab before the detailed planning phase experienced better alignment between the certification and the planning framework. In contrast, introducing the system too late created friction with established plans. For Kallebäck Allé, the current phase still allows for potential integration of Citylab at a meaningful stage, providing an opportunity to influence project structure before major planning decisions are finalized.

Citylab was also recognized as requiring considerable organizational resources and specialized knowledge. The perceived value of the certification must therefore be weighed against internal capacity, financial constraints, and strategic objectives.

8.1 Future research

This study has resulted in an awareness of the opportunities and challenges with pursuing with the certification system Citylab created by SGBC. Since none of the projects certified with Citylab is constructed, an interesting study for the future could be to evaluate those urban areas and see if they are more sustainable than others. To see if the work with Citylab pays off and improve the sustainability. As the study recognized the amount of work put into certifying a project with Citylab, another interesting area for future research could be to follow a project and calculate how much extra work it is and try to calculate this into an expense.

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Appendix

Appendix 1: Interview questions

Appendix 2: Interview data

Interview questions

Interview question with respondents familiar with Citylab

1. Could you start by briefly telling me a bit about yourself and what you do?
2. Can you describe your role in the “Lövgård in Sundbyholm” project and how you were involved in the Citylab process?
3. What motivates you to pursue environmental certification, and why did you choose Citylab in particular?
4. How familiar were you with Citylab before working on this project?
5. What were the biggest challenges you faced while working with Citylab?
6. Were there any requirements that were particularly difficult to meet?
 - If so, why?
7. Did you experience any conflicts between Citylab's criteria and other project demands (e.g., budget constraints, local regulations, or stakeholder expectations)?
8. Did you have to compromise on any aspects—such as function, cost, or aesthetics—to meet the criteria?
9. How would you describe your communication with SGBC?
10. In what ways did Citylab benefit the project?
11. Did the certification process encourage any innovative solutions in urban planning, sustainability, or stakeholder collaboration?
12. How has the certification influenced the project’s long-term sustainability goals?
13. How did Citylab affect the planning phase of the project? Did it change the way you work?
14. Do you feel that the long-term savings, such as reduced energy and water use, balanced out the initial investment?
15. What do you wish you had known before starting the certification process?
16. Do you think Citylab is an effective tool for promoting sustainable urban development?
 - Why or why not?
17. If you could improve the certification process, what changes would you suggest?

Interview questions land- and project developer from Wallenstam

1. What are the main sustainability goals for this project at this early stage?
2. How important is sustainability certification for this project?
 - Why or why not?
3. Has Citylab been discussed as a potential certification for this project?
4. What factors would influence the decision to use Citylab or another certification system?
5. What do you see as potential benefits of using Citylab for this project?
6. How do you think sustainability certification could impact the project's long-term value and success?
7. Are there any issues or challenges that could make it difficult to implement Citylab?
8. What kind of support (financial, regulatory, technical) would be needed to facilitate Citylab certification?
9. How do external stakeholders (e.g., municipality, investors, contractors) influence sustainability decisions?
10. Even if Citylab is not used, what key sustainability principles do you think will be important for the project?
11. How does sustainability factor into the decision-making process at this stage?
12. Do you see increasing pressure or encouragement from municipalities or national regulations to use certification systems like Citylab?
13. Would you say that Citylab affects property value, marketability, or access to financing?
14. If you could improve the certification process, what changes would you suggest?
15. How do you view the role of certification systems in future urban development projects?

Interview question with detailed plan administrator from Gothenburg City

1. Can you describe your role in urban planning for the City of Gothenburg?
2. What are the city's sustainability priorities for new urban development projects?
3. How does the municipality support or encourage sustainable construction?
4. What is the municipality's stance on using certification systems like Citylab in urban development projects?
5. Would the city prefer or encourage developers to use Citylab or similar systems? Why?
6. How does the municipality collaborate with developers to ensure that sustainability goals are met?
7. From a municipal perspective, what are the perceived benefits and challenges of using Citylab?
8. What challenges exist in aligning the city's sustainability goals with the interests of private developers?
9. How well does Citylab align with the city's sustainability and planning strategies?
10. Are there other sustainability frameworks or strategies that the city prioritizes over certification systems?
11. Do you think certifications like Citylab will play a larger role in the future of urban planning in Gothenburg?
12. What sustainability requirements or expectations does the municipality have for projects at this stage?
13. How early in the planning process does the city expect sustainability aspects to be addressed?
14. How can certification systems support municipal planning goals?
15. What improvements could be made to certification systems to better align with municipal sustainability goals?
16. In your experience, what factors make sustainability certifications successful in urban development?

Interview data

Interview 1

Respondent 1, Environmental strategist, Project 1, manual 1.0

LK: Can you describe your role in the project and how you were involved in the process with Citylab?

Respondent: *“Of course I would tell you. Yes, but I worked as the person responsible for Project 1 and sustainability at the time. When I did this and we did this current situation analysis for the ambition, it was like we were going to do that and then we would set goals and deliverables for each development area here into a whole. First we did when we put the analysis together and then a vision for the area and interim goals and then we would have different puzzle pieces to the whole. So I was going to be responsible for that but when we had done this test against the pilot project which I don't remember what it's called. I might have it somewhere. It was called Certification of the sustainability of a city district. After that I changed jobs so after that I haven't worked with it anymore. Otherwise I kept together the students who were involved who did the current situation analysis and also parts of this certification.”*

LK: What motivates you to environmental certify and why did you choose Citylab?

Respondent: *“Well, Respondent 3 will probably tell you about it, but he has been involved and somewhat developed this methodology at Project 3. I can actually share it with you. We found an old presentation here at Company 1. I don't know how much you know, but Company 1 works with several areas in Älvstaden and we were groping a bit about how we should work with sustainability? And then Respondent 3 and a few other colleagues had worked in Project 3 with this and thought that Citylab was a very good tool. A process tool that you could see all the parts. Very broad then. Yes, here you see how we thought that we would use this to ensure sustainability and work in the same way in the different sub-areas of Älvstaden. And then Project 3 was a good example. I can send this to you later if you want it. It's very short, but that's how we thought then, that we wanted to see what's good at Project 1 and what we need to strengthen to get here. You could say that even before we entered this pilot project, we could see that at Project 1 it is difficult precisely because the conditions are a bit difficult. But, that we still wanted to test it against these goals. Then we had. Yes, you can get this too then. What advantages we saw with Citylab”.*

LK: How familiar were you with Citylab before you worked on this project?

Respondent: *“Well, I didn't work actively in Project 3 but I heard a lot. So we were a group with the sustainability team, you could call it that, so I had quite a good insight into how they work in Project 3 and then I also took a Citylab training course. That was it.”*

LK: What were the biggest challenges you faced while working with Citylab?

Respondent: *“We did this after we had done this certification process. You could say there were two processes that we had then. So this was after certification because you are like, it is certification and the city district that you are most interested in? Yes, and*

then we were like I said with a pilot project and there were five projects that were involved and were going to test this tool. So I don't know what happened after that. It could be that, SGBC is called that, right? Yes, that they have made certain adjustments. I don't know, because there were several of us, pilot projects at the time, who saw difficulties with this. You know this without before maybe, right? Yes, as I understood it, it was like an extreme. There was a huge amount of work behind this certification manual or whatever it was. There had been a lot of researchers involved and it was very detailed. I know that from Project 3. There it was more like the process that you certified. You certified action plans and like, and then what was one advantage there was that it was based on the conditions in that area. Now when we were going to test this certification tool, there were pretty clear requirements in all these areas that you were going to be tested against. It wasn't adapted from here at all, but it was basically the same assessments if you were building a completely new area out in a meadow and one here in the middle of town where there are old industries and a lot of businesses and stuff like that. Then that was also one thing. Now I'm reading the inside here. But we did this current situation first and kind of worked with it just because we did it quite ambitiously. There wasn't really any connection between that work and being able to get certified. Of course there was a connection, but it wasn't like this, you work according to this process and then you meet the requirements but it didn't really connect. Now I don't remember exactly what it was. But I remember that we thought it was a little bit, it was a shortcoming. But, as I said, I don't know. Maybe you're talking to SGBC too, right?"

LK: No, so far we haven't booked anything?

Respondent: *"No. Okay. No, because it could very well be that that certification looks completely different today. But it is yes."*

LK: Did you provide feedback to them?

Respondent: *"Yes, absolutely. We, did we have this that you see now? They got it. We can look here. Because it was also, so the detailed control that we didn't really think had anything to do with urban development. Now we were supposed to certify a district, but it was very detailed. So it was here then like place mats, there are plastic mats inside apartments and radon and climate and energy agreements. So, it was extreme, but that maybe belongs to building certifications. Then you understand that if you want to have a sustainable district, then the buildings should also be sustainable at the same time that it makes it impossible to work with a district where you don't start from scratch, like. Here we have a lot of buildings from. Yes. What is it? Forty? Yes, the oldest is from the beginning of the twentieth century, but it's like a whole forty. Yes. Yes, I think so."*

LK: Were there any requirements that were particularly difficult to meet?

Respondent: *"Yes, we have, among other things, what they say here indoors. Well, I don't actually remember exactly how the requirements were formulated, but I remember that we reacted to the requirements, they were kind of set based on how it looks now. But if you have a building that is twenty-five years old, then the requirements looked completely different. Then the whole idea kind of falls apart. Yes, and this thing with climate energy, for example. But it could be that they don't want to certify areas that are partly old then. But yes, then that was also the case. Yes, but then this access to*

preschools in relation to the number of children. Yes, we have very few homes here anyway. There's kind of no basis for a preschool. Now I don't remember how far, how close it would be. I think there were several parts like that. There would be a certain distance to preschool, a certain distance to school, and also to certain services. It's also very difficult in an area that. Then it's clear and then maybe you can say that then Project 1 has no chance of being. But then the tool can't help us here either. Then there was also this thing with children. I wonder if it was children who would answer difficult with the survey and children. Now I don't remember exactly, but there was at least one point where it was something difficult with the survey and children living there. Yes, crap. Then there was also this thing with noise and air. We have Lundbyleden here. It is in the national interest. Not much can be done about it. Then it was quite complicated, we thought it was very detailed and now we had students helping us with it. It was very resource-intensive and detailed. There were surveys that we were going to send out to residents that were really complicated according to the proposals at the time where you were going to answer a question. Then you were going to click on to something else. I just felt like this. God, if we get someone who can even bear to answer this, we'll be happy. I think we changed it a bit because we felt it was too difficult. And so you would answer on a certain day also so that there would be some spread, I think it was. Now you all get negatives at the same time and it sounds very negative, but yes".

TJ: We want to hear the real opinion so that's just good.

Respondent: "Yes, and then the last point is that we. There were requirements and definitions that differ. Now I don't know and I don't remember what it was if they were based on the recommendations of the Swedish National Board of Housing, Building and Planning or on research or whatever it is. But it will be very difficult if requirements are much narrower places like the Gothenburg City's requirements when it comes to environmentally friendly construction, for example, and things like that. Yes, that's what it should be. Yes, exactly that. I like Citylab and that it's very good that you can work with entire city districts. I think it's difficult to be too narrow because it looks so very different. The conditions are so different in different parts. Then we'll see. We also have a wish list. What does this say then? Increased consideration of the area's conditions. Greater flexibility."

LK: Yes, but I think that is somewhat consistent with the perception we have received from the literature we have read so far, so that is it.

Respondent: "Do you know if they are working on developing their manuals?"

TJ: Now there is a 4.0 manual, so I still think that they are continuously trying to update their manuals.

Respondent: "It might be much better now. One can hope so".

LK: Did you experience any conflicts between Citylab's criteria and other project requirements (e.g. financial constraints, local regulations or stakeholder demands)?

Respondent: "Yes, that was where it differed then. I don't remember exactly what, but it was schoolyards. The city's grave on schoolyard areas, I think, and if you want, I think I have this report somewhere. Ours, too, if you want to read it there".

LK: Yes, but I would love to. That would have been exciting.

Respondent: *"Then financially, of course I did. It's just that I don't really know if we discuss it. That's from the outside. We didn't. We had no ambition to certify then. But maybe I also concluded that it's not impossible. See if I had anything more. Other stakeholders. Then the whole urban development is full of conflicts of interest, that's how it is. I can see what I can find. Then it was very good to be part of this, the pilot project, because then you got a little extra help or what to say. We had something like this. We were a group. I think there were five of us and we kind of had reconciliations together then. It was very useful. I'll have to do some searching and see what I find. We have reports."*

LK: In what way did the Citylab project benefit?

Respondent: *"Now we didn't run out of steam here. But I Citylab, it's really good that you, there is and there is a manual on different themes that you need to review and so it's a really great knowledge base and also like this. I'm trained in sustainability. But I have no idea about all of these things. What is reasonable? What is good in terms of what it's about? Yes, whether it's stormwater or so, there are so many questions and the fact that you also have social sustainability is also a very, that there are still such clear boundaries that, if you greet your neighbors in the stairwell, like there are so many people who do it, it's pretty good. I think that's great. Actually, that you get a very broad sustainability perspective and get to include many parts."*

LK: Did the certification process encourage any innovative solutions in urban planning, sustainability or collaboration with stakeholders?

Respondent: *"So we didn't really do this all the way through. But, we had a presentation when we had done this. I think it was the current situation analysis and there was a lot of interest. Both other property owners and the city were interested and so on. But, I can't really think straight away if there was anything. But if they had given up on the idea that we were now going to certify Project 1, then they would certainly have had to think anew and so on."*

LK: How did Citylab affect the planning phase of the project? Did Citylab change your way of working?

Respondent: *"Yes, but we did this baseline analysis and then we looked. I don't remember if it was part of Citylab, but we also looked at the governing documents that we have in the city and "Vision Älvstaden" and based on that. This was a very large and important basis there. So we set different impact goals. We had different concepts from what was used in CityLab because we were told to do that. But we definitely use the basis to formulate the vision and goals for the work going forward, so we did that."*

LK: What do you wish you had known before you started the certification process?

Respondent: *"Yes, no, because we were part of that pilot project, we had it pretty good. We could email questions about something and that. I can't remember that it was something like us. It might have been nice if we, like. It's impossible to say. But how*

much, it required an extremely large amount of work. Many parts are very detailed, so. It might not be possible to say someone like this. This, this much time and money it costs. But it was a lot of work."

LK: Do you think Citylab is an effective tool for promoting sustainable urban development?

Respondent: "I don't know. It was so long ago, but I think it's a good tool, but maybe. I thought it sounded wise that you could start from certain conditions that are set and then. Yes, it's difficult to work with them."

LK: If you could improve the certification process, what changes would you suggest?

Respondent: "So I thought that this certification process that was worked on in Project 3 seemed very wise. When I say that you should start from the conditions, I don't mean that you shouldn't be ambitious or something like that. But, as this test model was, I probably don't know of a single project that could be certified. Do you know if there are districts that are certified or how it works?"

TJ: I think there are a few, maybe eight, maybe ten that have.

Respondent: "Yes. I hope they are a little bit more adapted then."

LK: It is very possible that there have been some changes.

Respondent: "Yes, that would be interesting to hear. Respondent 3 might have an idea about it. Respondent 3 was part of some kind of working group. A steering group or whatever it was for a period so he might know. Yes, you will probably get a lot of good from him. They have managed an entire project from the outside".

TJ: Is there anything that we haven't asked you that you think might be interesting for our work?

Respondent: "No, but I think if Wallenstam is keen on this, it is good to really get to know it before making a decision. That is why they are working with it of course, if necessary. We also need tools like this that we can work with".

Interview 2

Respondent 2, Architect, Project 2, manual 4.0

LK: Can you describe your role in the project and how you were involved in the process with Citylab?

Respondent: *“We’ve been involved for several years before we started with the Citylab certification, so from the start, almost when they bought this, we were thinking about what they were going to do with this golf course? Should they build on it? Should they keep it as a golf course? Should they divide it up? Should we have a little bit of a golf course left because these guys were still interested in golf. It’s a bit of a side issue. And we started looking and getting an overall vision for the entire area and somehow, what could it be? How can we get this into the municipality’s planning? Because it wasn’t, in the master plan, there wasn’t a development of this area. It wasn’t prioritized anyway. Maybe it was included. So we started looking at a much larger area than in this whole town, and then the municipality made a planning program and got it included in the master plan. So a lot of things have happened that we’ve been involved in in different ways. Then when the planning program for the whole of Project 2 was adopted, we were going to start with the actual development of the property. It’s a hundred hectares so it’s a pretty big area. I think we ended up getting Citylab certified and it comes a little bit from both sides. We started thinking about how to plan the transportation for such a huge area that also has a really long development time. So, it’s not like we’re building a thousand or two thousand homes at once, but this might develop over fifty years. How do you do that? It kind of places completely different demands on the planning. And also that you don’t think there will be a detailed plan without, because it’s such a long development time, we’ll probably make more detailed plans. They had a very high focus on sustainability, both on building smartly, but also in order to be able to get housing here, we need to have something new. We need to market it as a very future-proof sustainable residential area. At that time, I had also just completed the Citylab training, so we started thinking about what we should do, and so we suggested that shouldn’t we Citylab certify it then? And so they were on it, because it was also in their thoughts. So, we were kind of the origin of starting to certify it. It was just when version four of Citylab came out. My role and our role as architects is that we are both architects and Citylab coordinators, a bit of a project coordinator, we have a few more different hats. But I think that is both positive and creates some challenges as well. But it is quite good because we are also the ones who draw. There are a lot of the issues that we do that concern us.”*

LK: What motivated you to environmental certify? And why did you choose City Lab?

Respondent: *“The reason we chose Citylab was because it is the only environmental certification available for early planning. And the reason they were still doing it was precisely because they could see it as increasing both marketing and finances, that they could sell it as a sustainable area. For them, it is an economic investment or a kind of thought behind it. While some others, for example, started another project where we only had time for precertification 1 and they didn’t think it was a good argument at all. They didn’t think that just because we certify, their property values would go up. They couldn’t see that it could be a marketing method in the same way that if you certify a building, you get, like, it becomes a little more concrete and you get that poster to put in the entrance. But for this project in particular, it was a strong argument. As an*

architect, it's not that I want them to be able to market that it is sustainable, but I want it to be sustainable. But of course we all have different input values."

LK: How familiar were you with Citylab before this project?

Respondent: "I had taken the course maybe two years before or a year before. When it was still version three and all of us who took version three that semester, they were just about to do four and then we had to take the next one again because, well, so I had taken two courses in it anyway. But then it was kind of unfamiliar to work with it because it's something completely different. It's a two-day course. It's really short in relation to how incredibly complex this is. I also had, on behalf of the office, by taking this course, the knowledge in our group increased, so I had also spent a lot, a lot of time reading through and trying to understand what it says, as a knowledge development. I was quite familiar with it, but it's only when you work with it that you learn it."

LK: What were the biggest challenges you faced when you worked with City Lab?

Respondent: "We're not quite done yet. We're going to submit for pre-certification two this week or next. So we're really working on it and trying to get the last bit together. Then there's the whole final certification. But the biggest difficulties we have with this project are also that it's kind of out of date actually because CityLab is very focused on the detailed plan. That is, on the detailed plan stage. We're kind of one stage ahead. It's much earlier than what, and we had discussions with CityLab at the beginning or before we started, can we do it at this kind of master plan level before the detailed plan? And then they thought that we absolutely could do it and that it should be so adaptable. But it's really hard to adapt or kind of know because the criteria are so rock-solid that you have to work through every point. A lot of the points don't fit in our stage but it fits in the detailed plan stage. The way we collaborate, the way we come up with and report things, it doesn't really fit either. So from my perspective as a Citylab coordinator, getting this together and knowing how to report it. Then perhaps the absolute hardest thing is that we are wrong in the timing of the stage and that in this way, we don't have the municipality as a party and there are a lot of A and O's too, I think. And it comes naturally when you do it in the detailed plan stage because the municipality is the owner of that plan or the owner doesn't have to be, but they at least have a planning monopoly so they are a party. While we are somewhere in the middle and the municipality is not really. We have them as a discussion party but they can't really say anything because they don't have a political mission, like. It's really the two that we are too early and that we don't have the municipality involved."

LK: Are there any specific requirements that you found particularly difficult to meet?

Respondent: "What is actually under housing, the requirement for affordable housing. It is more or less impossible how you can even succeed with that in this society that we live in in any way. With the rules that exist, the legislation that exists. We have discussed this a lot in the group. It is like no one can see how you can even work with it on newly built housing and get down to those prices and the number of prices that are being asked for. I think it is great that there is a requirement that is set very high. But in order for us to be able to build a sustainable society, we also need to build for those who are less well-off. But it is really difficult to know how to work with it. I think that is really the only one that is generally difficult. Then, because we are wrong in time and things

like that, certain requirements in energy are difficult because we are not there. But the housing requirement is probably the only thing we don't know how to work with.”

LK: Did you experience any conflicts between City Labs criteria and other project requirements? For example, we were thinking of financial constraints, local regulations or requirements?

Respondent: *“So what is definitely a challenge, perhaps linked to the economy, then doing this. It's the first time, you need to do this at least once to understand how to even do it. Especially how to report everything? It takes an indescribable amount of time just to figure it out. The requirements are very specific or the assessment criteria. It says exactly what to report. But it doesn't say anywhere how to report it, and before you've come up with a way that might fit, or we still don't know if we're doing it right. Then we've been working on this for a long time now. And maybe there's no right way. I don't know. But it means that it wastes an incredible amount of time and it's also very difficult to say, this is a really good system, I'll stop it, because it takes a lot of time. Then you do it a second time, then you can start the same way. Then it could be very effective. And had there been someone who had done it? We were also the first to do the fourth. There was nothing to look at. And so if our material becomes somehow public, then others will have an easier time. So if they think our system is good. But in any case there is something to look at. It is kind of against the project economy then that it wastes a lot of time. But there are no requirements that contradict it, other environmental requirements or regional ones, it follows. It follows very well. So the goal description is the same.”*

LK: Did you have to compromise on anything, for example function or cost or aesthetics to meet these criteria?

Respondent: *“No, I probably wouldn't say that. But it's also that we're in the early stages so what we're proposing to do is not so clear. It doesn't say what exactly it should look like. Then there are conflicts of interest within the project and within the measures that if we do it this way it might be better that way. What we forget quite often, what we certify, what we develop, is what are we going to do in the next step? You'd like to think that the measures are about when the area is built or when it will be built. But in our case, the next step is the detailed planning. So it's - this is how we can plan in detail to meet this. We need to coordinate this to investigate this issue further, or this is what they need to look at, or we need to look further at this in a design program or whatever it may be. And then we can mention that there are certain conflicts of goals. But it's nothing that we need to resolve in order to say that we should do it in the next step.”*

LK: Is there anything else you're thinking of connected to difficulties that we haven't asked about?

Respondent: *“No, the difficulties that we've experienced and that's just, but then I think I've mentioned all of them, like we're at an early stage, that we don't have the municipality, that there's no description anywhere of an exact example of how to, how to report things, and the housing issue. And then we have, okay, is this going to be greenwashing anyway? Have we discussed, or like how do you avoid it? But we end up somewhere in that we believe very much in Citylab. I might be downplaying it and being quite negative, but it's also really great. So it's just that it's lifting, you do it at the right stage, you have other actors like the municipality and developers of different kinds, and*

you get it together in the way that it's supposed to be put together. So that collaboration. The positive thing is really that you raise issues very early. Issues that you didn't think you would raise at this stage at all, we've really raised. And if you get it, then it still has to be the solution to some kind of sustainable planning. Like collaborating at the right time with questions, and kind of finding, what is the next step? And what are the different steps? So that we believe very much in Citylab, it's just that we feel that it's a little too difficult for us at this stage.”

TJ: How is your communication with the Swedish Screen Building Council?

Respondent: “Email some questions sometimes, and maybe some answers. But we have met them once. Before or after the summer, to, help us with this, like. It was after we had submitted precertification one, so at precertification 2 step but quite early. We got some kind of tips from there, but they can't really answer things always. so. It's still a lot like us, we would have liked it to be even simpler. So that you could have met them a few more times maybe and kind of get help with questions you have to make things go a little easier. I think it actually says somewhere that you can kind of ask a question or something. It's very limited. I have asked more questions, but I don't know if I have gotten that many answers.”

LK: In what way did Citylab benefit the project?

Respondent: “But absolutely that we have had actors involved at a very early stage that we might not have had before. Then it is like saying, how else would we have done it? We would have set up a different process. But it would not have been as sharp perhaps. We have to do this because. We have had several workshops where we have mixed with different consultants and construction actors who are going to build, and many have been involved earlier than they usually are and have thought it was great fun, great. The construction actors, we have received a very large response there so that it is very good to be involved at such an early stage, to be able to influence how the area will be when you buy a plot of land and are going to build it. But that it still asks questions very early, and that it requires collaboration and commitment from many people at an early stage, which is great. That is how you should always work. It should not be something that is connected only to Citylab certifying, but there are many who do not do that.”

LK: Did the certification process encourage some innovative solutions in state planning, sustainability or cooperation?

Respondent: “But then whether it is innovative or not, I don't really think so, but it is a completely reasonable method. But in this industry, it is perhaps a little innovative. It is like that it pushes a little and engages people, especially consultants who often only do an investigation at the end, that they have been involved from day one. Or the construction companies. Yes, but innovation is a difficult word. So what we maybe talked about from the beginning and so on, here we need to have innovative solutions, for example, that we have no energy supply, there is room for innovation. Then you get a lot of innovative solutions. But it is not at the solution stage, or we are at this, how do we do this? next step, and then we also write in, what can we do in the future? So many innovative solutions, absolutely there will be some innovation in the planning stage, but there will be maybe even more innovation when you build different systems.”

LK: How has the certification affected the project's long-term sustainability goals?

Respondent: *“It may have at least been somewhat concrete for the project or, the project group owner/owners of the project have talked very early on about how important it is that this becomes a sustainable area. But when you also need to clearly say what it is, you make it concrete. Then it's still not very concrete. But it, it becomes more and more concrete the further along you get now. I think there's something positive about the certification, that it makes specializations concrete.”*

LK: How did Citylab affect the planning phase of the project? Did it change your way of working?

Respondent: *“Yes, it certainly did. As I said, this is how you should do it, but it was easier to get everyone involved at an early stage because it says we need it. By certifying these three steps, you more naturally need to go back and work in loops. So you work with the current situation, and like what could this possibly be? What goals and measures could we possibly have? Then when we are now in Precertification two, we develop the current situation again. Which we may not usually do, even though we kind of say that we work like that, we don't really do it, but we work a little more forward-looking perhaps. This still requires that you need to go back, which is very good. Then we would actually need to do it even more. Now we have received great comments, for example about torrential rain and stormwater. But they needed us to have whitewashed a structural plan in order to look at it. And now we would actually then, which is based on us developing the structural plan based on their analyses and comments and so on. And if it had been perhaps sharp, that is, if it had been right at the time, then we would have also worked it in a different way. Now we will work it in, but maybe in the detailed plan. So the fact that it is like still generates an iterative process which is great.”*

LK: Did you experience that the long-term savings, such as reduced energy and water consumption, outweighed the initial investment?

Respondent: *“I would say that it is impossible to answer, but I would almost say no in a way because the project had in this particular case, when we are building on this golf course, there is not enough water and energy supply. And in some way you would have had to look at different scenarios or different alternatives as to how to solve this. Yes, but it is difficult to say whether it saves anything. I don't think so.”*

LK: Is there anything you wish you had known or you had known before you started the certification process?

Respondent: *“Yes. It's probably to do a little more research, how to organize the work or how to organize the report of the work. It would have saved us so much time and workload. But on the previous question. I don't think that we have actually saved. But where you might think that we are still saving, by looking at things at such a very early stage, and that we have done natural value inventories at a very thorough level, very early, we know exactly what we have of the natural world. We know where we have different cultural environment findings. We have done the investigation early. But it is more the residential areas or subjects that have a kind of current situation on the site. So the natural world, the cultural world, well, it is perhaps primarily them. There are certainly mistakes. But that we have been able to propose a structural plan from there that really makes, we will not start this over. So species protection. We have a lot of salamanders. Now we know exactly what we have. And if you do these investigations*

later, or stormwater for that matter, and don't really understand, there are often problems with having to redo things and that's very costly. The whole Citylab is based on, and the way many people also work, doing certain things very early. But that's where you could save money.”

LK: Do you think Citylab is an effective tool for promoting sustainable urban development?

Respondent: “Yes, I would like to think so. And if we do it again. Or if more projects are going on at the same time, we could collaborate a little more and find the same tools or workflow, so to speak. But there hasn't been. There should be a network that is being launched now. But there hasn't been in these years, so we haven't had anyone to talk to. I still think that City Lab promotes sustainable urban development in a way that raises issues early. It requires finding a collaborative method that gets people involved, invests time, money and kind of an open mind, to test new methods or work in other ways. So as long as the four criteria are met, the companies dare to invest a little commitment, time and energy, then I think it's a great method.”

LK: If you could improve the certification process. What changes would you suggest?

Respondent: “I would add some kind of suggestion for what to report. This, like the Bible as I call it, is a little too complex. And like social planning is complex. Absolutely. But each criterion is very specific. And there is something positive and something negative in it too. Generally, I think it is good, but a little too complex I would say.”

LK: Is there anything else you would like to add that we haven't talked about?

Respondent: “We've had a bit of a hard time selling it to more people because it's hard to put time and money into it, because it takes a lot of time. In a way it's good, but then maybe, I don't know if it's the training that might need to be a few more days to be able to learn more and understand how to do things, you know, after a two-day training you've never really learned anything, but you've understood that things exist or something. But you could just as easily put the time in, maybe it could be more comprehensive and more detailed, a little like this about how to work. At the same time, it's always difficult before you're in a project. It's always in the projects that you kind of start to understand how to do things, so that might not have helped completely either.”

Interview 3

Respondent 3, Sustainability manager, Project 3, manual 3.0

TJ: Can you describe your role in the project and how you were involved in the process with Citylab?

Respondent: *"I'm still in the project, I've been doing this for ten years. I actually started with that project when I started here at Company 1 in 2014 and then it was just starting up and it was kind of an ongoing work to try to get this project together with some existing property owners in the area who had properties and plots. We got a joint project together with some of them there and then work also began on a detailed plan. You start with, I don't know, you might be familiar with parallel architectural assignments about what a structural plan should look like for an area and then the work there started, you could say, with starting to look at different types of had a competition then with four architectural teams who drew on what it really should be based on the planning program that was the basis and then I was also involved in the evaluation work. It becomes very clear then when we are doing these parallel assignments that of course it's not really okay, but what is going to become of this area? We didn't know what we were going to evaluate based on, other than that we had this Vision Älvstaden at the bottom that the council took in 2012. You work up to that point with a big vision process and a lot of citizen dialogue and stuff. There are some, like Vision Älvstaden, it's a very comprehensive vision, but there's a lot of value and there's a lot of sustainability described in it then and there. But we hadn't specified what that would mean for Project 3 and it became very clear in this parallel assignment, the evaluation, but what do we want then? So we had to start working on trying to set sustainability goals or the goals for Project 3. We work on that quite a lot in 2015 and 2016, so we started then and based on that, we've worked together on the project then. So it's a small, small approach to the project and we've been working on this work on making the detailed plan. We did that from 2014 to 2019 when they became legal. It was a very long detailed plan process, it is very difficult to build in order to produce detailed plans in a central location in which national interests and things like that, but from 2019 to today until 2032 we believe that we will expand Project 3 and then Company 1 will be involved in the implementation. My role in the implementation is to actually both follow up on the sustainability assumptions that have been made and the sustainability program that we have developed according to Citylab. Make sure that we reach the goals and yes, but like this, follow up on each project and look at the whole and start different types of development work to achieve goal fulfillment or update the target image for the project then. That's how we took a sustainability program in 2017 and since then, from 2017 to 2025, a lot has happened in technical development and expectations and so on and things will happen, and we also believe that it will be quite a long process until 2032. Our special order within Gothenburg City. It's that we are involved all the way, you don't get that from the urban planning administration or from the development office, but the urban planning administration is involved in the planning decision and plans and then they have a building permit and then they release it and the development administration they can maybe show them to the market, but who is not involved. But Company 1 is involved and coordinates the implementation and works with the follow-up of the sustainability goals and trying to make sure that we sort of rig up development processes that are ready, then better goal fulfillment."*

TJ: What motivates you to environmental certify and why did you choose Citylab?

Respondent: *"Yes, Citylab is a, it's like a certification that maybe differs a little from the classic building certifications. You know, like Miljöbyggnad, BREEAM and LEED, but it's like it captures an entire city district. It's somewhere, it was when we went and thought about joining Citylab, then we had previously looked at something called BREEAM Communities which was BREEAM's equivalent at the time, but somewhere the BREEAM certification was both at the building level and also at the BREEAM communities, it's not adapted to Swedish conditions, so when Citylab appeared from SGBC that now we want to do like a Swedish variant based on Swedish conditions, I thought, but it was interesting to be part of it. Then we were part of this, like the first pilot round of Citylab and together with a number of other urban development projects that tested this methodology at the time. We came all the way by being the first to certify ourselves at the planning stage of Citylab. Then we got our sustainability program certified, I think we got that certification in 2018, I have it somewhere, and the sustainability program that is certified, we got it in 2017 and it was decided then, I think we got the certification the following year, I have it too. What was also interesting about this certification. It was that it rhymed very well with these values that were in the vision of the river city that we worked with, it was this, like participation and transparency and co-creation, that somewhere we have had this in that they will build, as well as meet the complexity connected to sustainable urban development, you have to work with a lot of different actors, you need to work together to find the answers to the difficult questions and we had that with us somewhere. It was apparently the vision that we have to work together with those who will build and with different roles and different functions. Cross-sectorally then to get good solutions so that is also a component of Citylab that was very attractive and so when the opportunity to certify a district says that we are the first to certify a district here it will be something completely different than what you usually see so it was those things that made us jump on it".*

TJ: How familiar were you with Citylab before you worked on this project?

Respondent: *"No, it wasn't like this, this was the first time it was tested, but we could see quite early on that it existed, but it was Citylab at the time was very focused on this process perspective and that you have to work in collaboration and these things that were very attractive, but we didn't really know what we were hoping for, but we could also be involved and influence what this certification would look like. There was the opportunity to be the first to get a certification for an entire city district and it felt like we managed to get the developers in our project, who were involved from the beginning, to think this was exciting, so we tried it out a bit. So we got to see what it ended up being."*

TJ: What were the biggest challenges you faced while working with Citylab?

Respondent: *"I can say this way that it was a solution for us rather than a difficulty. It was like this that we had as I described then. We didn't have when we were working with the parallel assignments to evaluate, but then we didn't really have any clear goals in the early stages, so we had to develop these goals and set them and then we had to do it based on the vision, this vision at the bottom and Gothenburg City governing document. Then we worked on it from Company 1 side quite like this in our own chamber as they say and we had quite a hard time getting these developers to accept some of these goals. That's what ended up with our then CEO saying no, now you just*

have to accept these goals and we'll go and we had taken from this side and they got out of them OK, we can do it. Then we went at the same time that we joined Citylab and then this perspective around participation and co-creation was very central in Citylab and Then we ended up working together to work towards these goals, and it was with the sustainable program that we certified that said how we should do things. Then we changed a little, we changed a little bit. We started working a lot, a lot more in collaboration and co-creation in this process because that's what Citylab prescribed. How do you ensure that those who are going to do this are involved and co-create the goals and so on. There were very important values in the previous version of Citylab, so we saw that we took this opportunity with Citylab and kind of did a little restart to create more participation among both the developers who were going to be in the project and also the city's administrations. We worked very broadly with Citylab when we said, okay, these are the goals we agreed on, but how we are going to achieve them we are going to co-create and then we set up a process where we looked at it based on the Citylab guide. Then we took our goals and then we put them together with the Citylab guide. I don't know if you're aware of it, it looked different then than it does today, but then we kind of started to break down this Citylab, all the different areas and then we did this, cross-sectoral groups with developers, the city administration, Company 1 specialists, other specialists in Gothenburg City and then you work out how we're going to achieve it? How are we going to work with, for example, the cultural environment issue? How are we going to work with the energy issue? How are we going to work with mobility and so on, so we went through this whole guide and we did it as a big group project. We spent a year with this process and did different types of workshops and things connected to both learning more and learning together about different issues. The thing that crosses our minds, yes, but how are we going to achieve these issues and what should be the ambition? How do we break it down into different interim goals and so on? But it was very successful and then we got everything anchored and we got the developers to have very high ambitions. Citylab became more of a solution for us, rather than a challenge actually. We had a challenge and Citylab became the answer because somewhere it happens. I usually say this, that what is positive about Citylab then is precisely this that it becomes an anchoring of the way of working and organizing that was clear at the time. It is just very successful and we worked for a long time with this goal image and sustainability program and identity writing and so on before we got loose and could decide. But it was very. It was well worth that time because somewhere it has become so that all these buildings, the city administrations have been involved in creating the goal image and then you are also more inclined to stick to it. We have used it a lot. What can I say? We have always come back to you about that process, but it is not just us who say it so that we will reach certain levels, but we have done it together and it became very strong then so I usually say that this is a bit of a long short road. Somewhere we did a lot of work connected to the target image in the early stages and we have had that again during these, as well as long periods when we work with the project when we agreed that we should. So it was very positive from Citylab and then we got a lot of sustainability aspects with us too. That this Citylab guide is very easy. It was very comprehensive but also included both ecological and social sustainability from different aspects and forces it into the project and look at different issues and evaluate them”.

TJ: Were there any requirements that were particularly difficult to meet?

Respondent: *"But at that time, that's how. That's how Citylab has developed as a certification, both as a methodology and as a certification. But at that time, it wasn't like that, back then, they said that it's more about looking at the conditions in a place and trying to do the best you can there, that it's kind of context-dependent. That's how you set your levels and there were no levels on how far you had to go to be sustainable, but it depended on the context and the context, and that was very attractive because then you're not locked into certain levels in a certification. Building certifications are really locked in. You have to be like, while this was more focused on the process. Then I know, I've also been working with the SGBC Citylab operational council for two years or I don't remember which years it was, but, oh my God, how time flies, but it's somewhere, I think it was from 2020 to 2022, so I was with the operational council where the certification tool is developed, and we've also tried later versions of the Citylab manual. We have tried this with certifying a completed district here at Project 1 and we could see that it was much more difficult because then you would have set the levels and it is quite complex to meet those levels because everything depends on the context of many parameters. It is much easier to put this in relation to the building than to districts. It is much more complex to put it to districts. Now we are going to do a new drive at Citylab here now. I would still like to argue that I believe that the best, greatest added value of this type of certification may not depend on absolute values of what the district should achieve but rather on really considering and looking at all the pieces and organizing a process that allows you to solve complex challenges. That is perhaps the big take away from Citylab, I think. Then you can combine it with building certifications that ensure that you reach certain levels in the buildings. Or other types of sustainability goals at the building level. But yes, but I know, have you had a chance to look at our sustainability program for Project 3 or not?"*

TJ: No, we actually don't.

Respondent: *"No, it's on Project3.se. There's a lot of information there about our sustainability work and our sustainability program, and we've also done sustainability reports where we tell you how Project 3 is doing based on our sustainability work, so there's a lot of information and reports and everything, news and stuff to look at. But to be honest, we haven't worked that much with Citylab lately, but it was something we did in the planning stage and we were thinking about whether we should go ahead with more certifications. You can have different ones, then you have the planning stage and then you can certify an action plan for the urban development project after the completed district. Right now, there's nothing that we're thinking about doing right now, but we saw the great benefit, then maybe we'll see how Citylab develops, but we felt a bit like this somewhere that now is the time to test the completed district here on Project 1. It was a little bit, it was a little bit, maybe it became a little square sometimes, so it could not meet some of these requirements because it was difficult, too."*

TJ: Did you experience any conflicts between Citylab criteria and other project requirements (e.g. financial constraints, local regulations, or stakeholder demands)?

Respondent: *"Yes, no, I wouldn't say it like that, it's a bit like that, I think that if you look at how Citylab has developed, you will see that it has gone from being quite a process perspective to becoming more of a building certification that is controlled for city districts and that is perhaps also what makes it kind of difficult. It is difficult to get momentum in the certification part. Not very many city districts have become Citylab*

certified. I don't know if you are aware of the latest, but there are not very many if you compare it to how popular building certifications are, so it is a completely different thing. But if you then think about it as the added value was precisely that if you work with this Citylab guide that you are forced to investigate a lot of parts then and then that in turn leads to us having a lot of target activities in our sustainability program and it may be a bit too much. Actually then it becomes like we have had to sort through those afterwards then prioritize when we have done follow-ups so that we may not can follow up on 99 measures but we have to settle for 20. It's quite extensive, so it's also a lesson learned, but at the same time, yes, it's that we have very high ambitions and we have high ambitions at all levels in all parts, so it's a trade-off."

TJ: How did Citylab benefit the project?

Respondent: "Yes, but absolutely like this, Citylab doesn't just talk about what you're going to achieve but also how you're going to achieve it. You kind of have to show how you organize yourself and set resources and skills to achieve what you say you're going to achieve and that applies to all parts of the project so that's the way we've been thinking. But when we sell building rights or when we've released building rights to these developers. We want to see an action plan where they tell us what based on the sustainability program, what they're going to do from it and how they're going to do it and then also show yes, but this is how we organize ourselves, this is how we make sure that we have control over sustainability here, we bring in these resources, we need these specialists, we show these synergies and conflicts of goals or other things we try like this. This whole methodology connecting to Citylab has been very, very useful for us on the entire project and also for the sub-projects. We've been involved in designing large parts of the first version as it was based a lot on the work that took place in "The Project 3 with it a lot of the philosophy that was with us from this vision and it went into and kind of found its life with like participation and the process perspective and stuff."

TJ: Did the certification process encourage any innovative solutions in urban planning, sustainability, or stakeholder collaboration?

Respondent: "Yes, but absolutely to the highest degree. For Citylab, the basic idea or the basic philosophy is that sustainable urban development is not that easy, it is very complex and then you need to work with new thinking and innovation. So there is, so to speak, an inherent value in Citylab that you cannot do a project like Project 3 without devoting some form of innovation to it and I think that is really, really important for everyone who works with any form of urban development or just building a building, you need to work with innovation in order to meet climate goals or social sustainability. But when it comes to large area development or projects, we have to build a completely new district. Then you have to be prepared to think new and use innovation. So that is super important. So we have many different examples. We have worked a lot with Project 3, have worked a lot with such a question connected to how do we ensure that this becomes a kind of mixed city with nice, exciting, attractive, dynamic, safe content and there we have decided, we decided early on stage that all these property owners will collaborate on the content of the ground floors in a common image. A common master plan that we will ensure that we get good service and dynamic content. What we have a lot of in this, it is a lot of city center activities, the detailed plan and it is not enough to just think traditionally. For example, retail and things like that. But you have to think of new approaches and then we have ideas connected. Then we have made a

master plan where we have in point out that here we will have restaurants and cafes, here we will have culture, here we will have sharing activities, here we will have preschool, different types of social things to fill this urban environment. It is an innovative approach and try to work in collaboration with this and we have also created a long-term management organization for the ground floors that you will also collaborate as a business improvement district also in the operating phase that we have already launched then. As an example, we have worked a lot with innovation connected to sharing we had. There was a sub-project called sharing cities where we had Project 3 as a demo project to test co-use, for example. How do you get different types of businesses that have lower paying capacity into new, newly produced, slightly more expensive locations? Then it will be what it is and certainly work connected to how you can co-use and what challenges there are with co-use. As an example, we have also worked a lot on reducing the climate impact when we build, we have had a concrete project actually where we have had a project that was actually from a Vinnova project that was about reducing the climate impact from the use of concrete and then we have used Project 3 as a demo project for that and tested different types of processes to allow building to reduce its climate impact when building, how to use concrete in different ways. I don't know how interested you are in concrete, but there are many different aspects that we have worked on, everything from social sustainability to, yes, but how to think about concrete recipes and frost classification and alternative binders and more, which means that you are simply testing new things, so that's what's in Citylab, there is also some kind of basic assessment that it won't be able to do like this project without innovation, and that's very good."

TJ: How has the certification affected the project's long-term sustainability goals?

Respondent: "Yes, they have strengthened them. We had sustainability goals and they are anchored through this Citylab process then. They are weighed together by all stakeholders in the project in a very good way. So it was incredibly important for us and if you then think about Wallenstam like this, do a similar project where they have several other actors with them, maybe you shouldn't build everything yourself there? Start at an early stage by doing this joint journey around what to do, what to achieve, then you gain a lot in the rest of the planning and implementation. What I would say here Citylab may not be perfect, but there is probably nothing that I can think of that I know of that is as comprehensive and that is still available on the market."

TJ: How did Citylab influence the planning phase of the project? Did Citylab change the way you work?

Respondent: "Yes, you can probably still attribute some of that perspective to Citylab, that we worked with the detailed plan and the sustainability goals and the sustainability program in parallel. When we had sorted out our sustainability goals and the planning process was going on and we got the sustainability program, we kind of started making cross-connections between what happened in the detailed plan and what we want based on the sustainability program. So when we made different types of adjustments for ourselves, we kind of did impact analyses based on these sustainability goals to understand, but then we want to make this change in the detailed plan, these consequences will be like that, and that was one that I would say was partly a consequence of Citylab that we got. We made those connections, but what should we say like this, that if I had to choose what we would do about a project with a new

detailed plan, I would probably say like this that I probably want these sustainability goals even earlier than what we had for Project 3 if you want to have the sustainable program before you start the detailed plan to make sure that The detailed plan follows the sustainability goals and maybe not the other way around. It's like this, Project 3 is a high-profile project, but we may have missed some things. We have done a lot of good things but we have also missed some things, for example, what we might not have really thought through from a climate impact perspective, what it would cost to build a large peninsula out into the river. We probably hadn't counted on that. We didn't include those pieces, but we didn't do that in 2016 when we were doing it either, but we start that later. It's not so clear this spring in our sustainability program that we are building out half and that has become a huge thing for us in the implementation. That shit was a lot of concrete and steel it takes to do this and it costs a lot of climate impact and then we have still kind of set climate goals for how much we emit. But in the best of worlds, we would have included those perspectives more clearly in the plan and we have now for the next detailed plan. But we are not going to build anywhere or we are going to avoid expanding into the water for example. Which is consistent and that it costs so much, we do not do that and then we still have somewhere, we have other projects around Sweden that we collaborate with, for example the northern zoo city where we start telling people that it cost a lot of climate so they changed their plans and were going to go out and build a lot into the water and it probably affects quite a bit. So the lessons learned back and forth. I think if I were to give some tips, you should set that goal and the sustainability goals and preferably parts of the sustainability program as early as possible so you know what you are going into the detailed plan, get an expression of intent on the detailed plan so that the detailed plan has helped to achieve what you want. So that you make sure that it is coherent. Most often it is like developing a detailed plan and then you might think yes, but then we should have sustainability goals, but then you can put a hook leg for yourself in. When you don't get these things and play with each other, you can get the detailed plan, reinforce what you're going to do, implement it, and so on, so you really think it through."

TJ: Did you experience that the long-term savings, such as reduced energy and water consumption, outweighed the initial investment?

Respondent: "Yes, every time. It was like I said that we were working on the Citylab process for about a year, but the spirit was still alive and still is. We are talking about a project that lasts two decades, so if we took a year and sort of agreed on the goal, then we wouldn't have to talk about it for the next 19 years. But the thing is that Project 3 is a huge project in Gothenburg's largest detailed plan in modern times. Yes, and hugely complex, so big and like this, so it's quite natural, so it all depends on, like. But how big the detailed plan is and how big the project is, but we have definitely saved a lot of discussion and time and anchoring in working with Citylab, I would say."

TJ: What do you wish you had known before you started the certification process?

Respondent: "Yes, no, but for us it was as I said it was. I think it was like this. The Citylab that we were involved in testing has probably changed quite a bit from what exists today. Now I haven't followed the latest and I don't have any idea about it, but as I said then we were a lot about this, starting from the location, starting from the context and the context doing the best possible based on that. That was the thing then and then we did it and we did it very smoothly, seriously, we did. We also have cases then, Citylab

didn't say anything about what level you should have, but we set levels for example for energy performance and green space factor and apartment sizes and everything possible was discussed, so we did that there. So for us it was, we owned the levels of how far it would go ourselves, so it wasn't difficult for us to certify because we did it properly anyway, I can imagine that if you are going to be certified according to Citylab and follow a manual now that is more detailed with what levels you have to reach then it will probably be more difficult because we could probably see that in this, like the completed district certification then that we did because it is so that yes, but some of these levels may be difficult to reach, especially in an existing city and the question is where are those levels at the right adequate level? Will it be sustainable and you meet those levels. It's always like this. A lot. It's hard to say, I would probably say this if I were to talk if I were to go back to and work more together with SGBC and this context I would say, the first version of Citylab was the one that was really good. Focus on process and context and you get, you get your certification because you do thorough work and work in a certain way and because it's a bit like these levels of what is sustainable are constantly moving. It's our sustainability program in 2017, so we didn't have anything connected to this with the climate impact from the construction phase, which has become huge and which we have since had to work with, which was not part of our sustainability program. Then we developed a special climate action plan and worked really hard with the developers and, like, we save 25% compared to business as usual in the project with new commitments that the developer has made. But we have worked really hard on it, but it wasn't there then, but we had to do it afterwards so somewhere so these levels are constantly moving, because it wasn't something you will say anything different in ten years, I think, than what we say today so that somewhere it is this about working with urban development projects and so long that the goals and if you get stuck. Because it was also important in the first Citylab to have qualitative goal management rather than detailed management because you realize that the details change. It's the goals, it's the impact goals that reduce climate impact. But how do you do that? It may not be directly stated through an energy performance figure, but now it has been shown that it is not where the climate emissions are, but where they are when we manufacture concrete or steel. That is where it happens and so then this qualitative goal management that is there becomes great because it is very suitable for a project where the goal will move or like the head will move during the journey. But as I said, I do not know what Citylab looks like today. What the framework looks like.”

TJ: Do you think Citylab is an effective tool for promoting sustainable urban development?

Respondent: "Yes, it's a little bit, so I realize that I don't know what it looks like today, but I thought that the first version we worked with was absolutely all the times it was. It suited us very well, suited our way of thinking very well at the time. Then how it has developed and how it works today, I feel that I'm a little ill-informed to talk about myself and say I said as I say a little bit, I'm going to start a new urban development project or we're in the starting blocks to get started with another larger project. I won't be running a Citylab certification as it looks today. I'll be running other types of issues. It's a bit of a shame, maybe because it was a very good methodology, but I probably wouldn't go through it myself, so I would rather say that I would be very inspired by the Citylab process and then maybe I would select from the manual these areas that we should collaborate on to find levels around, but based on these goals then. But I would work in a Citylab inspired way then maybe I wouldn't choose to do a full-scale

certification. It also depends a bit on how the Citylab brand has developed and what I think it is. I think it is extremely important for a municipality that has not worked with sustainable governance. Then it could be great, but we have done so much now or we can. I have so much experience that we can do it without it, without such a context, I think."

TJ: If you could improve the certification process, what changes would you suggest?

Respondent: "Yes, I probably would, that's a bit of what I've said. I would probably focus on the certification being about certifying processes, organization and working methods rather than reaching certain levels. You could think of it this way that you can combine Citylab with building certifications, for example, that it is in building certifications that certain levels should be reached. But with the Citylab certification, maybe it's more about how you're going to work with these, as well as more elusive dependency issues, how do you get, for example, liveable ground floors? How do you get combined loading of goods and waste, for example, for a new dense city district? How should you think about the distribution of housing in that area? There's nothing that is covered by building certifications that you use building certifications for, as well as the building's own sustainability requirements, and then Citylab is about how to build a sustainable system of different buildings and parks and other places and programming the content that is greater than what you get in a building certification. So I would probably, I would probably say if I went back to discussing with SGBC how I would like to see it, I would probably like to see this become more of a you don't have to reach fixed levels but you get that, it's a prerequisite there is maybe that you choose that you will get when certain levels in building certifications. That's how we are now working with our new, as well as environmental and climate requirements. It's that we say that at the building level you have to reach certain levels according to the certifications for example. You have to meet environmental building silver or we have to meet BREEAM excellent there, you use it as to fit extra basic stuff then and then you can combine it with this is how area development looks. We control it in a different way. Because it becomes this difficult if you are a certification, according to Citylab then. Yes, it can happen that you get you mess it up somewhere and you have too many levels in Citylab certification I think. I think so. It's more process-oriented and that you have done solid work".

TJ: Is there anything you would like to add that we haven't asked about that might be interesting for our work?

Respondent: "No, but no, I think I've said most of it now. But since Citylab was super good for us back then, it was really great. Then we'll see how the tool develops and what the new manual becomes. It's interesting that you say that they change quite a bit, that there's quite a big difference. Do you have any idea or have you looked more closely at the manual, the latest manual, can you recall any such absolute requirements for some parameters?"

TJ: Oh no, we can't say that specifically. We had an interview with someone from another project that uses manual 4.0, where we got the impression that there are a little more strict requirements. They are the first to certify with that manual and feel that it is a little difficult as they have no one to bounce ideas off of.

Respondent: *"Exactly and it's actually a really important thing that I may have overlooked but this particular thing that we were in this first round, then we had other projects then some projects when there were six, seven that we collaborated with. We went out and met them in Stockholm and we started talking, but how are you doing? Yes but we're doing this too. Then they said to us, you haven't developed any goals for the area? Shouldn't you have one? Because we have? Ah OK, yes, how did you do it then? Like this we helped each other to find the gaps in the reasoning and cover them. What were you thinking when you did this and why do you think that? And I would probably say that this was really good input for our work and I think we gave a lot of input to others too and that particular thing of getting a network that works like you have like some peer reviews as you say. It was also great with the old version and I don't know if they offer that today in that way. I think you need "If you're going to get the Citylab certification to fly in the future, you probably need to go back a little to the roots, I think, like this, how was it, what are they responding to? What need does it respond to?"*

Interview 4

Respondent 4, Detailed planner administrator, Gothenburg City

LK: Would you like to tell us a little about what the city's sustainability priorities are for new urban development projects?

Respondent: *“Yes, we have a lot of governing documents within the city of Gothenburg that we have to take into account. And we have all the studies that we need. Twenty-one started. You may have heard, the first major study was the Salamander inventory in Kungsbacka where a residential area or villa area was planned. And then the neighbors said that there are salamanders here that are protected by the EU, but they didn't listen, and so we went through the whole process and in the end the plan was canceled. After this, we started rolling with studies and governing to meet the environmental standards as well. Then we started with noise studies and air studies. Then twenty-one, twenty-one, the city of Gothenburg had a goal to reduce air emissions from the E6, and the worst was from Gårda, from the tunnel towards Liseberg, and the goal was twenty-one. But unfortunately, it was not met because traffic has increased. And that's the problem, that the city is growing. Then they started with vibration studies and torrential rain studies. And they are devastating when there is a hundred-year rainfall. So you need to achieve all this. Because as I said twenty years ago. There were isolated issues of nature inventory. But now you are on six or seven important studies that almost always appear in urban planning that you have to consider, investigate, see what you can do, the risk. We have a risk of dangerous goods which is important. And then there is a risk of noise, vibration, and bad air in the same place. It is not easy when you are planning, but it is possible. So that is important. There is a lot that is governing in our planning process that we have to take into account in order to pass them, and everything is controlled both by the city's environmental administration and the county administrative board which monitors all those standards. And you know the whole planning process, that in connection with consultation and review, you look at the problem, investigate, improve and then you go for the takeover. Sometimes we are told by the county administrative board that they will appeal(?) the plan if we do not meet the environmental quality for air or remove the use that does not meet the environmental quality. We had a case three years ago, the Göta Tunnel north of Nordstan. They built two new ramps for trams and so they were going to make a completely new tram station north of Nordstan, before the trams turn down onto Östra Hamngatan. And we made the detailed plan. At the same time, there were air investigations for the Göta Tunnel and the new Goldberg Tunnel, they spit out mixed air, both particles and such. So we had to do the investigation three times. Look at the alternatives, put glass screens, put a glass roof on top of the stop and they couldn't do that because there was still too much bad air. So in the end the county administrative board said that you can remove that station or find a solution, to cover the hole or ventilate. We moved the station back to Östra Hamngatan and solved the problem. But we haven't solved the problem in the long term. It will then have to be planned whether to think about the hole again. There is quite a lot that we have to take into account in order to meet the quality goals and environmental requirements and everything to then also be certified and so we continue with it in the implementation process.”*

LK: How does the municipality support or encourage sustainable construction?

Respondent: *“We do that all the time, we have municipal companies and private companies of course, in the planning process with planning regulations. We can't control that it should be this and that, or yes, we can control maybe facade materials and a little color and everything. But it's also from case to case. It depends on whether the planned new building is located near some historically valuable building that is protected. That way you can set aside materials, adapt it to a national interest building or something like that. But of course in the planning process itself we discuss, but then in the implementation process, that's when the developer and building permit can look in more detail at how the building is carried out and everything. Now there is quite a lot of brick facade and plaster compared to sheet metal facades and everything, so it's also what materials. Of course, developers also look at it, if you use sustainable materials. Then it's long-term and you don't need a lot of maintenance or something like that. But. We discuss. We suggest, but we cannot control.”*

LK: What is the municipality's attitude towards using certification systems like Cityab, for example in urban development projects.

Respondent: *“It depends on whether you think in the planning process or implementation. Our municipal companies certainly have that certification, I don't know for sure but we have Framtiden, Poseidon etc. and they certify. Framtiden is in the process of certifying a type-apartment and a type-city and a type-house that meet certain requirements and of course they have solar cells and everything. But in our process we have the green space factor that we have to take into account. In some cases we have to remove existing third links(?), we also have compensation requirements, this is how much we remove and it is the county administrative board that has to approve that it is the right compensation. These are factors that we have in the process that we need to take into account. And in the planning process we can approximately, you can say, qualify or make an assessment in CityLab. But we cannot say that it should be this and that. That's what's with those measures when it comes to noise, it's about air, so we're kind of certifying that if we have air that's fairly close together on one side, then we have to have bedrooms on the other side. Or if it's noisy or if it's bad air, we can control that in a way with the planning regulations. They also put up green roofs. It's quite common in Germany. Almost all flat roofs are green roofs that both take care of rainwater and create a completely different air environment. And we've also started a little cautiously with those a few years ago with such eco-houses. We have some buildings in central Gothenburg and around the new Västlänken that will have green roofs.”*

LK: Would Gothenburg City prefer or encourage developers to use Citylab or similar systems.

Respondent: *“Of course. Why not. But as I said. It is more applicable in the construction process. I don't know exactly what that tool looks like for the planning process, or have they prepared, does Citylab have a tool for the planning process that you can use? Then you could maybe look at it and see. But as I said anyway. We probably work in a planning process. It is not a mandatory investigation with Citylab, then the developer in this case must be involved if we were to order such an investigation, because there are quite a few investigations that need to be ordered for a detailed plan and they are quite expensive. Twenty years ago, a regular noise investigation could cost twenty to thirty thousand kronor. Now they cost up to one hundred and fifty thousand kronor. It*

becomes the impact description that is important and it depends of course on when you do that investigation. It can cost between half a million and upwards. It depends on how many questions you have to solve with such an assessment. But as I said, the risk is that it will be an additional cost that is perhaps acceptable, but we cannot force. As I said, we have our governing documents that we must comply with, which are approved by our city council. And those are the green factors and yes, everything else. But bad luck with this of course, it would be a little more simplified and applicable to the planning process.”

LK: What are the perceived benefits and challenges of using Citylab from a municipal perspective?

Respondent: “It also depends on whether it is in the planning process or the implementation process. I can't say how municipal companies, those who build housing, implement. But as I said, they also have their requirements. When I went to Chalmers 97, they had two, three experimental projects both in Gothenburg, and we also went to, uh, Norrköping where they built an experimental house. Where the water in the toilet was divided into urine and so on, they did an electromagnetic one, because there was a man who had problems with the electromagnetic field. So they also did a location that was completely isolated and they had solar cells on the roof and so on. So it's a ten-year experiment that has been built. And here in Gårdsten they also worked with green facades and solar cells on the roof and that's what happened twenty years ago. And we can probably see that now, what such experiments from that time can do to improve the qualities in terms of both energy and air. We of course need more green spaces in the city, but at the same time we want to densify. But yes, of course. But in the planning process. Yes, why not? But as I said, it has to be a little concrete what you mean by Citylab and how we can use Citylab in the process.”

LK: Are there any challenges in adapting the city's sustainability goals to the interests of private developers?

Respondent: “Yes, it depends on what their interests are. Often we have the same interests when it comes to planning. We have to create public squares. We have to create neighborhood structure. We discuss the green spaces in front of the house, behind the house. It also depends on whether it is within a dense part of the city or if it is a residential area. So in this way, we discuss in the planning process. How can we respond, what can we do? How do we move forward to develop and improve the environment for both those who will live and at the same time facilitate the maintenance of buildings in the long term, and not spend ten or fifteen years, uh, money to maintain something that could have been solved from the beginning. And that is what is important that we want to highlight and flag that you. In 2000 there was a housing exhibition that was held in Gothenburg. You haven't heard about this. No, it wasn't as big as in Malmö, the western city, or Helsingborg, it was ninety-eight, ninety-nine, the first housing development, when they built housing in Helsingborg by the sea. Then Malmö came with turning torso and so Gothenburg tried twenty-one or two. That's when they built in Torslanda, new ones or they converted an old airport area and they built townhouses and detached villas up on the mountain and at the airport. They also started planning Torslanda shopping centers and the cultural center and then they had some projects in Eriksberg. It was quite new then with put facades too, so that. Every five, ten years there is something new to improve ecological thinking. The Germans are quite far ahead

compared to us, so there is. For example, I have looked at the residential areas. When you drive into the residential area, more residential buildings, there is a noise barrier that protects the area from traffic. There they have put solar panels on top of the parking lot as a roof. They have also put solar panels on the roof of the school. So the whole process is prepared to reduce energy or save energy and everything. But that's what's important now, because we now have the West Link station entrance. Right across from the regional building. It's now fully built in height. They came in afterwards and wanted solar cells on the roof and they would stick up above the permitted building height. And the building permit unfortunately says, we can't grant a building permit. It's no minor deviation. So that's what's important in the planning process that we ask, discuss. What kind of roofing material do you want and so on to prepare. Should we have a green roof? And the two entrances to the West Link that are on the north side of Nordstan, they'll be fully built in December next year. They'll be incorporated into the Nordstan extension and on the north side of the Castellum building. Both. They have a requirement for at least thirty percent green areas on the roof. The Swedish Transport Administration will probably make the entire roof a green roof. But Castellum wants an office building on the roof. They want some catering. Some will be green roofs. And we are trying, for us it is also important to have input from developers. Company 3 has designed and built its first certified house. And it is in Gårda, the black office building located at E six. It is certified. More and more of the large developers want to certify their buildings because they see the benefit of, yes, controllable heating by controlling heating and cooling indoors. You save quite a lot of money. It is the regulation systems in ventilation and heating, for example, having your own energy on the roof is also important and can be reduced. Those are the elements that can be applied, but as I said, it must be raised in the planning process so that we can look at what we can ensure and what we cannot ensure.”

LK: How does Citylab correspond to the city's sustainability and planning strategies.

Respondent: “I have only read a small part of the projects in Malmö where they have worked. But I have not heard what has happened since in the implementation process? What has been achieved with the Citylab process? It would be the opposite, that Citylab should adapt to the municipalities' guidelines. If they have something that we do not think about, or the plan and building act or BBR, then they can give us input and we can look at it of course. But, it is also quite small with Citylab, and it is more of a certification for finished buildings, finished residential areas, and that is perhaps a bit difficult. You have to think from the beginning in this way to certify, what do you need to have in a residential area to be certified. But that you certify afterwards. You can do that of course. And so on. It depends on who owns what. Public space, park street the city, buildings are owned by private individuals or municipal companies. And so in that way, then you can discuss - Yes, we have an old residential area that we want to certify what we can do in this case. We have conditions that are laid out according to the detailed plan. But can we make a green facade. Okay, but then you have to apply for a building permit. Or, we put up solar panels on the roof, can we do that? Does that conflict with the detailed plan and stuff like that. If we plan from the beginning, then it is important that you have conditions that can be included in the planning process and then the developer has full opportunity to implement and build and say - Yes, now we are certifying this as an area that is acceptable. It is also a qualification. Is it thirty, forty, fifty to one hundred percent? I don't know if they have any scale? What is their

goal with the certification? The goal is of course that you see the qualities and improve the environment and air and everything.”

TJ: No, they have come up with one, they have different manuals, so one is after you can certify an already built-up area, but they also have one that certifies the state planning process, so in the early stages before the detailed planning as well as they have come up with.

Respondent: *“Yes, but that, it is also good because the planning process is quite strict and so on, but. We have a master plan which is a basis and then we have a program. As some municipalities do and some do not. It also depends on whether the intended idea conflicts with the master plan. A new residential area that wants to be built, some within the green area or some within the industrial area. Then you have to make a program to see if it really is, or wait four or five years and do it again, or try the master plan. Then you make a program and if you were to apply it at an early stage there, then maybe in a program or in conjunction with the master plan, you can look at which areas within the city can be certified and in what way. Or what you need to do in the planning process, if a residential area is certified fifty percent and there is more missing, and you want to continue densifying the area. Then it is perhaps important to see. Well, okay, what do we need to ensure in the planning process to get from the fifty percent, the residential area certified to maybe seventy-five percent. Not maybe one hundred, but to raise that classification or certification. So there are possibilities.”*

LK: Do you think that certifications will play a bigger role in future urban planning?

Respondent: *“Yes, but it is of course, both if you are going to have what is said in urban planning in the planning phase, but then it is important that they are developed a little more and discussed with municipalities. Because then when you start the implementation process, then there are clear and unambiguous guidelines about what you have to meet in order to pass a certain certification when it comes to noise, or when it comes to the green factor. But of course, in the planning process it is important, and it is not wrong in such an early phase either. You have probably read about planning permission. It is a preliminary assessment that was made three, four years ago, previously you came and applied for a plan, now you have to come with an application for a planning permission that we take into account before we start the detailed plan. In such a phase, for example, you come and want to build a residential area with one hundred and fifty homes in an undeveloped area. Then you look at the planning notice, what does the detailed plan look like, are you close to a motorway or a shortcut and then you look at what investigations you need, is there a problem with national interest, traffic, or national interest for culture and everything? And when you combine all those points, and you say in the planning notice that yes, it is feasible or no, it is not possible because of this and that and that. But if it is yes, then maybe you should look later, flag whether you want a certified plan or, implementation of the plan. But I think they need to be a little more active. To provide input to the city or all the cities, for all the cities in Malmö, Gothenburg and Stockholm, meet at least twice a year and discuss all issues from building permits, planning notices, plans, master plan, noise issues, dangerous goods distances and dangerous goods. All of this is discussed between the municipalities and in this way you can get some better cooperation of course.”*

LK: What sustainability requirements or expectations does the municipality have for a project in the early planning stage?

Respondent: *“In the planning decision, we test whether it is feasible with the basic principles. So you can't say 100 percent that it can be implemented. We don't know what the noise investigation says, but we try to use experience in the area, or what has happened in the area, to consider those questions to get a sense of whether the plan is feasible or not. And then to concretize those points, and maybe they work or we can say yes, we have to do a noise investigation or we have to do a vibration investigation because we are located fifty meters from the railway or the harbor railway. And those are these questions, but what does the investigation say? Is it really possible to build housing or will it just be offices? That has to be investigated in the planning process. You can't say 100 percent certain things before you investigate. But in such a planning process, you can have a goal. Yes, we will work on this and that to pass that certification or be promoted.”*

LK: How early in the planning process does the municipality expect sustainability aspects to be addressed?

Respondent: *“It is also as said in the planning notice and the planning process. It is good in the planning notice. As said because if we see that we need to remove a forest area for example, and then we show those factors at the same time. The city has a requirement for that compensation and we take half the forest and then build one hundred and fifty homes. Then we have to see how we can compensate the forest or, should we plant somewhere else or near the planning area or something? So those are the issues that are taken into account during the planning process and it is good at an early stage if you want to achieve something, and as said, if you come after the detailed plan and start certification, then you could perhaps in the detailed plan or before the detailed plan do something preparatory to classify the area better than if we just close ourselves off and make it a plan for ourselves. There could be a discussion. It could also be as said closed doors or something. But it depends on how and, that you bring it up in the early stage. What do you want, of course. It's not possible to think and certify everything at an early stage, but to raise it. That's important.”*

LK: What improvements can be made in certification systems to better align with municipal sustainability goals?

Respondent: *“The state, BBR, and the regulations clearly state how much noise can be made and how much air and everything else. And both we and the certification process must do so. But it is in the planning process that you can, by placing the houses and by turning or through ventilation and facades, solve those issues, which of course in turn, gives the opportunity to get a better certification of the neighborhood or of the building. So it is important.”*

LK: In your experience, what factors make sustainability certifications successful in urban development?

Respondent: *“I think it's the green factor and air and noise that are important. Because there's quite a lot of noise now. I read a few years ago that there are about three hundred thousand people who die because of noise. Noise causes blood pressure to increase. If*

you sleep a hundred meters from a motorway with the windows open and fall asleep, then the heart and brain never get to calm down and that unconsciously increases the problem and therefore the possibility of moving the bedroom to the other side, for example. That's how you set requirements in the planning process and on both design and construction and the standards. We have a task in the planning process to make those requirements in order to then be certified. But that's what I said, what does it look like on that scale in certification. It would be fun for us too if it was available. But of course, we also have some simulations. The whole of Gothenburg has a 3D city model and almost every plan that we make, we make in 3D volumes. And what is beyond noise and air is also daylight. There have been some plans that have been stopped or remitted, because they could not meet daylight requirements inside apartments, or it depends on how high the blocks are and how the light falls in. Then maybe the first or top four floors can have housing, but the one at the bottom does not get a single drop of sun. Then it falls, the classification or the factors and everything. It is also perhaps in a way a sign. If we build more than seven or eight floors in a block. Then it is certain that part of the block will not be able to cope with that certification. Then it becomes a problem.”

LK: That was our last question that we had. Is there anything else you're thinking of that you'd like to add?

Respondent: “It's quite new for us too, and as I said, there's not much on the market either. They're quite new, but they of course need to profile themselves. They can help quite a few developers in the process. They can give us at the municipality certain points that we also need to think about. But as I said, every four or five years we get another investigation of the soil environment. You can imagine that twenty, thirty years ago, they didn't think about it. They just came and planned it. And when we plan, we have to investigate the soil environment and look at whether there are hazardous substances in the soil. For example, in Linnestan, they want to build homes in the attics and add new apartments. They made a positive planning decision. But then in the planning process it came out that, well, there was a dry cleaner inside the house. So when you add a new home, you have to investigate so that this doesn't affect the new apartment. You don't think about the existing ones, but you have a requirement that the new apartment must be able to handle chemicals. They can go up through the plaster, and how high they will go, or so, just the details that need to be investigated at an early stage so that both we and if they want to continue on the market as Citylab to certify the building, they have to think quite broadly and find a balance so as not to be too strict in the certification, but at the same time not too low and give us some input also in the planning.”

Interview 5

Respondent 5, Land- and project developer, Wallenstam

LK: What are the most important sustainability goals for this project at this early stage?

Respondent: *“Oh, what a difficult question. The most important sustainability goals, but it is that we should create a pleasant district with good living environments and it is important that the blocks are designed so that the apartments have good conditions for daylight and noise and things like that. I probably look at sustainability more from those aspects than from the later if you say construction. Sustainability aspects from the choice of materials that you choose like that and also the energy performance of the buildings and so on. That is something that my colleagues deal with more later. Yes, because the end customer with us is our tenant and if they like it, they will stay for a long time. That is an important aspect for us.”*

LK: How important is sustainability certification for this project?

Respondent: *“We haven't worked with it at this level before, but we have worked with it in our building stock. It has been important there, of course, in the past. You have to reach a certain level, at least green building silver. I think that will be important in the future as well. Then I think that if you were to consider a certification system, it would have to do with these. It is that you should design the area and the whole in the most optimal way possible. Then maybe then I think that this certification system can contribute.”*

LK: Has Citylab been discussed as a potential certification for this project?

Respondent: *“Not really. This is, you could say that your work is actually part of it. That we have the opportunity to learn more about what it would be or what it is and what it would mean for our project. And what it can contribute then. So, we have only talked about it in our small project group. It has not been presented at management level or anything like that at this stage.”*

LK: What factors would influence the decision to use Citylab or another certification system?

Respondent: *“No, but the cost is of course a very important aspect and also the result was the benefit of it. Cost that is weighed against the benefit. Then the benefit must be higher of course then but it can also be knowledge as well depending on, i.e. how much you can convey what? Understanding what it is for what it can contribute but also time maybe for that matter. How much work is required from our side or buying time as consultants and so on or if it is that the requirements are too hard that we would never be able to or we would have to sacrifice too much for example in apartment space or so on to achieve certain goals.”*

LK: What do you see as potential advantages of using Citylab for this project?

Respondent: *“No. But it is that we are in a phase where it might be appropriate to, in addition to what I mentioned earlier in a previous question, what is it and why? What question was that?”*

LK: Factors that would influence the decision to use Citylab

Respondent: *“Yes, but those are the advantages then that it is the right phase to bring it in. That it can contribute to a better, that the district is designed in a better way, or like a more optimal design based on daylight and noise as I mentioned before, but also perhaps social meeting places and greenery and cosiness.”*

LK: How do you think sustainability certification can affect the long-term value and success of the project?

Respondent: *“I think it’s hard to say because I have a hard time looking over a long period of time. I mean, a building or a city district lives for that long. So a building today should be around for a hundred years. I have a little trouble seeing that the certification systems we use today will be relevant. Maybe in fifty years’ time, for example. If we succeed in that, then that’s good. But I kind of do. Since the life cycle is so long, I don’t think that in the long term, in a hundred years’ time, we will hopefully have come a lot further in the requirements we place on a building, and so compared to today, I hope so. I don’t know if that was an answer.”*

LK: Yes. Are there any problems or challenges that could make it difficult to implement Citylab?

Respondent: *“No, but that's what I mentioned today, actually, with costs, the path to benefit and the time aspect, but also perhaps that you have to convince, not convince, but still be able to convey what the benefit is. Those who will actually make the decisions about the investment. That's just our management, as well. What I see as Citylab's biggest. We've talked about that a little bit before. It's this that it may not have used that much. So that it may be difficult to analyze what benefit it has had in previous projects. Compared to a regular project of the same size. Also the long lead times in these processes, which I can say are like ten years without it being strange.”*

LK: What kind of support (financial, regulatory, technical) would be needed to facilitate Citylab certification?

Respondent: *“Oh. I don’t know. Knowledge is, that’s the most important thing so that you understand what the benefits are. Do you think about where that support comes from, from the authorities or from, for example, the Building Council?”*

TJ: Maybe a little bit of both.

Respondent: *“Yes. But some kind of, maybe they haven’t really communicated on their website which projects have undergone this certification, for example. Or it’s not that easy to find information about it. There I see that they could maybe be a little more proactive, like outwardly and sell their service a little better maybe.”*

LK: How do external stakeholders (e.g. municipality, investors, contractors) influence sustainability decisions?

Respondent: *“No, but for us, for example, at the building level or there are green loans and such, a very important incentive for certification. So that is very important there and then at this level I don’t really see that, at least I don’t know of any. The municipality is not allowed to impose those types of requirements on us either, special requirements without or they are not allowed to impose stricter requirements than what the legislation does. So from that perspective there are none of these. It is more in that case if the municipalities own land and want to sell and have it as their own goal that they want to work with. Then they can have it. But they, like us as private landowners, cannot impose the requirement.”*

LK: Even if Citylab is not used, what important sustainability principles do you think will be important for the project?

Respondent: *“Yes. It’s a lot about that. It’s the requirements that are set and investigated and kind of looked at a lot in the detailed plan stage. It’s about what’s really hot right now or what’s an important and difficult issue to solve, it’s about stormwater and torrential rain and handling large amounts of water, for example. But it’s also an issue in certification. Then there are the ones I’ve already mentioned with daylight and noise, air, of course, air environment. But also the social issues that certification raises that might not get as much space in a traditional process.”*

LK: Do you see growing pressure or encouragement from municipalities or national regulations to use certification systems like Citylab?

Respondent: *“No, I don’t. No.”*

LK: Would you say that Citylab affects property value, marketability or access to financing?

Respondent: *“I have no idea about that actually and I think that’s because I think in Sweden, no, given the low level. You could look at Miljöbyggnad, too. I definitely think it matters there. Or Bream or something like that when you look at an individual property with a building that meets some of these certifications, it absolutely matters. Not the way you asked the question.”*

LK: If you could improve the certification process, what changes would you suggest?

Respondent: *“No, but I would probably say watch out. Have you seen anything that you have?”*

TJ: Some say it's a bit too complex

LK: The fact that not many people have done it yet, for example Respondent 2 who is doing it now. She misses having someone to play ball with.

Respondent: *“I came up with one, by the way. It’s only when you have to follow up on a lot of these social issues that were based on survey responses, interviews. It might take a little more then when you have to evaluate. It takes the opportunity and if you have your tenants or if you have rental apartments and rent out premises and so on, you have the opportunity to have contact with the residents. But if you are a developer who*

sells condominiums, for example, it's a BRF that takes over later, so it might not be as easy to reach those who live and work in the area at a later stage when you have to do these evaluations."

LK: How do you see the role of the certification system in future urban development projects?

Respondent: "Unfortunately, I think maybe that, uh, if you look at it right now. For example, the EU has paused them here. Now I can't express it in the right way, but it feels like environmental issues right now might be on pause a bit. Generally because of the world situation, the economy and things like that. I don't think they'll put that much weight on it. The EU has requirements for how companies should report their environmental impact and they paused the introduction of that now, for example, because as I interpret it, the economy is taking precedence right now, so it takes a lot. There are quite high demands on the companies that are being placed and that it's not the right time right now. But also that politically, I also think that the kind of winds are blowing that make it possible. Now I won't get politics involved here, but still, maybe things are also changing politically so that they won't set such high environmental requirements going forward either."

LK: Is there anything you have thought of that you would like to add that could be useful for our study?

Respondent: "No, but when I suggested this topic to you a little bit, I was perhaps a little unaware that it was not that common. I mean, as an environmental building, it is a very common certification that most real estate companies are doing. I still thought that it might be a more widely used certification system than it actually is. It was a lesson for myself, I guess."

Interview 6

Respondent 6, Sustainability specialist, Project 4, manual 3.0

TJ: Can you describe your role in the project and how you were involved in the process with Citylab?

Respondent: *“I was the Citylab coordinator for the project and this area at the time, it is land that Company 3 has owned for a very long time. I guess since the sixties. I don't know if you need it. I can check it out, but a long time. If you have done it like afterwards, you have made attempts to yes, but now it is perhaps time to move on with the planning, that is, this district of Bunkeflostrand that Project 4 belongs to, it is located south of a ring road called Yttre Ringvägen in the city, so Bunkeflostrand is like an old community. But it has mainly grown during the seventies with villas. It has been a fairly distinctive residential community for a long time and then they have built in a few stages and then mainly like, what should I say after twenty-one, the pace of construction has increased and, when we then made an attempt to yes, but now we want to plan for a larger area again. Then there were several areas that like it was time to work with plans. It There was quite a lot happening in that part of the city or where they thought they would build more. Almost as if you can see it almost as a picture, including the Project 5 part that you will hear about. There is a large, limestone quarry that they are building next door and the whole thing was going to be a very large addition of housing. And at the same time, in Bunkeflostrand, they had also seen that there was a lack of service, a lack of, well, center functions. So that when they started with a detailed plan and proposed that we should now do a lot of housing and then the city did a little re-planning and in analyses it turned out that they will need more commercial premises as well and they might even need a new district center. And when it had been going on for a while. I don't know exactly when they had re-planned the detailed plan so they had kind of had the first sketches without this district center and then they realized that we need to change something. I don't really know. I'm thinking about exactly how I got in the first time. But somewhere in what should I say the second half of the development of the detailed plan, I got involved in the work. They probably wanted to see how we were doing in terms of sustainability. They had a sense that the municipality had demanded a lot about sustainability and Company 3 had also proactively raised many issues and had a fairly high level. And we started with one. With all these changes and so on, there was a lot of opinion and views in the district about what was needed and how that expansion should happen. So that the municipality had initiated a, they called it perspective gathering, some kind of dialogue work about what the people who live or work in Bunkeflostrand think about this development. And somewhere there I came in and helped our project to see, so to speak. Yes, but how do we work in terms of sustainability and how can we use this dialogue that the municipality had started to make a better project and so that, as I said, at that time the detailed plan was not completely finished, but it had come quite far. The rough structures were finished. Roughly in terms of distribution of housing or types of development. So, this is where the center should be. Here are more residential buildings. Here are more single-family homes in different shapes. Townhouses, slightly different variants like that. So I actually came in relatively late to be able to start that kind of sustainability program work that we did later. But, I always talk for a very long time. So now you can ask the next question. Exactly, my role. Yes, but it was to help as I was given. So, they realized that we had done quite a lot and they had heard about Citylab and, there was an interest in how we actually stand if you were to compare what we have done with a certification*

like Citylab. So we simply did a very simple screening on our own. Where I took all the indicators in the previous manual and sat down with the business developer for the area. Or two together. And so we went through it from top to bottom. Have we worked on the question? Yes and no. Roughly what have we done? And then we jointly made a very simple assessment that yes, we have worked on almost all the issues. Do we think we could pass a certification if we wanted to go in that direction? So that's how I got into it."

TJ: What motivates you to environmental certify and why did you choose Citylab?

Respondent: "I'll start with the second question because it's the easier one because it's the only certification that works sensibly in a Swedish market for district development. I've been involved in something like that on the fringes of some beta test in Lund and a few different variants and where they were still testing BREEAM communities. There was, first they used it once in a direct translation, in the city on a project. And then they tested an adapted version and then SGBC realized that this wouldn't work so they started the Citylab development. So that actually Citylab. I don't see any alternative, even though both LEAD and BREEAM have it and maybe even the Australian one. I never really got into it and maybe even the German one, there are different other systems. But I think that, as I say, it's the only thing that works in Sweden and it's adapted to Sweden. So that's the reason why exactly that. The reason why we wanted to certify was actually that somewhere, but pretty much we felt that we've done a lot and the steps to certification weren't that big. and then we wanted to test somewhere what it could give. To put it a little simplified and get a stamp that we have thought holistically here. We have been concerned about it in the beginning but with that, this area is in one. There is some kind of green strip from central city and which leads all the way out to the sea, approximately in the middle of Bunkflostrand and when it comes out from under these ring roads it meets agricultural land, which is what we are building on. It is not that species-rich but the advantage is that we can increase the biodiversity on this green strip that will pass our area, you could say. So that we had already worked quite a lot with inventories and done more than usual. So a complete ecosystem service inventory, a natural world inventory. We had all that dialogue work and we have from the beginning with us as well as energy and climate and other planning goals and things like that. The municipality already requires that we work quite a lot with mobility. You are not allowed to build basements to park there. You have to park in mobility buildings when it's an apartment building. So we already had quite a lot on the track and felt that yes, but since we want to show that we can, we think holistically. That's about it, I would say."

TJ: How familiar were you with Citylab before you worked on this project?

Respondent: "Yes, I had taken the course and we had responded to the feedback on the different versions. So I was familiar with it, but you notice a lot, you don't really know until you work with it, to be honest. But that's about it, I was anyway. I knew about it. I had read it. I had taken the training. It's only two days so you don't know it by heart, but sort of. And I had followed the development over the years, so that's how it was."

TJ: What were the biggest challenges you faced while working with Citylab?

Respondent: *“Well, a little, to be honest, and we haven’t really been shy about that, we started a little late. You should start this when you start a detailed plan, but then we didn’t have it on our minds at all and that also meant that we didn’t get much. We had to supplement with certain material that we would have otherwise developed from the beginning. Maybe, it was just for an example. The old manual doesn’t have that many quantified indicators, but it does have one that deals with green spaces, a factor for public space land, and it should be calculated according to, what’s it called? CO City’s tools then. The municipality, we were, since our detailed plan was almost finished, to be honest, the city wasn’t really interested either from their perspective. Like the planning side. They were much more involved in Company 4’s project and they’ve since run their own. They’ve developed a sustainability program that’s something east of the park, for example, which is Citylab certified, I think, but for our part, we had actually passed the planners’ question and what was left then are those who order that public space be expanded and they are more like that. Now we will design for roads and some parks. They didn’t really need any overall sustainability document for how the entire district should be. So we had to do some things ourselves. So that way. We got a certain response, but not so clear perhaps and that particular calculation would have been better if one of our colleagues had simply sat down and looked at maps and what the world is here and at the inventories and how they. How do different things turn out? Yes, since everything was a bit new. It was kind of a circumstance and a little bit of knowing what level to focus on. In general, there is quite a lot to keep track of. It is quite extensive and we also didn’t have a completely established structure for how to do it. I wouldn’t say that we have it now after one time, but just that, but keeping track of the complexity and the different issues. But basically, as I said, we chose a project that had good prospects of being certified where we had already done so much extra. So that was a strength.”*

TJ: Were there any requirements that were particularly difficult to meet?

Respondent: *“Yes, it wasn’t really that difficult. It just cost a little extra calculation time. Sometimes we had more. What can I say? This fifteen percent, public areas or whatever there is. We had that. It was like that when we, when we started, we couldn’t influence it anymore. If it hadn’t turned out that way, we wouldn’t have made it. Then there was something. Yes, so the one that is always difficult for us is this with different price pictures for the homes. Company 3 has a product called Boklok and it is much more reasonable in price and we will build that too. There will be townhouses, Boklok townhouses in this area so that is positive. I will leave it unsaid if there will even be more family houses Boklok too. I don’t remember that right now. I’m mixing it up. But it is positive. But otherwise it is something that is kind of more difficult. So. We own all the land ourselves. We may sell some building rights, but that is not decided. But we don’t have, so to speak, public benefit from the beginning or something. So you could say maybe have a different target group or something, or a broader target group than our rental apartments. We will have a large variety of sizes. We will have ownership rights and condominiums and rental apartments and we will have small houses, but not small houses as rental apartments. In and of itself, some will be like this small townhouse character, but it’s like two stacked three-story or three-room apartments. So it looks like small townhouses. But they are rental apartments. It’s a very nice product. But, so it’s difficult. This thing about everyone being able to ask for something. Well, uncertain. And then there are some general requirements. We want to get a lot of commercial service in, but it’s also difficult with the market. It’s always as you want it,*

but it's also a burden. So, it will be a more pure building than the mobility house which then has daily goods trade and other functions in that building. And it is more pronounced that way, but other things will be like the residential buildings that face the square, they will have a larger part of their facade to be something public. It is not easy for them. It will be the housing associations that will then be left with those contracts eventually, even if we kind of initiate it. What else was difficult? There was something about mobility that I don't remember right now. There was probably something more. So that's it. Yes, sometimes you have to show how far you have come and sometimes if you can't do anything, you have to have a strategy for how to fix it. But like, yes, but this about affordable housing. We have a little bit of what we have. There is not much more for us to get. Yes, but about that. Yes.”

TJ: Did you experience any conflicts between Citylab criteria and other project requirements (e.g. financial constraints, local regulations, or stakeholder demands)?

Respondent: “So the economy sets limits for a lot of things. But we managed those requirements within the framework of what we saw and considered possible. I don't know in this case what would be the most difficult thing to balance. No, because we had quite a lot of space. We had quite a lot of green space anyway. So just like the municipality has its own requirements for the size of preschool grounds, so it was like. Yes, we had already included that in the calculations when we started with Citylab and so on. It was already, we had it as an awareness and so then it was solved, for example. Otherwise it could be a thing. How much space should be set aside for different purposes. And we had already understood that the city wanted us to provide this small commercial center then, which is kind of a different thing than building a purely residential area. No and then like. Yes, as I said, the economy sets limits, but it wasn't something that huge where we thought yes, but we have to cancel that whole investment or something. I can't say that.”

TJ: Did you have to compromise on anything - function, cost or aesthetics - to meet the criteria?

Respondent: “But we all passed them. I try to think about it like we had some additions, but it was mostly that we hadn't been clear enough. I imagine it was something like that. We can't really do this. I'll have to look through my old documents a little bit later and see if that was what it was. But it's nothing big that I can remember right now. It was a few years ago.”

TJ: How did you experience the communication with the Swedish Green Building Council?

Respondent: “Yes, but it was probably good. Well, they say. It's different in the fourth year and it's also much more difficult in the fourth year. I think it's really interesting that different projects manage that, so we have. We also thought that those were good changes, but it's much tougher. But in the third year, it's basically, you register and then you write and write and write and then you submit it sometime and then you get one or two of these rounds where they can ask for additions and where you can possibly ask something. I know that we ask for something. But that's not really what's included in the package you buy. I knew the people responsible and then after the project I sat on the Citylab council at SGBC as well. So then you know even more about some of the

other projects and some of the people responsible and so on. So it wasn't like it was a long distance or anything, but most of it was more. But submit it and we'll see. So that's it. It's not like that a lot during the time and we don't know. Either they don't think it's their role or it's not their role maybe because you're a certification body and not a support function. They might have to go a little bit the formal way. So. Maybe it was because we knew them. I had met like. It was Sigrid Valve who was still responsible. Yes, so it was possible to handle it if you say so."

TJ: How did Citylab benefit the project?

Respondent: "Yes, but generally speaking, the first thing is to sort of keep track of everything we should think about and how we are doing. And it became a kind of push and pull to do a little more and to involve others a little more clearly and be a little more clear about what we are doing. So that's it. Otherwise, things get lost. The business developers and project developers are really good and think about a lot of issues. A lot is included in legislation. Some things are raised by the municipality because they think it's important. But then it becomes a kind of. It's a bit all over the place and the sustainability program says, look at all this we're doing. Now it also gives us something that we follow up on. So then we can say, we've done all this. So now we haven't started building out there yet for like a housing project that was like first another detailed plan that was then included in the new detailed plan, so it was already kind of planned for a long time. But the big part, like with this center and those homes there. We haven't started that yet. The market situation deteriorated somewhat. No, but it became a rallying point, a boost, a clarification, a level-up. Something to be proud of. Maybe something like that."

TJ: Did the certification process encourage any innovative solutions in urban planning, sustainability, or stakeholder collaboration?

Respondent: "So basically I absolutely believe so. Then maybe for example down here we have Eon who is the electricity grid owner and who also owns the district heating system and there is also gas nearby. Coming in here from Denmark. So when we discussed the energy system, they had already started of course. Hi, Eon. Now we are building quite a few homes. How do we do this well? And there was already an interest in doing something so that in a way it was maybe not necessarily Citylab that started it. But it kind of fit together well that yes, but we want to. We have low operating costs and low carbon dioxide emissions from a good overall solution and Eon was also interested so that and then we are building a similar area called Hjärup Västerstad between Lund and Malmö which is located. They have just started building. But we wrote their sustainability program after we had written it for Project 4. We have not certified that, because it did not have the same conditions at all. But we have also tried to lift that area in the things that we could. So we've done some parallel work there. We work with another energy company that's responsible there. They're called Krafringen. It's Lunda's owned regional municipalities there, so it became a bit like we started a technology group to see how we can work more innovatively? How can we work better? Whether it's a sharing of something or other solutions so that it doesn't become some kind of standard. Yes, so, combine district heating and heat pumps in a good way, or whatever it may be. So in a way I think yes, but it fits together well. And if you haven't already thought about it before then. Then you have to work together. Then we had something about stormwater. That's also something like that. We're not doing anything

super advanced, but right now with the large areas and how you can do and with biodiversity and do well, let it become a good system together. But such initiatives are much easier to take when someone says, take this into account. And we still have a plan to do a place collaboration initiative between the various commercial actors that will eventually move in around this square. We're waiting on that. It takes a long time so we'll kind of see who actually establishes themselves there in the end. But there was a clear desire that they wanted things to happen in the square and there should be a lot of them and they should be able to have a flea market or market stall or whatever temporary things it might be. So it's kind of like that. We don't usually do that. We usually try to find an actor and then we rent it out and that's it. But it's something that spurs us on. As I said, many years have passed now and the situation is not the same as a few years ago in terms of commercial terms. But it's something that we hope can become something and we haven't done that before. A lot of it, like all this citizen dialogue. It's one of our biggest projects where we've had that kind of thing. And it's made a huge difference. We hadn't done that before. But it was very important that the municipality had started work and they had a very good network between voluntary actors in the district. So, everything from the housing association to the recreation center to pensioners' associations and all sorts of things.”

TJ: How has certification affected the project's long-term sustainability goals?

Respondent: “Yes, but we are tightening things up and all projects should be related to that. Company 3 had a. What should I say some kind of internal grading. If you take energy use for example, then you should be related to BBR and in the past they were. What should I say? Yes, but those requirements were not so strict in the past. They have been tightened up over time. But then Company 3 itself had an energy use that can be no more than this and then you should sort of lower your target and below BBR. And then we had some kind of internal staircase so you could sort of classify your project based on that internal staircase. And we said that. Yes, but you should all try your best and usually not all projects had done that. Or the same with climate emissions during construction. It was like I said, development is going at a breakneck pace. But then we also said that everyone should strive for this level that was a little more difficult than what was standard and we simply said that to everyone so that we have in several cases, it's simply set a level. This is how everyone should do it. Everyone should have solar cells and it was absolutely not standard when we wrote this. Today, it's probably standard for self-development, but it wasn't then. So there are several things like that where we kind of raise the level in relation to what is a standard project and those projects are working on their program documents and so on. And someone has probably done some kind of pre-projecting as well, but nothing has gone so far that they have tried. So, they have to sell in some form before they can start construction. No one has sold anything, or applied for a building permit so far. Because there are other things that are ahead in the pipeline. Except, as I said, this which should have started before anyway. So. So it's a small house area and we also certify all tenant-owned apartments with the Nordic Ecolabel except for Bokloks and the ownership rights. But this is also. It's a small house area. In addition to the Nordic Ecolabel, it's also zero CO2 certified. It's our first zero CO2 housing project. No, but it has probably raised the ambitions overall. So that's how it is and in many cases we have measures called but investigate whether we can do something. So something that we still haven't landed on is some form of water reuse. Whether it's rainwater that you capture and do something with or if you circulate greywater within the property or something like that. There is technology and

it can be done. But it costs too much in relation to something else. So it's kind of an economic thing and it's really not standard anywhere else and so far the water shortage is not that noticeable and the price of water is not that high so that the economic incentives are missing. But at some point we have to do some trip with water. So what we have done there instead is kind of information and tips and kind of the same knowledge overviews that everyone can take part in. So that we have kind of increased our common knowledge and kind of lie here a bit waiting for something to be done. But each round like that also increases our knowledge. So that even when we don't reach the whole path, we have learned things that we will hopefully be able to implement next time. Yes, a fun thing we did on this biodiversity thing. That is, we made ecological design instructions for neighborhood land. So on the public land. As I said, there will be some nature trails and there will be parks and things will happen. But we said that all the neighborhoods must also contribute in some way and our ecologist together with consultants. They simply made some kind of concept and said that but these various smaller elements we need to distribute in the district and you get to choose for yourself what type of these elements you take but everyone has to try to build something in somehow and you get a lot of help in the form of plant lists and recommendations. It's like for the entire area and it's the first time we've done it. As I said, it hasn't been implemented yet, so we'll get that. It's really important to make sure that everyone takes this with their landscape architect so that it's not forgotten and that we follow up and so on. But it's a fun thing that we've since taken as an idea in more places that kind of makes it a lot easier for a project developer. It kind of gets. Okay, I'll deal with this. I'll give it to my landscaper. Thanks So.”

TJ: How did Citylab affect the planning phase of the project? Did Citylab change your way of working?

Respondent: “Yes, as I said, because we came in in the middle, if I think about the planning phase with the detailed plan, it was a bit late. So we didn't really have time to influence that. It was more like checking against what was said in Citylab and seeing if we could do it, and we thought we did that, so to speak. So that's about it, in short, but otherwise I think it is. It matters. So that's it. “

TJ: Did you experience that the long-term savings, such as reduced energy and water consumption, outweighed the initial investment?

Respondent: “So it will do that on energy. So, that's kind of what we hope. We invest quite a lot of time in this coordination for a good concept. But that's really the purpose of it to reduce operating costs and on water we haven't done that much. What we do as standard is pretty frugal, white goods or what is it called? Mixed and stuff, and yes, showers and machines and stuff, so both on washing and dishwashing and whatever it may be. And there we are kind of at a pretty good level. Because they, well, there's not that much difference compared to another regular project. And then on water. This particular thing with some form of reuse, we haven't done anything more. It's because it's too expensive. So, so far.”

TJ: What do you wish you had known before you started the certification process?

Respondent: “Yes, but somewhere you can. I'm also pulling a little now to the fourth and so it's still difficult when you're sitting with the document. I actually think that what

should I say the guide or manual is good and you actually understand what is to be done, but you haven't really understood it until you've tried to fulfill it. On the other hand, it's also difficult to explain to someone. So you can really only do is try to read and try to sort of clarify and visualize for yourself that yes but that means that I have to have these meetings or these investigations or that this has to be understood somewhere? What do I do practically so that this indicator is really fulfilled? So that some kind of like it's not because you're forced to work with it because you really understand what it means, if you say so. I'm also checking here a little now with what it is, what we got for review comments and so on. Yes, exactly that. Yes, but for example the risk analysis should have been done early and we didn't have it in advance. So it was probably a bit of an afterthought. I'm just telling you that. And then you never really understand how much time it all takes."

TJ: Do you think Citylab is an effective tool for promoting sustainable urban development?

Respondent: "I would say that Citylab is a necessary tool in some cases. We work with several projects and I have suggested it in other projects and especially where we are different actors. Maybe some municipality and some other construction actor. I think that Citylab is necessary and best suited to really get everyone to the same thing, to the table and get all actors to strive for the same goal and to really talk things through and to really not forget anything. And to look at goal conflicts and things like that, together and see how to prioritize. So that's how effective it can be. But I think that sometimes it's like, if you really want to get somewhere, I think that sometimes it's like that. It's this process part that is one of my biggest arguments for why I think you should use it sometimes. The other thing is that it's a guarantee that you haven't forgotten anything and that you can really rightly say that you have taken sustainability into account and integrated it. So those are the two things. Then if I think about the lighthouses, you have increased the documentation requirements and that may be good, but it is a lot, like who attended all the meetings and things like that. I think when you get a routine, it comes more naturally and it may make sense. I really like the division. It is like a step one or preset one and preset two. I think it is very good, but there is also a lot more documentation and every little sentence like this, so it has to be proven. So the scope has also increased a lot. On the other hand, I mean because Citylab at the time on the third didn't have that many quantifiable indicators, you can do quite a lot with good will without really knowing what it will give in the end, if I'm going to be a little harsh. So I can also understand that we have increased what we really want to ensure that something happens. Many people I talk to who are used to house certifications are surprised that there is no mandatory follow-up of some kind. I mean in our case in Project 4 as I said with the housing market that completely collapsed like that. After two years. We still have nothing to show. So that it is somewhere. It is perhaps not reasonable to demand it either. So I am glad that it is not there, but somewhere like that this is always to guarantee what happens next. That is like the big shortcoming. You don't really know what happens next."

TJ: If you could improve the certification process, what changes would you suggest?

Respondent: "Yes, but basically, as I said, I think it's good that you've divided it up and that you have a reconciliation. So first, that you can sort of submit and submit certain parts, that's the basis. We have a vision and what's included in that at the beginning

and a little bit. We have an organization. It's great that you set it up, that you agree that it has to be anchored and all those things. I think that's good. And then actually preset two is the big content. That's where you do the work and as I said, I think it's good that it's divided up and then you hope that, if there aren't that big changes from two to the end of the certification, that you can really just write. It's no change. So I don't really know that yet. I haven't tested it. No, when we, when we took the course for the fourth year, the big question was actually that we could have discussed for quite a long time how to fulfill certain things. So, even though you put a lot of effort into knowing why and what, you still end up standing there and saying. But how do I prove this and what is good enough? It's hard to know. But I don't know if the process itself can solve it. It probably has to be some form of practice and some form of. Yes, so if you, it may not work with advice, because as I said they will certify. But they will also be independent and neutral as a party to SGBC. But I think that's where you will struggle to see what is good enough and that you haven't missed the train on things. I mean, a detailed plan and a sustainability program like that. You say it takes two years or I don't know it can take anything between one and several years and if you then say you missed something that you should have done at the very beginning after you submitted your preset one. Yes, and then it's missed. What happens then? But otherwise I don't know how you can do so much differently and I think that basically the structure is good, but it will be interesting to test it sometime. So, so myself."

TJ: Is there anything we haven't asked or inquired about that you think might be interesting for our work?

Respondent: "Yes, but basically I hope that more people want to test and certify and also want to tell us how they reason and so that there is a bit more yes but joint learning about that. I think that would have been interesting. That more municipalities also get involved and do the process together with construction stakeholders. Because now that Malmö City did Öster about the park, yes, but then they did it themselves with a consultant and then they allocated land based on that. I think it is most fun when you do it together and then you also understand the context better. But I mean, processes and situations are different. But, I think it serves an important purpose. My recommendation is, as I said, is the smallest thing complex? If that is the case, then it is good to have Citylab, because then you have to force yourself to do it more properly. If you are different stakeholders, I think it is great. Yes, exactly that. I came up with a discussion that is still a bit difficult. And that is what is interesting. Project 4 was a detailed plan with everyone. I don't remember five hundred homes or what we said there that will be built eventually, but we have areas that will probably have more detailed plans. Where you also like. It's some kind of holistic approach. It's no secret. We are involved in Trelleborg in something called Sjöstaden and then Company 3, the municipality and OBOS, have another actor when we are going to jointly move the port and so we are going to jointly develop what has been the port and supplement and build and so on. And it's big and the big planning. You do that with a planning program or something like that. But then you make different detailed plans. Then it becomes a bit difficult how it relates to a sustainability program because it's actually difficult to, it's difficult to connect the sustainability program to a more comprehensive level because then you know too little, that is, an in-depth master plan because then you haven't really set the structure properly. And that and sometimes these detailed plans are produced with like many years between them. So that you certify one detailed plan and the others don't because it maybe depends on what happens next. It's still an ecosystem, so to

speaks. So that logic, we've talked about it with SGBC a few times and it's not really resolved. So I think some projects might do it. I don't know how it was for Company 4. They have certified some parts, but they probably have more detailed plans as well. I don't know. You might take the best from the certification and continue working in the other. But you don't formally certify the same area, that area too. It's a bit unresolved. So what do you do with that? Because in a way you want it to be a natural consequence. It's the same group that develops these different things. If you continue with the same principles, you have to produce a new document every time, with all the investigations being about the whole area or just about one detailed plan. So it becomes such a mishmash of the different levels and it's difficult to know what fits into the program. But I also don't know how to solve it so that, you have to find something like that and SGBC is not very clear about what works and what doesn't. So it was a thought as well as how the system works. No, but otherwise I think it would be good if more people wanted to certify themselves and but also yes but tell us about how far you get and how it goes. I think that would be interesting."

LK: What motivated you to certify at the district level instead of individual homes, i.e. using Miljöbyggnad and the ones you mentioned earlier?

Respondent: "We have been certifying the houses themselves to a certain extent for a long time. This is about other things. So it is about the context and when we develop such large interconnected areas, then we have the opportunity to do it much better too. So, we are so used to thinking about individual projects, but when we can take the whole, but then we can also put a completely different stamp and look at the system solutions. Look at the energy system or at the larger level of stormwater management or the mobility system. How does it all fit together? How does it get good from start to finish. So that is what we want. We are working on it. Yes, but what do we have maybe five or ten different district areas like that. Slightly different sizes in Sweden. Sometimes together with someone else. Sometimes we own ourselves and we have not had enough focus on how it becomes a good whole."

Interview 7

Respondent 7 & 8, Project manager's, Project 5, manual 3.0

LK: Can you describe your role in the project and how you were involved in the process with Citylab?

Respondent 7: *“Project manager. It's probably the best thing our regional manager that we had at the time who didn't work here anymore. She was kind of pretty much in favor of us testing it out at the time And you need that support. Then we looked around. I talked a bit to others who had worked a bit with CityLab and been on sustainability programs and stuff. But many people get a bit on the way. But then you can't really carry it out and the advice from several people that I talked to was don't try to do it yourself. Or try to hand out the tasks and stuff like that. That's why we became a bit of a project manager. It was a lot about booking people together for meetings. We had training, we had at that time, we met and had four training sessions, I think, where we had people from the municipality who worked in different administrations there that were included in the detailed plan and there were architects and a few others. And then we would sync up and be able to have a bit of a, when we even had full-day training sessions we had like that. A little bit of lectures and training and then a joint lunch and then maybe some group work and so on and keep it together. And that's right. It was great with Lovisa then who hadn't worked on any projects but who had a slightly freer calendar. And then you're at different stages in life when, if you come from school where you've been out and working for a long time, what you're used to and working. It's kind of like working on a project at school and working under. It's very different. We had our guide (manual) during the time. So that, of course it's available online. And then then, uh, we did a sustainability program then. Yes, but I don't know if you see it. So that it becomes a sustainability program, a current situation description. And then we made two other documents that don't exist. Green design program and short version of the sustainability program that should be easier for project managers to work with. So it becomes a lot of volume. So that, it's fun but it's hard.”*

LK: What motivates you to environmental certify and why did you choose Citylab?

Respondent 7: *“Citylab, it fits well when it's an area, when it's not an individual project or something. And that's how Company 4 has also had BREEM in projects and several others in Västra hamnen. It's not built, or whatever you want to say. It's not a Swedish system so it's in the Swedish version of BREEM Community, you could say. So it's developed by Swedish consultants and architects, and project developers and municipalities and so on together so that. It's supposed to be actually optimal for us so Then it's probably the system itself that hasn't really taken hold, that development is still ongoing. So that was probably why and we had been familiar with it a little bit in a large development area in Lund too, where they chose not to develop a sustainability program, but they've kind of included text and stuff in the municipality's overall program for the area. So that's an area I work with too so the inspiration came a little bit from there.”*

LK: How familiar were you with Citylab before working on this project?

Respondent 7: *“For my part, it was through the project in Lund and then there was nothing at all.”*

LK: What were the biggest challenges you faced when working with Citylab?

Respondent 8: *“First of all, I don't think we were aware of the scope of this work. So it was a challenge that it required quite a lot of resources. A lot of time from us. Then we didn't have it. We could sort of. We had to bring in a consultant who was like a Citylab expert, we could call him. It was probably because we simply couldn't do it ourselves. Then there were quite a few requirements that were difficult to formulate goals around. I know that we had some challenges with a goal that was about affordable housing. I don't even know if that requirement still exists. But it was like this that you could show that you could provide housing that was affordable. And then it was like this. What is the definition of that? How can we actually promise that before we were going to build. There were a few things like that. There were certain requirements that were a bit difficult to understand.”*

Respondent 7: *“It was a little bit with us and probably with many others, so you want to come up with a budget. You have to show how much time and how much money you spend on this and just try to put time and money into this. We did estimates and tests and stuff and we got OK and then we always ended up a little under and it turned out that it was more expensive than it was. And we really needed this, and to get help from outside. We had a CityLab coordinator from White architects who was very good who helped us. Unfortunately he is no longer alive, because otherwise he would have been great for you and talked to you too. But you will probably find someone else who has that role. So. He was very patient with us and he helped us to sort of interpret and understand, ask the right questions and lead us forward.”*

LK: Were there any requirements that were particularly difficult to meet?

Respondent 7: *“So what feels most concrete and stuff, is often what is perhaps with nature, blue and green and stuff like that. Then there were maybe some tough requirements.”*

Respondent 8: *“It was much more like this with energy and like material flows, sound and light and air pollution, so things like that were really difficult.”*

Respondent 7: *“But also not that you could actually find any collaboration on how to handle materials in the development process in the area that, well... It's a bit difficult for us to control even in this case, we own all the land there. Then we had a little bit of demand. The area also consists of the municipality's public land and so on. And they are very positive about this to the point that you kind of get into their organization and want them to sign things and take care of goals and other things. It went well with some administrations a little worse than others. There is often an operating organization at the far end of the system that doesn't think you should have as much, for example, we had, some road that would have been perfect here to do as a gravel road and take care of stormwater and was a little softer. It would have been cheaper to build and so on. But no, that's their operating organization. No, it became too much of a hassle to maintain and clear weeds and winter road maintenance and so on so that, where it's like, we who are developers who really shouldn't be the ones who are perhaps proactive in those issues, who fight for things that then the municipality and the line owners and others who, who are, can be quite square.”*

Respondent 8: *“A challenge now that we've kind of gotten started with the area. As I said, that's one thing. But since there's been a lot of it. Now Company 4 has built a lot of its own projects there. But we've also kind of sold on to others who are building and then it's kind of a bit difficult like this. Okay, so we're coming up with like this hundred-page program that you're going to follow. And it's kind of like this some of the ones we talked about earlier today. Some have been really careful, like, have read through everything and kind of have a bad conscience if they can't meet all the requirements while others haven't bothered. And like this. Oh no. Why did you say I should have a cafe in my house. I don't want it in my house and then I can't make the finances for my project. So. It was kind of like that kind of stuff. I never brought an ecologist into my project, so I'm. I'm also like, I'm not going to say anything either. But it's really hard to take it further and it may not have been a challenge in working with Citylab. But now we have tested it anyway. We have certified and now we will also, we will still be able to be involved and influence the implementation. But there we immediately notice that like and now it has been five years since we certified. I mean, now I am still at this company and working. But I mean, if the two of us disappear, then no one will ever come up. That is also a challenge with Citylab itself and certification, I would say.”*

Respondent 7: *“It has also been the case that the housing market has lost some steam so that it is also a little more difficult. But because we have had it with us from the beginning that when we sell land to others we would try and also include these requirements. And it has gone, gone reasonably well, but not completely and what is a little surprised about it then we can't say maybe it will be public soon, but it is a business that will build and that has many good and that. They have a lot of older people. It is an old architect and an old project manager who you could have imagined would perhaps be a little more difficult and a little counterproductive. But they have been fantastic at reading up on this and asking and presenting. They have been like a textbook example. And so have perhaps not been as brilliant at some other company that you have expected a little more from. You never stop but you can be surprised in both directions. Then we see that certain things may drive costs. But, not always, some things like a lot of green space is not something that costs a lot. It can even be cheaper. But it's that other aspect and how much you want to put into maintenance and other things. Then we've got some of those. We've had some side things that we've worked on here with cultivation and beehives and things that we might not normally have in our business where we've had to learn how to do things in the area. Yes, but we think we've lived up to it. There are a lot of good spin-off effects.”*

LK: Did you experience any conflicts between Citylab's criteria and other project requirements (e.g. financial constraints, local regulations or stakeholder demands)?

Respondent 8: *“But you mentioned a bit there. We did the detailed plan in parallel, you could say.”*

Respondent 7: *“Yes. But we, we have, we are looking at trying to get a local anchoring on plant selection so that it would match the nature of the limestone quarry and what animals and things are there and so on and then when the municipality, came up with the plant selection for its public land and things like that, it didn't really play anything else. So we had a meeting there and then that's it. Yes, they choose some trees that come from Asia, ginko and such, trees that are very hardy in urban environments and that's*

clear, then you can discuss it. It's maybe the case that it's wise, wise choices by them anyway, even if it didn't match our plant list, we had to make some protocol and go through it and adjust, somewhere along the way and then we actually had meetings where our support, our ecologist and things like that were involved and then we found some way around it. Money is always a hot topic of discussion. You can do as much as you want, but of course, not everything is possible. Then we have set, we have had ambitions like this about arranging jobs for those who are not, who are a bit outside the labor market otherwise, internships and so on. And then we set a limit, which our production set at a hundred million in a project. Then when we don't, when we have started with a few individual projects here, it has often become smaller and more divided because times are tougher. And then you don't have, that requirement, that volume we don't have then. Eh, so we'll have to see a little bit how, what comes there. Area app was something that we. There's a lot of that kind of thing that talks about developing some digital app for communication in the area and so on. And we were doing that for quite a while and landed Bricks which is then the old framFAB and them. But there are those who are doing that kind of thing. But no one has anything that really works well. A regular Facebook group can work well. And what is it? Boappar runs some tenant-ownership changes and so on. Things like that are a bit difficult, if you're going to develop a system for the area. It's the kind of app that everyone should feel comfortable with. It always costs something to develop it. It costs something to maybe subscribe and then it should sort of fit in. It can be a bit difficult.”

LK: Did you have to compromise on anything (function, cost or aesthetics) to meet the criteria?

Respondent 7: “And now we haven't. We haven't built so we've only started building two projects actually. Respondent 8 has a small house project with very high ambitions and very climate-smart so. Then we have an apartment building and so on and then there's something else. So it's kind of been a bit of a standstill.”

Respondent 8: “Then here there are specific requirements. I know that we had some kind of goal that is kind of welcoming and I don't remember what it was called. But something is that uh, and I mean, it's all a matter of interpretation, like I mean, there are none. I'm not going to say that Citylab set like...”

Respondent 7: “Eh, we tried to do it a little bit with our program and stuff so that there was a little inspiration, a little hit table list and so that, eh, I don't think anyone could implement all the things that are there, but you can pick and that's how we've done a little bit with the projects that here internally that you've done like presentations at different times during program processing and building permits and so on and present your project and these things we've tried to take with us from the sustainability program. And so we've discussed it.”

Respondent 8: “So. I would probably rather say that it might have helped us to say to define. I mean, yes, as I said, it is absolutely a matter of interpretation for the person who is going to design a building whether it is welcoming and diverse. But then at least we have this. Then maybe you think about it a little more. So rather that is what I would say. Mmm.”

LK: How did you experience the communication with SGBC?

Respondent 7: *“It was generally good. And then there was a bit of a change of people there and so on, we had. It was intense during that time when you really had to finish and prepare for certification and so we and our Citylab coordinator had like a hotline there, to both Anna and Anna, that was mainly it. One of them is still there. The other is somewhere else. Then there was Sigrid who was like the manager there then. She's at some municipality now I think or something else. But that. No, but it's worked well. Then I worked with the operational council for a couple of years then, because they want someone who came from like the private side who was involved and that showed there now. There's an architect there and there's someone from some municipality and white and a bit like that. So that, uh, that's it. It was pretty good. What I'm a bit worried about when you were involved there and stuff is that you do it maybe a bit academically, a bit theoretically and the discussions become a bit like that. We often had to be the ones here who got the more practical perspective on the whole thing a little more hands on, and I don't really know how it's going because when I left when it's now that you're sitting there it's been a lot about getting people to really jump on it and really implement and complete their, their programs. There aren't many who have. There have been too few who have done it that way. You might hear that from them too. You probably have some, uh, good contact person at SGBC who's leaning on you.”*

TJ: Yes. We've tried, but we haven't actually gotten any response from them. We really wanted to talk to them, but it hasn't happened.

Respondent 7: *“Have you had contact with Project 3 because you Yes, It was the big flagship. It was like the big heavy project that lay ahead of us, with many actors and it felt like they had a lot and they had. They were the ones who developed the affordable housing. You could rent it for. I don't remember what they. They had set a fairly low rent. But you can work a little more with a municipal operation maybe. And it was. It was quite a few years ago too. That's how the figures were. But they are good.”*

LK: In what way did Citylab benefit the project?

Respondent 8: *“But what I said a little earlier here that it did, in a way, force us to, like, set some requirements and goals in the area. A great example is this, which we also said before with the cafe, that we did a huge workshop where we were going to point out strategic locations for different types of things. And then we kind of chose yes, but here it would have been great to have a cafe. There is nothing in the area and it is in demand and this is a good location. And then so. Now there is actually a cafe there because the house is built and we managed to find a cafe or, maybe it was lucky that we got one. Yes, But. If we hadn't done that, I think there wouldn't have been any premises there at all. And yes, then there wouldn't have been a cafe. So. That's what I think. Great example. And thanks to Citylab. Then we also developed a, we haven't even mentioned that, but a green design program that was also like this to, yes, but preserve all the vegetation that is in the area. Because it's an old cultivated, old arable land and so it's kind of like a natural environment. There are a lot of plants and species and animals and things like that that live in the area. And then we kind of did a parallel job of developing it and we probably wouldn't have done that without Citylab either. There's a lot of things.”*

Respondent 7: *“Yes. What was good, like early on. It was that we had these meetings with people from the municipality from the administrations and stuff. You can tell when the detailed plan was going to be adopted, so environmental administration can be a difficult administration. You often have contact with them when there are problems with clean-ups and stuff like that. Here we had two people who were involved throughout our Citylab process and were involved in group work and we met them, and we were able to sit and chat over coffee and stuff like that. So, uh, it was very smooth for us. And they have been like that. They have had their annual bike ride to Project 5 with the staff in the summer and asked us to come out and tell and show, like, when the district is growing because there is a part in this area that is not Citylab certified, But that, it will soon be finished. And that. It has become a bit, what can I say? A little reference. It is a bit more urban, maybe a bit tougher, environment than what we then developed in stage two which is the Citylabs certified part. They think it's fun to see the comparison and see how it develops and would like us to try to make it as it was intended, and some administrations were involved and some didn't really think they had time. But that. It's great to have that contact that you get a feeling that it will be their project too in some way. So that's it. It's actually a big win. You could see that a little bit from before that it was almost a condition here for us to launch it. It was also that the municipality would be involved, they can't come in and pay and stuff like that, but they could volunteer their time. So that we got to finance and they participated. So that was great.”*

LK: Did the certification process encourage any innovative solutions in urban planning, sustainability, or stakeholder collaboration?

Respondent 8: *“Yes. But this app that we were thinking about. There were some things that we were going to do for the whole area. Everyone who lived in it would like you would like. But then that work unfortunately stopped and I mean, there aren't that many people who live there yet. But. It was still like a job that we still spent some time on. So it didn't result in anything, but maybe it at least encouraged us to do a little bit.”*

Respondent 7: *“It's not super innovative, but it is. It's still a mobility building with like a shared parking lot and we're going to have a few businesses and stuff in it. It's not built yet, it's coming, and there's a lot of talk about it too, which is a little bit, that's where people go. Go and maybe pick up the package or pick up the car, I've thought it'll be a bicycle repair shop where there will probably be a gym and stuff, so it's kind of a thing that's still in line with the times.”*

LK: How has the certification affected the project's long-term sustainability goals?

Respondent 8: *“Should we build a climate-neutral project that I'm working on in the area. It's also a requirement that we set in Project 5 that we build Company 4 first climate-neutral project. It's still, uh, a step in the right direction. Then I don't know. As I said, we're going to follow the EU's Global Sustainability Goals throughout the program. If we follow the program, we'll achieve it.”*

Respondent 7: *“Well, we've tried to get some in so that we have smart, uh, stormwater solutions in courtyards and things like not just sending all the water out into stormwater pipes but trying to take care of and delay and water the greenery in the yard with water that comes down. So that all the stupas won't be connected in all projects and so on. It's little things like that that contribute.”*

LK: How did Citylab influence the planning phase of the project? Did Citylab change the way you work?

Respondent 8: *“Do you remember if you changed anything in the detailed plan because of Citylab?”*

Respondent 7: *“I don't think we'll change anything, but it's possible that there will be some support. So if it had come earlier, if the decision about CityLab had come before the detailed plan, it would probably have had a greater impact. Then it was a bit like we had started the detailed plan and then we decided to do this too. So it went hand in hand.”*

LK: Did you find that the long-term savings, such as reduced energy and water consumption, outweighed the initial investment?

Respondent 8: *“As I said, difficult to answer.”*

Respondent 7: *“There, people think a little differently depending on the lease, they build condominiums in general like that. It's like now in our small houses that you show climate-smart and stuff. They are actually very advantageous in that they have such low energy consumption and so on. But it, it's difficult for us to maybe price it and charge for it. Our colleagues here who work with rental housing. They have a greater joy in their calculation when they are going to keep the houses and have them longer. So for a long time to come, to save a lot of money on the energy side. That's how it works, but you kind of set the requirements. It's harder to set City Lab's requirements if you're building condominiums that you're going to sell to an association that's then going to have private individuals who are going to row it in the future, eh. It's a little, a little less interesting than what it will be in the future. So that saving. You can't count it back when we leave.”*

LK: What do you wish you had known before you started the certification process?

Respondent 7: *“Yes you. That would have been the scope. Yes. Then maybe they would have had the certified coordinator a little earlier and helped us. There would have been a lot of architects and so on Who have chosen to train one or two people in their offices and things like that to be able to help with this. And. They have had a hope that it might be a bigger thing than it has been so far. But that, it might come. We'll see, then it's like. We'll keep this in order and try to follow it up and make it work later. Then Company 4 uses “svanen” in the ongoing projects. And I hear that, there's a lot to do there too to kind of keep. And updates and all the stuff that has to be submitted. Now we're going back to Miljöbyggnad so then you change the system again. So it is, there's a lot to report on and a lot to work on and we haven't become more. We've become fewer people so.”*

LK: Do you think Citylab is an effective tool for promoting sustainable urban development?

Respondent 7: *“I think so. It's actually superb. So that's it. It's really a, a holistic approach for an area. If you use it like that as it's intended. You don't look at it piece by piece, project by project or like public space you think of neighborhoods and farms*

separately, but you try to see the whole. So it is. It's really, really good to think and it's either about a municipality or you can keep track of it or if you, like in our case then. When we started there, we owned all the land that we just didn't sell a little bit and so it's harder if you are if you are a lot of different actors. Eh, then it probably became tougher to make it work."

LK: Do you think you'll kind of strive to use it again?

Respondent 7: "We don't have that. Yes, well, actually in Gothenburg we may have some area that is large where there are probably no more than two of us in it. That's what is required in some way that you have a real, large area so that right now we are not that big anymore so that we, it's not that player, Company 3 may have a little more of that caliber. But you can always hope."

LK: If you could improve the certification process, what changes would you suggest?

Respondent 8: "Now it has been updated, I know. I don't have a good idea of what it looks like today. But mostly clarifying things so that"

Respondent 7: "It's going to be simplified because I almost think it felt like what came after what we were working on didn't get any easier. It felt like it almost got a little more difficult and more extensive and a little hard to grasp."

Interview 8

Respondent 9 & 10, Project manager & Community planner, Project 6, manual 3.0

LK: Would you like to describe what your role in the project was and how you were involved in the process with City Lab.

Respondent 9: *“Can I just say a few words first about how the project started, so you can talk more about City maybe just to put it in context. But the project started five years ago now. And you can say a little bit about the background is that we have, it's always like that there are some major development areas going on in the city.*

But we saw then, but we probably saw that already because I think it was twenty-two so like way back in time, that yes but when the land starts to run out or in the long term so you need to find new development areas that you kind of always have a land reserve and take away. Then you identify the project area which is located a little in eastern Helsingborg, a little on the outskirts of the city and is basically just agricultural land today. The city owns most of the land but leases it out to farmers until then. And then you point out the area as a potential new residential area.

But then there was no political consensus for several years about building, it is sensitive to build on agricultural land. We have very fertile agricultural land here around Helsingborg so it is sensitive to build on it, so there was no political consensus for quite a long time but then around twenty nineteen, twenty, then they had basically finished building the other areas during that time from twenty two twenty nineteen, twenty approximately and then they saw, yes but now we really need to find new matching areas so that the city can continue to grow, we need to be able to build new housing and then there was a political majority that was in favor of moving forward with a first detailed plan of the area.

Well, they have produced a so-called planning program then twenty one twelve is like a more comprehensive program for the entire area which is about two hundred hectares so it is a fairly large area. And in 2019, 2020 we got the first detailed plan underway and that was when it was also decided that we would run this in project form.

We have a couple of other urban development projects in the city that have been running for ten, fifteen years, slightly different characters, we have an area here in the city where we are converting the harbor into housing and offices, a bit like Masthuggskajen in Gothenburg, a bit of that character but less than Masthuggskajen, but a bit of that character. And then we have a residential area, a so-called multi-environment program area called Drottninghög that we are also working with from a bit more social sustainability and those perspectives and densifying and supplementing with condominiums in an area that is really just rental apartments then, so this became like urban development project number three then. And the focus in this project was then stated that it would, we would work with innovation, it came very much on a broad front as well, we need to test new things, we need to be innovative in our urban development.

So that was a bit of the focus. A year into the project, we also got a policy goal that this project should become Sweden's best district for families with children, so they tightened the noose quite tightly and said that this should be the best, the best district

for a family with children in all of Sweden. And that has been kind of, you could say, our guiding star, that's the goal we're working towards and it's also reflected in our sustainability program, so everything we do is, you could say, to a greater or lesser extent, supposed to contribute to this, this goal. And that goal is rooted in, it's not just a problem in Helsingborg, it's a problem in many other cities too, larger cities, that families with children or people of family-forming age, around thirty here, maybe forty there. You see that they're moving out of the cities to the surrounding municipalities, I don't know what it's like in Gothenburg. My sister lives in Gothenburg so I should be aware of this but I think that there is a bit of that problem in Gothenburg too that it is not easy with, so you say, family-friendly housing, then you can talk for a long time about what it is, but if it is a slightly larger apartment or a terraced house that many people are looking for when starting a family, then there is a very limited supply in the cities within yes. So then it becomes easy for you to seek out the surrounding municipalities and then you lose out financially, the city loses tax revenue to the municipality, you pay tax where you live, not where you work, but where you live. And we have that problem in Helsingborg too, they opened their eyes to that then so they said, yes but then we really have to do something special with this district to attract families with children or motivate families with children to stay in the city, so a little bit of background there. But now it has become a long answer here, but I will round it off here but I think it might be good to know a little background and context.

But also when we actually started the project, before this goal was stated that it would be the best district for families with children, when the project started, we started talking about, yes, but how do we tackle the sustainability work because it is a very important part, regardless of what goal you have, it is very important to work with sustainability issues.

And then we started looking a little bit at, yes, but what kind of systematics can we find in this, what systems are there? We don't have a system in the city specifically linked to urban development, we have a lot of guidelines and policies and programs around sustainability but like how, how do we boil it down specifically in this urban development project? So we needed to find a systematics and I'll hand it over to you so I can talk about it further, but it was kind of a question that came up on the agenda very early on when we were forming the project, you could say.”

Respondent 10: *“Yes, I said then that I could look at the alternatives out there, for how to tackle urban development projects and work broadly with sustainability issues. I think we first said before we got the target image that we would work a lot with the green issues, right? What quality and so on, in the green. And then I looked at, I actually found three certification systems for urban development projects in 2020.*

What is it called, Lead for City Development or something like that. Something American, and then it was BREEM, I think it was the second one, British if I remember correctly. And then there was this Swedish CityLab. The city of Helsingborg had also been involved in testing this at Dottninghög in like 2012. So we had some references there from how it had gone and what people thought and so on. So I went through the pros and cons of these different certification systems and pretty quickly came to the conclusion that the Swedish one was the most interesting because it follows Swedish legislation and has been tested by urban planning actors since 2008 2009 as well. There have been many years of tests where they have constantly improved and they continue

to do so, but we. We tested Citylab 3.0 and there is 4.0 and I guess that process continues. So we weighed the pros and cons and ended up deciding that this is a model we want to test and work on further. So we got approval from the managers above us. And the requirement was that there should be a Citylab coordinator to lead the work. So me and the planning architect at the time who was involved in the project, Tobias, we took this training and became Citylab coordinators. Then I had the main responsibility. But it was nice to have someone with me who also understood what the idea was and how to work with this tool. Then he left later, but so that journey was like, when we came to the decision about which tool we wanted to follow, why it became Citylab, and it was a lot because of the connection to Swedish legislation and the breadth of actors who tested the tool. And they tested it for so many years, so it felt well-developed. Then it's a massive manual to get through. We'll get to that with the questions you ask. But it's been a really tough journey, but an interesting journey to get through."

LK: How familiar were you with City Lab before working on this project?

Respondent 9: *"I wasn't familiar with it at all until you did this survey that you told me about where you looked at the systems that existed at the time, twenty-twenty, these three different ones, and kind of made a compilation, a report about the different ones and the pros and cons of them from time to time, you learned something. But otherwise, it was completely new to me."*

Respondent 10: *"I think it was Tobias, then the Planning Architect, who tipped us off about it. Shouldn't we look at this more closely. So he had probably heard about it. And as I said, the city of Helsingborg is familiar with the tool from before. I think it was your former colleague, who had the queen high, so he was involved during the round there in 2012."*

Respondent 9: *"Yes, he was involved in testing and was involved in the development work of Citylab at the early stage, but in this project, which is more, what should we call it, you are working with social, a lot of densification in a million-dollar program area. They didn't really think Citylab worked in that context, at least Citylab as it looked at the time, was more adapted for new housing or not just residential areas, but new production new development areas where you started with raw land, you could say, not where you went in and densified and rebuilt and so on. At least that's how it looked at the time. It's possible to have adapted and worked better in the other type of context as well. But that's why they didn't choose to work further with it in that project. That much I know."*

LK: What were the biggest challenges you faced when you worked with City Lab?

Respondent 10: *"Where do you start? Well, I would say the challenges are many. But above all, it's the scope. CityLab touches on so many different focus areas as they call it, and which we actually, broadly speaking, always work with when we develop cities. But Citylab wants a special type of reporting. Partly, which indicators we should follow up on and so on so that it's.*

Yes, it is very important that we who work on the project understand how to tackle these focus areas, that we do it in the way that Citylab demands so that in the long run we can get it approved and certified.

And you could say that the challenge when we started to take on this, that is, me then, my Citylab coordinator role, was also that our project group, everyone had their different roles. Someone developed the detailed plan. Someone worked with different types of investigations, so there was a lot to do and everyone kind of ran in their own ruts, as well as how they have worked and will then have to squeeze in some new questions. Don't forget to work on this question and you know, because somewhere there is a bit of one or quite a lot of new processes that we have to work from, where we will integrate more questions and integrate more expertise perhaps than we usually do or or we may do that anyway, but. It was a lot of calling up colleagues in the city who are experts on various issues to understand how we should approach a focus area in this project and get this innovative angle on it too. And in that work you also need to anchor, Why Citylab? Why do we do it this way? Why Am I taking up your time for this? Why is this important? All that organizational stuff is a challenge to get people to dedicate themselves to this issue and get to it.

That's one aspect. Another was, for example, issues like the green factor, we've never worked with before. We have something called the balancing principle in the city of Helsingborg. But the green factor is quite different from that, and in our case we also had agricultural land that we claimed and there is no tool today, a green factor tool that also values agricultural land. We needed to find a way to do it, set a value for agricultural land and that's the book that everyone is struggling with and it's difficult. And then, we have to be able to demonstrate that the new values we create in the district are increasing. That's the requirement from Citylab then. So then you can't set the land book land. It has to be reasonable then, based on the fact that we can also create an increased green factor with our new green world. It was a journey that some of our colleagues worked on intensively. We took help from models that already existed and developed them a little more then.

Yes. What more can you say? The dialogue was also so clear; when we got the goal of Sweden's city for families with children and the requirement for Citylab to involve future residents as well as in the urban development project, there will also be a lot of different dialogue meetings with children, school classes and families that we organized, and, great fun work, but also very time-consuming. Well, you can say, everything took a lot more time. But with that, hopefully a lot more quality will also come into this work. I think we all agree that we have developed a very good plan and a very good strategy. And we have involved the developers from the start and it is also an interesting developer dialogue, where we have also integrated the issues with CityLab and are trying to get, that is the whole idea of City Lab as well, as well as that we develop a strategy tool together with those who will build on the site. And we have tried that and I think we have landed in a strategy that everyone supports. And it feels awesome, because we cannot control all these issues, but it is based somewhere on that consensus that we all want the same thing so that we get the developer to build in the way that we think is the best way to achieve the goal. So this is like the anchoring work that is an important part of the Citylab process.

It is extremely time-consuming, but it is also extremely important. And even when you think you have anchored, then you have to anchor a little more because it has not really landed. Do you want to build on?"

Respondent 9: *“No, but you are talking about dialogue anchoring. That is something and and like I call it a sustainability program, but that is really almost where you have to start. Everyone involved must have the same definition of what we mean when we say sustainability or sustainable urban development. I can only go to myself for me and to some extent it may still be so even though I have hopefully changed my mind a little that yes but when you think about sustainability, there is a lot like, it is this thing with ecological sustainability and social sustainability it is like the two tracks you think a little in like, economically too of course, but a sustainability program according to Citylab is really all the goals of the project. That everything is sustainability according to Citylab so to speak, so that like there are not a few areas that you can frame and say that now we are talking about sustainability and then you go and talk about something else without sustainability entering into everything that you do, so then the sustainability program also becomes like our project, as you can say our goal document to reach this goal image and the best district for families with children. Everything we do in the project and you break that goal down into all the little components, everything we have to do to reach that goal also becomes part of our sustainability work. But it's not always easy to keep it in your head, just talking about, yes, but this is a goal we're doing to reach the goal, or this is something we're doing to fulfill our sustainability program, but it's basically the same thing, but it requires that you have that view, everyone involved has that view of what sustainability actually is, so it can be a challenge to have that, to have a common view of what actually is, what it is to work with sustainability.”*

Respondent 10: *“And then working with this administrator perspective from the start. I think that is a new way of working for many, that you have to, the program should transition to action plans that should or should also be reported to Citylab, but that won't be for long, and then it is necessary that the measures we have in the program are really anchored with those who will work with it in the implementation phase or the administration phase. And then to really write in a way that it speaks for them, rhymes with their way of working and yes, with their definition and so on. And then when we are finished with the program. Now we develop action plans. Yes, we call the same actor that we have talked to. Remember. We talk about this measure. Now we take action. And that they are on board that yes, this is how we are going to work. They should report to us that it is being implemented. We need to report back to us. We can follow up on the target image, and. It is also very time-consuming and a way that we in the city have not worked in before. Not at that level of detail, eh, and it is also a huge challenge precisely because it takes away from our personnel resources to work in that way. But also necessary for us to understand whether the work we are doing leads to an improvement. I think it is a good way to work with urban development projects, but very time-consuming and it is not, whether it is reasonable in the end now we will see.”*

Respondent 9: *“You never have a result to compare with, I mean if we had done as in the other urban development projects, they have done with a home-made sustainability model or something and they have sort of developed their own little system for how to work with these issues then and it has its pros and cons and now we work this way and and of course, sometimes you can feel that yes but if we had made our own system, it would have perhaps made life easier in certain respects, at the same time it is nice to have a model that after all there are other projects around that use and some have come further than what we have done, I mentioned Masthugskajen in Gothenburg earlier, they also use Citylab and they are up and running and have come further and we have*

been able to discuss questions with them where they have been able to give tips and advice and so on. So that it is, we benefit from that system also at Citylab so that you know, you never get the result. We will never make our own sustainability program, but you live with the choice you have made, for better or worse.”

Respondent 10: “But I think that this model, it's a so-called iterative process where we constantly, the title advocates that it's a program and like a strategy that is updated as insights and lessons come to us and we realize that now we need to do it in a different way. Now a new measure is needed and this measure may need to be removed and so on. It's a way of working that I think is coming more and more into strategy work in general when it comes to urban development and thus municipal strategies. Even when we talk about climate and energy work, it's this type of iterative process that is advocated out there. Because we live in such a changing world and we can't get stuck on certain ideas about how things should be done. Because in the next moment, that no longer applies. So I still think citylab is early and I think it feels like we're early with this way of working. And that it kind of reflects, I think, how the city and our environment want to work in the future with strategic issues as well.”

Respondent 10: “Yes, the challenge is also that there are so many people involved in a project that spans a long time, it is not the same people who are involved in these early stages, neither from the city, to a certain extent, but also from the developers. We are sitting here and we have had a number of builders here, six or seven of them, who basically for slightly different reasons, either bought the land themselves, uh or they have been allocated land by the city. They have been involved and we have had a meeting with them like once a month now for, well, four years or so, where we have worked out a variety of different strategies, everything from energy to stormwater to water and sewage and more and all of that goes more or less into the sustainability program, and the sustainability program itself we have also had workshops with them and had an anchoring with as you mentioned.

But that's it, you could call it business developers, or project developers, they are the ones who are involved in the early stages when you develop a detailed plan, acquire land and so on. Then once the detailed plan has become legally binding, yes, then they hand over the baton to a project manager. In some cases it is someone internal but it depends a bit on what kind of developer it is, sometimes you have internal resources, sometimes you maybe hand it over to a consultant.

It's important that the person who takes over, because it's that person, that project manager and that organization that is built around the actual construction of, if it's a residential building, they're the ones who are going to implement the sustainability program. So one person has sat down and said oh this is going to be great and what great goals and quality and so on. And we think this is from whatever company it is, we're very positive about it, and that's good, but then the next person who takes over should also feel the same way that yes but I'm going to implement this now and so you say, yes but this colleague has sat down and promised a lot of things that I'm now going to deliver on. And it's more of a challenge, so of course it's the same company you think yes but it's clear that you have to agree among yourselves there but you're measured on different things. Whoever takes over is measured by saying, "Yes, but now I'm going to build this house, it has to be ready by a certain date so that those who have bought a home can move in here, I have to keep to my finances, schedule and so on, and I have

to deliver on everything that is in this sustainability program. So, and that's because everyone has to feel that yes but ownership of this and this is something I will work for, but it is the people who are actually going to implement it who have not been involved in developing it to a large extent.”

Respondent 10: *“No and that is very important, ownership is, I think, good, you want everyone to feel ownership of this strategy document. It is, I think, easier to feel that for us who have been involved from the start. But as you say when handing over, how do we manage that ownership? How do we get it to be carried by more players in the long term? It is still smart. Many people will stick with theirs, you could say. It is not clear.”*

Respondent 9: *“We haven't started building yet so I mean, you could say, let's not diminish the work that has been done because it has been really challenging just like you said Julia, but somewhere, it's usually relatively easy to sit down and write a program or a plan or a strategy, but it's when you have to implement it, that is, realize what you have written, that is when you are really put to the test, and then you always get, yes but this costs money, we can't afford it, we can't do this, it will be terrible and so on, that is when you get all that stuff, so that we are the interface now where we are starting to rig up now for how are we going to implement all this, how are we going to get everyone on board who is actually going to implement this and we have colleagues here in the city of Helsingborg now who are going to start building out streets and squares and so on, where we get a hundred questions from that project manager. Like questions about how should we do this and this we haven't done before and like how, so even though we feel that we have had an anchoring internally, maybe not specifically with this person, but with that person's department or unity that could answer the questions when we brought this up. But still you get these questions that you feel like yes but you have been involved in this, why are you questioning this now? It could have come up several years ago, then we could have perhaps formulated this differently. But it's not, it's easy to sit and say now, but it's not entirely easy to get everyone involved on the track and get them to contribute and really, they see things with different eyes now than they did a few years ago, like maybe the same person thought this seemed good, but now that you start to get more concrete, you start to project and see that yes, but this is going to be really hard to deliver on for different reasons, so it's not just that there are different people but that you actually, you see things with different eyes at a later stage so that you get respect for that too.”*

Respondent 10: *“You could say that the cost picture has also changed quite a bit since twenty-twenty.”*

Respondent 9: *“So that. When we started this five years ago, it was gold and green forests in general on the housing market. You could build anything, as I usually say, and get it sold. Now it's much more difficult, now the housing market is basically stone dead, at least in Helsingborg, it's maybe a little easier in Gothenburg possibly but it's generally difficult to sell homes.*

So that also means that our developers who were very like yes but go ahead, we're going with it and like thumbs up to everything five years ago when when like it went really well. Now it's really tough like conditions purely financially and it's clear that then you turn every single krona and then you think, yes but that requirement is really necessary, it costs a few krona after all if we're going to do it. You need to slim down like your

projects to kind of keep your budget and get sales and so on so that makes everything more difficult of course.”

LK: Were there any requirements that were particularly difficult to meet?

Respondent 10: *“But the Green Factor is the one that I think we have struggled with the most. But I have to say that I have become, it feels very good what we have developed now. We will see how easy it is to use when the builders sit down and sketch. But, but it is, I think it is a good work that has been developed.”*

Respondent 9: *“Thinking about this with price-, there is a requirement from Cylab that you, like this with affordable housing, can't say it verbatim, but you may recognize it that yes but you should work to ensure that a certain amount is built. You call it affordable housing, you don't say cheap housing but you kind of say affordable but it is basically like housing that people with low incomes should still be able to afford to live in. You can correct me if I say something crazy now, I do, but I remember we talked about it because it was something that made me a little sick to my stomach. I saw before me but newly produced housing, it is generally very difficult, I won't say that it is impossible, but it is very difficult to build newly produced housing that is affordable.*

But the affordable housing is usually a housing that exists, that was built fifty years ago or something like that. To build something new that is also relatively cheap, that is very challenging. And then I feel but it can be difficult to deliver on it in an area that consists of one hundred percent newly produced housing. So it was one that felt challenging and I think we got some comment when Citylab reviewed our draft about this where they kind of asked the question but what do you do if you can't achieve this. I don't remember exactly in detail how it was, neither how we formulated ourselves in the sustainability program I should say or what their comment on it was, but I think we got some question. It is a challenge in general, of course, that it is not easy to build new production and tends to be relatively expensive.”

LK: In what way did Citylab benefit the project?

Respondent 10: *“We have gone through and evaluated Citylab once. But in several ways I would say so but above all, we have really taken on all these, so the concept of sustainability as well as in the context of urban development projects, and building housing as well as what does that mean, twisted and twisted issues and really tried to work quality into Östra Ramlösa and yes the green factor is what I also think is really interesting how we have really tried, to get both the city and, so to govern so that both the city and private actors get more greenery. We have more evidence for working with green-blue values thanks to Citylab, that it creates incentives to emphasize that this is important for a sustainable city. Otherwise it is easy. There are always questions that are raised when we plan our cities. But in the end we come to trade-offs and there maybe the green-blue will have to take a back seat to other heavy infrastructure that needs to take its place.*

And then the anchoring process was challenging, but playing along with experts and colleagues in the city on this type of issue has created a greater understanding of the complexity of building a sustainable district. We thought we knew what we were doing. But there is so much more we can do, like. Also the follow-up work that we don't do. I

may always talk so much about when we plan to clean up, like, that comes at a later stage, way ahead, but to start asking ourselves the question - how do we know if what we are doing is going to be good, like, and how can we follow it up in a good way? We will explore that here now, Mattias and I, find a good system for how we can do this. But but to try to think about what it is already in the strategy work? What action are we? We would like to include measures that want to follow up that create value for us in the long term where we see that this activity creates this benefit so that we can create incentives to work in a similar way in urban development projects in the future or that we come to the conclusion that no, this does not give any further good effect at all, then we find new ways. So that I think CityLab has laid a foundation for working even deeper and more qualitatively with sustainable state development, forcing us to have conversations so that we may not always take the time otherwise. So I am very positive, even if it has been difficult and will continue to be difficult with time, I am positive that we are making this journey.”

Respondent 9: *“I can only agree that it has given us a methodology for working with these issues and really not just with, so to speak, just with sustainability, situational signs there, but that sustainability really becomes everything we do in the project. That you don't divide it up, which at least my experience often is that sustainability, yes, but it's one area, then there are like ten other different skills around the table that represent other areas, like you say yes, but sustainability is like... but here sustainability is integrated into everything we do, everything, like sustainability permeates everything we do, and I think that's when it becomes real sustainability. Just talking about sustainability, yes, but we should choose sustainable materials or we should think about energy consumption and so on, but here, sustainability really comes in and permeates everything because it's also about our goal, about the best district for families with children.*

Otherwise, you could have worked with and but here we are going to do these things so that it will be the best district for families with children. Then we have another document that talks about what we are going to do as well in the area of sustainability and then we have fifty-one other documents that talk about, yes but here we are working on our streets and squares and this is how we work with water and sewage, but here you bake everything together into one like yes, one single document you could say that guides us so that I think that is a great great advantage.”

LK: Did the certification process encourage any innovative solutions in urban planning, sustainability, or stakeholder collaboration?

Respondent 10: *“Eh, I would say that the innovation work drives the city of Helsingborg very well internally. I don't really think that Citylab was the one who was perhaps behind that thinking. Even though it is in demand there to some extent, I probably feel more that there is such a big focus in the organization today that it is like, and not least in Östra Ramlösa so that it felt like a matter of course regardless.”*

Respondent 9: *“We had it as I said from the very beginning so it was easy for that reason that they chose to organize the development of Östra Ramlösa in project form precisely because they wanted to focus on testing new ideas, new solutions, both in working methods, so purely organizational innovation, but also then technical innovation as well as pushing us to test new things and do things differently. And then*

we said, are we going to do it, are we going to work in like, are we going to shape this in project form? Then we can't do it in our usual line organization like where you produce a detailed plan and then you build a site and so on, but here we need to shape ourselves differently around that. So that there we probably don't need CityLab to motivate us to work with innovation, but we got that internally, like the directives. So that there I probably don't feel that CityLab has been, what should I say, guiding for us, but we got that from elsewhere, so to speak.”

Respondent 10: “I came up with two other challenges that I have. I can only mention them briefly. I found my notes from the evaluation earlier. No, but steering signals as well as political steering signals from both politics and yes, it's all from there. It has shifted a bit over the years and it has also affected our work which has made us suddenly, Oh, here we have to rethink and here we have to, so that kind of thing affects and also delays our work. So that and that is a challenge in all urban development projects. And then, Yes, but CityLab I think, I would have expected more support from CityLab I would say. They didn't have any of this - now we meet and talk about the CityLab process as well - that experience, hasn't existed at all. So, a little criticism to them then that they could have worked on better support when it is such a comprehensive work tool, as well as one that raises so many questions, I would have probably wished that SGBC had an organization that could support CityLab coordinators in a different way than they have done.”

Respondent 9: “And they suffer a little from the fact that not many people use CityLab and they don't have much experience with it themselves either. But there is also a bit of torsion on their part in this that yes but, you have been, you have been in the working group and developed the system and these indicators and so on. But you haven't really tested it in reality fully. Yes, but as I said Masthuggskajen, there are a few other projects where you have come a bit further; Gottorp in Malmö is an area that Skanska is developing, it is a little smaller then, it is Skanska themselves so it may go a little faster there so to speak than in an area like Östra Ramlösa where several actors are involved.

We looked at a lot of, what's it called down there in Kalkbrottet in Malmö, it's called something with an E like excuse me. That Elinegård, it's been a while since we looked at it, but we looked at their work too, but I think it's Ikano Bostad that's basically developing it themselves, so then it's also like, then they have more discretion and like it's a little easier in that it's one actor, while we have six or seven different ones plus we'll even have free-build plots in Östra Ramlösa where we sell land to private individuals who are going to build a villa. So we have a different complexity in it based on the fact that there are so many more actors.

And we don't know who, we haven't sold all the land in Östra Ramlösa so we don't even know who will build so it's a little, a little different conditions but just to experience that SGBS hasn't really been out in reality as much in this as, for example, the environmental building, but they have a lot of experience with that. So you would get in touch and ask questions in the environmental building, they can answer that directly, while Citylab yes but it feels a little more tentative and a little uncertain there I think. That was my image from when we had a few workshops where SGBC was involved and so they almost sat and read the manual out loud and it feels like yes, but we can do that ourselves. I had expected a little like a little more so yes guidance. It will probably get better with time

also always from that they get more experience with it and so it will probably develop in the right direction. But that's it. It has been a little tough with the support there.”

LK: How did Citylab influence the planning phase of the project? Did Citylab change the way you work?

Respondent 10: *“I should have had our planning architect.”*

Respondent 9: *“It certainly did to some extent or it influenced our way of working because this is what happened, but a detailed plan is, after all, it has to do a certain number of investigations that are more or less like statutory requirements that you have to do, there are environmental studies, there are EIAs and all these things and you have to do them whether you work with Cityab or not. Then of course at the same time it gives rise, so Cityab, what can I say it interacts like Cityab is the cause of questions in the planning work and the planning work vice versa is like questions in the work with the sustainability program, but it is clear that it has an impact but I think it has, I think it has supported, I don't think it has been in any negative way but I think you have given a structure to the planning work as well as just like all the other work we do in the project, the planning work is like a very central work that you do in the early stages. It's not the only work you do, but it's very central to produce detailed plans and all these investigations that need to be done.”*

Respondent 10: *“You mentioned investigations and we've been involved in that all along. What does Citylab say about, like, stormwater? What does Citylab say about ecosystem service analysis, natural world inventory, child impact analyses. So like this. Citylab's focus areas and indicators have also had an impact on what has been requested in investigations, which have since then influenced the planning work. So I've been involved in that.”*

LK: Do you think Citylab is an effective tool for promoting sustainable urban development?

Respondent 10: *“And by effective, do you mean that it gives an effect that it becomes sustainable, that we are not there yet that we know that it is effective, based on that it is like that it goes fast or something, no.”*

Respondent 9: *“Something that helps that you really get all the elements that you can't really lose things but you have all these indicators and you have a review that they do and there, if you had invented your own little system, you would have maybe, then it is easy that some things don't come in or that you miss something. This becomes very comprehensive in a way that makes yes but it is not effective in terms of time, but it becomes effective based on that you really, it becomes sustainability really. There is nothing that, like, doesn't get away with something but everything should really be included so that.”*

Respondent 10: *“We don't end up where we prioritize anything. We have to relate to Citylab's indicators.”*

Respondent 9: *“And you could say effectively, we would have had to invent our own sustainability system if we hadn't used City Lab. Yes, but then we would have had to do*

what we have done in our other urban development projects where they have basically worked out their own methodology or their own, yes their own sustainability program and that takes a lot of time too. Here we have still been able to take an existing methodology and use it. That has made it easier. Otherwise we might have spent a year just writing down what our sustainability program should look like and so on.”

Respondent 10: *”We can also say that there are two other urban development projects, areas of activity but not housing, that have also adopted the idea of this type of strategy document, not according to the citylab model, but still colored I think by the sustainability work or the strategy work that we have done and developed in a similar way. We have a dialogue with them too, so you can say that with our experiences together in these projects, it might become a new way of working for the organizations to work with sustainable state development and put housing and areas of activity into it, that we that we find a way to follow up on what we do and see if it can create an effect. I think it has, it has really put ripples in the water.”*

LK: What do you wish you had known before starting the certification process?

Respondent 9: *“Yes, it's always difficult to look in the rearview mirror, but it's clear that you knew that yes, but it will be extensive and it will take time, it will be complicated and it has been. No, you might have, if you had known that now. It's a bit of a coincidence, you could say. We were at a stage where we needed some support from CityLab. We may still have a certain need for it, but it was a stage where we did some workshops together with representatives from SGBC, we had builders and so on. We didn't really feel that we got the support we wanted at the time. It was probably at a stage where you might have wished or you thought or expected that you would get better support. You might have wanted to know about that from the beginning, when we chose the value in different systems because we had chosen LEED or BREEM and SGBS represents those certification systems too. But it's clear that it may not be the same people and it's systems like, yes but LEED and BREEM because they are international certifications, it might, I don't know how it is at the district level in Sweden, how many districts have been certified according to them in Sweden, there probably aren't that many either. I think down in Västra Hamnen in Malmö they probably did, what's it called, masthustorget or something like that down in Västra Hamnen where Skandia owns quite a few blocks. They probably did it according to whether it was LEED or BREEM they certified with so there are some, but there may not be that many more than Citylab, so it might not have gone that much better if they had chosen one of those systems maybe, it might have been a bit the same as well as the difficulty in getting support.”*

Respondent 10: *“About the language aspect that everything has to be reported in English Yes exactly.”*

Respondent 9: *”No, I don't think we would have been more satisfied with those systems, I don't think so, but it felt quite early on that if you were going to run a system, it should probably still be Citylab, which is still adapted according to, like, the Swedish National Board of Housing, Building and Planning's building regulations, plans and the Building Act, and also adapted for Swedish conditions, whereas LEED and BREEM, it's either American or English based, and then there's a risk that it will be more difficult to implement according to those systems.”*

LK: If you could improve the certification process, what changes would you suggest?

Respondent 9: *“Regarding this with reviewing the program and so on, then we have, we have submitted on a couple of occasions. We received, submitted and then we received comments. Then at a somewhat late stage we received comments internally here from politics that were very late in catching our eye, as well as for some issues where they had an idea, so we had to go out and make some changes based on that and send it back. But I think they have responded quickly and I think, at least my impression is that it has worked quite smoothly.*

Yes. The first thing I think of when you ask the question is these issues connected to the follow-up and finding a good way of working for it, like some kind of system, and now I'm thinking spontaneously, maybe.

Imagine if Citylab had offered such a system where the cities could similarly report back, follow up and then have an overall picture of how Citylab then provides results, effects, benefits for urban development projects. Because that's a huge task we have ahead of us. We've already started it. We are for making it as resource-efficient as possible. To save time, we need to buy a digital system that does this, in as simple a way as possible. But so we may need to build from scratch and add it according to our then in the program as well as according to that structure, so that all these action plans that are now to be developed by all actors. We might have six or seven builders who... We'll see now, taking into account the economic situation and more, but our hope is that four, four, five of them will get started with their neighborhoods and start building more or less at the same time, because we don't just want one or two houses to be built in a field, that wouldn't be a good city for a neighborhood, but we want to get a certain amount, a certain volume of housing in place, both townhouses, more residential buildings, maybe even some villas and so on, so it becomes a complete neighborhood and we can get services like a preschool, those pieces also based on the goal of creating the best neighborhood for families with children, so we want that start. And then it turns out that we will have four or five different action plans, including our own case with the land plot, and then we will have to follow up on all the indicators that are there, and that is what we need some kind of tool for, as you say, Julia, that we can't just sit with printed Excel documents and browse through them, but we need to have it digitally, so we have a structure, order and order. And that is where we feel, yes, that it would have been nice if Citylab could offer some kind of tool for follow-up, but they don't, so we have to reinvent the wheel ourselves, you could say.”

Respondent 10: *“Yes, but there is support from everyone from Citylab, so where you can find experiences from previous Citylab projects, too. How have they done it, to have a slightly easier starting point when you start your thinking or something, so this is the template you should use, eh. Yes, it would have been a time saver.”*

DEPARTMENT OF ARCHITECTURE AND
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