KTH ROYAL INSTITUTE
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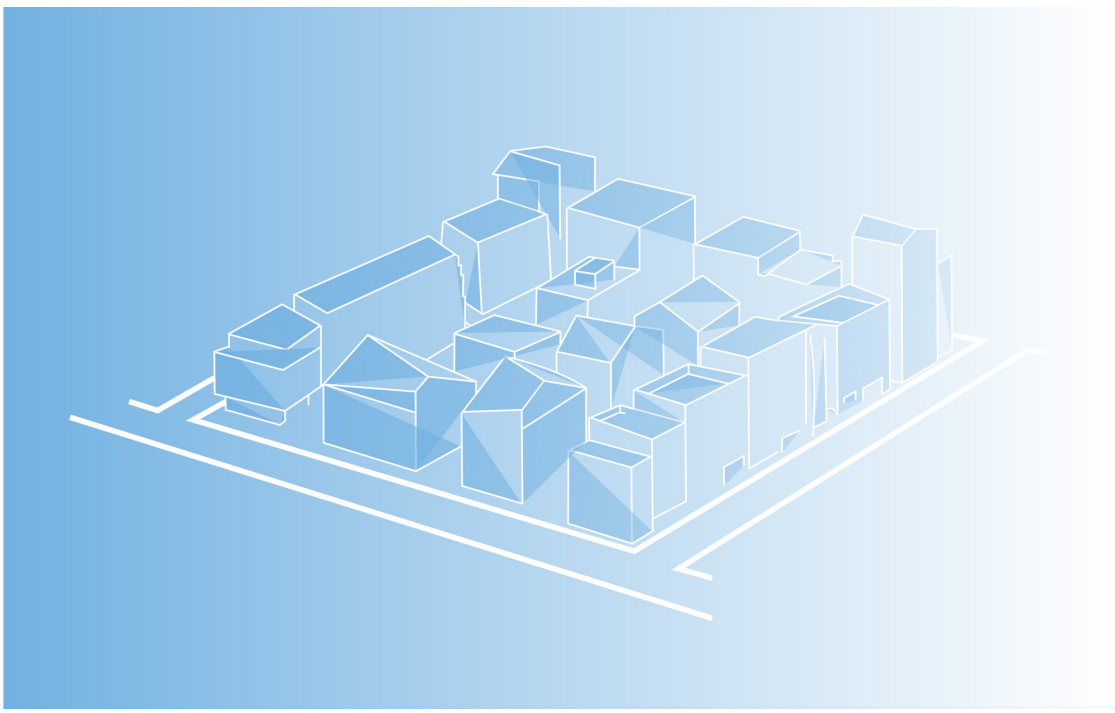
Doctoral Thesis in Real Estate and Construction Management

Public Land Development for Sustainability-Profiled Districts

A value co-creation perspective

MELISSA CANDEL



Stockholm, Sweden 2022

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A value co-creation perspective

MELISSA CANDEL

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Abstract

Swedish municipalities are developing sustainability-profiled districts in collaboration with private actors to achieve their public sustainability objectives. These districts are comparable to developments found in many other European countries and the wider world. They are intended to model sustainable urban development and act as testbeds for collaborative innovation and urban experimentation. To initiate and govern the districts, Swedish municipalities are using public land development, which provides them with more options to influence housing development and increases their leverage during land use planning. It also forms exchange relationships between the municipalities and housing developers. Although previously acknowledged, there is a lack of research investigating this practice in-depth. In the Swedish context, land ownership has a substantial influence on the structure of the development process and collaboration between municipalities and housing developers, which are considered two key actors for driving sustainable urban development. In sustainability-profiled district developments, these public and private actors collaborate during the municipal land allocation process, an important part of the public land development process, in order to develop and implement new sustainable solutions and practices. This collaboration during the land allocation process is investigated in the dissertation.

The purpose of the dissertation is to increase the understanding of municipal land allocation processes in sustainability-profiled district developments by applying a collaborative perspective to public-private exchange. Municipal land allocations in sustainability-profiled districts are first analysed and interpreted as public-private value co-creation processes specifically intended to generate sustainable innovation. This is complemented with theories on conflict management, project relationships, and public value capture. The utility of using municipal land allocations for framing public-private collaborative innovation is then evaluated using value co-creation theory. A single and multiple case study approach was employed to investigate in-depth municipal land allocation processes in sustainability-profiled districts at the district- and building project-level. Focusing on the perspectives of municipalities and housing developers, interviews and documents were used to reveal complex processual and relational dynamics mired in conflicting value creation objectives. The research is focused on sustainability-profiled district developments in Sweden to gain an in-depth understanding of the intricacies and influences of this national context. The findings are then discussed in relation to public land development practices in other European countries.

The results reveal that the possibilities for municipalities to co-create public value using public land development are ultimately determined by housing developers'

ability to implement municipal sustainability requirements and co-create private project value. These municipal sustainability requirements are included in land allocation agreements and are negotiable throughout the rest of the land allocation process. Thus, the potential for public value creation is determined by the ability of municipalities and developers to co-design sustainability requirements for implementation during the land allocation process, in order to translate municipal sustainability requirements into developer procurement requirements. A reoccurring theme in the dissertation is that problems are rooted in inter-actor value conflicts, which are central drivers for value co-creation processes between municipalities and housing developers.

The dissertation contributes to public land development research by introducing a public-private value co-creation framework to describe and explain collaborative exchange and innovation between municipalities and developers. It also provides in-depth knowledge of public land development, and more specifically municipal land allocation processes, in sustainability-profiled district developments, which differ from more typical developments in regards to innovation ambitions. Finally, the dissertation contributes with a micro-level analysis of municipal land allocation processes, at the district- and project-level, in the Swedish context. Building on the analysis and evaluation, recommendations for enhancing private project value and public value creation in sustainability-profiled districts are provided. The dissertation ultimately illustrates how collaboration between public and private actors aimed at achieving divergent and oftentimes conflicting sustainable urban development objectives is shaped by the specific planning processes and systems they are embedded in.

Keywords: Public land development; sustainable urban development; value co-creation; public value; municipal landownership; land allocation; sustainability requirements; housing; property developers.

Sammanfattning

Svenska kommuner utvecklar hållbarhetsprofilerade stadsdelar för att nå offentliga hållbarhetsmål på lokal nivå. Många exempel på liknande typer av distrikt finns också i andra europeiska länder. Svenska kommuner använder offentlig markexploatering för att initiera och leda utvecklingen av dessa hållbarhetsprofilerade stadsdelar, som ska exemplifiera hållbar utveckling och fungera som testbäddar för innovation och urban experimentation. Detta fenomen har tidigare uppmärksammats, men det finns en brist på forskning som undersöker användningen av offentlig mark i dessa typer av distrikt. I svenskt sammanhang har markägandet ett betydande inflytande på relationen och samverkan mellan kommuner och byggherrar vid markexploatering. I hållbarhetsprofilerade stadsdelar samarbetar dessa offentliga och privata aktörer under den kommunala markanvisningsprocessen, som är en viktig del av exploateringsprocessen på kommunal mark, för att utveckla och implementera nya hållbara lösningar och praxis. Detta samarbete under markanvisningsprocessen utforskas i avhandlingen.

Syftet med avhandlingen är att bidra till forskning på markanvisningsprocesser i hållbarhetsprofilerade stadsdelar med ett samverkansperspektiv på offentligt-privat utbyte. Kommunala markanvisningar i hållbarhetsprofilerade stadsdelar analyseras och tolkas som värdesamskapande processer. Nyttan av att använda kommunala markanvisningar för att forma offentlig-privat samverkan och innovation utvärderas sedan med hjälp av teorin om värdesamskapande. Fallstudier används för att undersöka kommunala markanvisningsprocesser i hållbarhetsprofilerade stadsdelar på distriktsnivån. Intervjuer och dokument används för att undersöka komplexa processuella och relationella dynamiker, med särskilt fokus på både kommuners och byggherrars perspektiv. Forskningen är inriktad på hållbarhetsprofilerad stadsdelsutveckling i Sverige för att få en fördjupad förståelse för just denna nationella kontext. Resultaten diskuteras sedan i relation till offentlig markutveckling i andra länder.

Resultaten visar på att kommunernas möjligheter att samskapa samhällsvärde med offentlig markexploatering beror på byggherrarnas förmåga att genomföra kommunala hållbarhetskrav. Dessa kommunala hållbarhetskrav ingår i markanvisningsavtal och är förhandlingsbara under resten av markanvisningsprocessen. Potentialen för offentligt värdeskapande beror således på kommunernas och byggherrarnas förmåga att tillsammans designa hållbarhetskrav för implementation under markanvisningsprocessen, för att översätta kommunala hållbarhetskrav till byggherrens upphandlingskrav. Ett återkommande tema i avhandlingen är att problem, utmaningar och intressekonflikter bottnar i

värdekonflikter mellan aktörer vilka är centrala drivkrafter för värdesamskapande mellan kommuner och byggherrar.

Avhandlingen bidrar till forskning om offentlig markexploatering med ett offentligt-privat värdesamskapande perspektiv. Den ger också kunskap om offentlig markexploatering, och mer specifikt kommunala markanvisningsprocesser, i hållbarhetsprofilerade stadsdelar, som skiljer sig från mer typiska bebyggelser. Slutligen bidrar avhandlingen med en distrikts- och projektnivåanalys av kommunala markanvisningsprocesser i den svenska kontexten. Med utgångspunkt i analysen och utvärderingen ges rekommendationer för att öka privat och offentligt värdeskapande i hållbarhetsprofilerade stadsdelar, baserade på teorin om värdesamskapande.

Nyckelord: Offentlig markexploatering; hållbar stadsutveckling; värdesamskapande; samhällsvärde; kommunalt markägande; markanvisning; hållbarhetskrav; bostadsutveckling; byggherrar.

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Melissa Candel
Stockholm, October 2022

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List of appended papers

The thesis is based on the work contained in the following four papers appended to the end of the cover essay.

Paper 1

Candel, M., Karrbom Gustavsson, T., and Eriksson, P.E. (2021) Front-end value co-creation in housing development projects, *Construction Management and Economics,* 39(3), 245-60, https://doi.org/10.1080/01446193.2020.1851037

This paper was written by Melissa Candel, Tina Karrbom Gustavsson and Per-Erik Eriksson. Candel's contribution includes idea generation, data collection, data analysis and writing as the lead author. The co-authors contributed with advice, expertise, comments and suggestions.

An earlier version of this paper was peer-reviewed and published as a conference paper:

Candel, M., Karrbom Gustavsson, T. and Eriksson, P.-E. (2019) Beyond National Building Regulations: Exploring Public-Private Negotiations Over Sustainability Requirements, In: *Proceedings of the 35th Annual ARCOM Conference, 2-4 September 2019, Leeds, UK, Association of Researchers in Construction Management*, pp. 740-749.

The paper was invited to be developed for the journal *Construction Management and Economics*. The final paper was accepted in November 2020 and published in December 2020.

Paper 2

Candel, M., and Törnå, N. (2021) Housing Developers' Perceived Barriers to Implementing Municipal Sustainability Requirements in Swedish Sustainability-Profiled Districts, *Journal of Housing and the Built Environment,* https://doi.org/10.1007/s10901-021-09923-z

This paper was written by Melissa Candel and Niklas Törnå. Candel's contribution includes idea generation, data collection, data analysis and writing as the lead author. The co-author contributed with data collection, data analysis, comments and suggestions.

Paper 3

Candel, M. (2022) Using Sustainability-Oriented Developer Obligations and Public Land Development to Create Public Value, *Sustainability,* 14(1), 57, https://doi.org/10.3390/su14010057

An earlier version of the idea and preliminary findings were presented at the following conference:

PLPR 2021 Online Sessions, International Academic Association on Planning, Law, and Property Rights.

Paper 4

Candel, M. and Paulsson, J. (Under Review) Enhancing Public Value in Public Land Development through Co-Creation: The role of municipalities in sustainable districts, Manuscript submitted for publication in *Land Use Policy* March 29th, 2022.

This paper was written by Melissa Candel and Jenny Paulsson. Candel's contribution includes idea generation, data collection, data analysis and writing as the lead author. The co-author contributed with advice, expertise, comments and suggestions.

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10th International and Interdisciplinary Symposium, Sustainable Land Use and Development: Planning and Monitoring, 2-4 September 2021, EALD European Academy of Land Use and Development.

Symposium on Delivering Urban Transformation through Co-Production, 24-25 January 2022.

Additional publications

Candel, M. (2020) *Co-Developing Sustainability Requirements: Exploring client and municipal perspectives in housing development,* Licentiate thesis in Construction and Facilities Management, Stockholm: KTH Royal Institute of Technology, TRITA-ABE-DLT, 2015, 2020.

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Candel, M. and Karrbom Gustavsson, T. (2019) Governed by Municipal Land Allocations: Implications for Housing Developers, In: Lill, I. and Witt, E. (Ed.) *10th Nordic Conference on Construction Economics and Organization* (Emerald Reach Proceedings Series, Vol. 2), Emerald Publishing Limited, pp. 147-153. https://doi.org/10.1108/S2516-285320190000002041

Abbreviations

N-NDO	Non-negotiable developer obligations
NDO	Negotiable developer obligations
PPP	Public-private partnership
SDG	Sustainable development goal
SDL	Service-Dominant logic
UN	United Nations

The unlike is joined together, and from differences results the most beautiful harmony.

- Heraclitus

1. Introduction

This chapter introduces the topic of using public land development in sustainability-profiled district developments as an approach for engaging public and private actors in collaborative exchange and innovation. The first section 1.1 provides the background giving the research societal importance and relevance, and briefly introduces the phenomenon in question. Section 1.2 presents the problem discussion motivating the theoretical interest and identifies gaps in extant research. Building on the problem discussion, section 1.3 presents the purpose of the research, which is broken down into two research questions presented in section 1.4. The chapter ends with a description of the dissertation's structure.

1.1 Background

Actors involved in urban development today face a host of sustainability-related challenges, such as reducing pollution, environmental degradation, inequalities, and housing shortages in cities, as well as improving waste management and energy efficiency. Finding ways to achieve these competing and sometimes conflicting objectives is crucial for the long-term well-being of modern societies, which is why improving sustainability in cities is one of the United Nation's (UN) (2015) 17 sustainable development goals (SDG). Public-private partnerships (PPP) are often promoted as one of the most auspicious approaches to achieving sustainability objectives (see e.g., Fell and Mattsson, 2021; Leclercq et al., 2020; Neumann et al., 2019), and is even presented as its own UN SDG (UN, 2015). This is the only UN SDG which can be interpreted as an approach to sustainability, as opposed to a desired outcome. This approach is promoted because single actors rarely have the knowledge, competences, resources, and authority to single-handedly incite and sustain meaningful progress, and must therefore find ways to exchange them, especially considering they are not acting in vacuums but in complex societal networks and systems (c.f. Ansell and Torfing, 2021a; Wåhlin et al., 2016). Understanding how PPPs work in and/or alongside different types of urban development processes, and the subsequent opportunities and challenges they entail, is therefore imperative for improving sustainable urban development efforts. Generating such knowledge involves considering both the actors and the contexts their collaboration is embedded in.

Land use, which is highly context dependent, is central in tackling many of the challenges facing contemporary urban development. Consequently, many urban sustainability efforts are found at the local level. This makes municipalities important actors as local planning authorities for driving sustainable urban development (see e.g., Eneqvist, 2022; Salmi et al., 2022; Brokking et al., 2021;

Eneqvist and Karvonen, 2021; Holm et al., 2011). Although they have opportunities to govern urban development using various planning instruments, municipal planners still struggle to adequately address many issues in individual projects. This is spurring them to search for innovative ways of improving collaboration and exchange with private actors to achieve their sustainability objectives. For instance, Swedish municipalities are combining their use of planning instruments with public land development, exercising their position as both local planning authorities and as landowners to shape collaboration and exchange with property developers (Brokking et al., 2020; Francart et al., 2019; Smedby and Quitzau, 2016; Smedby; 2016). Such examples of adapting planning instruments in innovative ways to form and govern public-private collaboration and exchange may provide valuable possibilities and insights for improving sustainable development, and thus deserve further investigation.

Public land development is one of many approaches to land development (see e.g., O'Brien et al., 2020; Muñoz Gielen et al., 2017; van der Krabben and Jacobs, 2013; Needham and Verhage, 1998). This approach denotes a very high involvement of the public sector, compared to other forms of land development (Hartmann and Spit, 2015; Louw et al., 2003; Priemus and Louw, 2003). It typically entails public planning authorities acquiring land, subdividing it into building plots, servicing those building plots with public infrastructure, and allocating, transferring and selling those building plots to property developers for the purpose of building development (Valtonen, 2019; Valtonen et al., 2017; Needham, 1997). Acting as landowners gives municipalities more leverage in land-use planning negotiations with property developers (Priemus and Louw, 2003) and thus provides them with more opportunities to stimulate sustainable development and innovation in individual projects.

To drive sustainable development and innovation in individual building development projects, Swedish municipalities use sustainability criteria and requirements connected to land allocation. They use sustainability criteria to select property developers to allocate municipal land to and prescribe project-specific sustainability requirements in development agreements that go beyond current national building regulations (Brokking et al., 2020; Francart et al., 2019; Caesar, 2016; Smedby and Quitzau, 2016; Smedby, 2016). Municipalities and property developers work together, and with other relevant actors, during the land allocation process to implement these municipal sustainability requirements in the building development projects. This kind of approach, where municipalities drive sustainable urban development through requirements in agreements with developers, has been found in Sweden, Denmark, the Netherlands, and Germany (Smedby, 2016; Smedby and Quitzau, 2016; Tambach and Visscher, 2012; Holm et al., 2011; Bulkeley and Kern, 2006). In Sweden, this use of public land development is particularly notable

in sustainability-profiled district developments. Swedish municipalities are using land that they own to both initiate and govern the development of these types of districts.

Sustainability-profiled districts are arenas for urban experimentation and innovation intended to lead sustainable development practices and solutions forward (Eneqvist and Karvonen, 2021; Kågström, 2020; Hagbert and Femenias, 2016; Storbjörk and Hjerpe, 2014). Examples of these types of district developments are seen in many European countries, such as Sweden (Enqvist and Karvonen, 2021; Smedby, 2016; Storbjörk and Hjerpe, 2014), Denmark (Smedby and Quitzau, 2016), Germany (Growe and Freytag, 2019; Kasioumi, 2011), and the UK (Bulkeley and Kern, 2006). Although municipalities initiate, plan, and govern sustainability-profiled district developments, and have high ambitions and good intentions, they cannot solve the wicked problems and dilemmas related to sustainable urban development on their own (Metzger and Lindblad, 2021). They rely on private sector property developers to realise many of their objectives (Storbjörk et al., 2018; Taylor et al., 2012), and carry out the actual building development projects (Caesar, 2016). Sustainable development and innovation in these districts are thereby dependent on municipalities' ability to enable and promote generative collaboration between various public and private actors.

1.2 Problem discussion

Previous literature on public land development has explored how it is used to achieve various public objectives, such as infrastructure provision and making more land available for housing (Dunning et al., 2021; Valtonen et al., 2018, 2017; van der Krabben and Jacobs, 2013; Walters, 2013; Alterman, 2012; Zhao et al., 2012; Louw, 2008; van der Krabben and Needham, 2008; Passow, 1970). Valtonen et al. (2018) have also investigated how specific public sustainability objectives are achieved using public land development. This previous literature typically discusses the strategic utilisation of public land development at an institutional level, focusing on legal and economic implications within a national context, most commonly the Dutch context (e.g., O'Brien et al., 2020; Hartmann and Spit, 2015; vad der Krabben and Jacobs, 2013). However, there have been less empirical investigations of its utilisation in individual developments (Valtonen, 2019), and even fewer in less mainstream developments like sustainability-profiled districts. Public land development for sustainability-profiled districts differs from more typical developments, such as the use of municipal sustainability requirements connected to the transfer of public land for the purpose of challenging developers to innovate.

While the use of public land development in sustainability-profiled districts is sometimes acknowledge in literature on these types of district developments, it has

generally not been a primary focus of inquiry for understanding their dynamics (e.g., Kågström, 2020; Storbjörk et al., 2018; Storbjörk and Hjerpe, 2014). However, depending on the national institutional framework, land ownership can be one of the foremost factors that determine development processes (Brokking et al., 2020; Kalbro and Lindgren, 2018; Priemus and Louw, 2003). In Sweden, land ownership plays a crucial role in determining the relationship and collaboration between municipalities and property developers since it offers municipalities additional opportunities to steer individual urban development projects by imposing sustainability requirements in development agreements (Brokking et al., 2020; Francart et al., 2019; Caesar, 2016; Smedby and Quitzau, 2016; Smedby, 2016). It also forms a clear exchange relationship between municipalities and developers. To understand exchange relationships and collaboration between actors in sustainability-profiled districts, the influence and deliberate utilisation of land ownership needs to be investigated further. There is a need for more research investigating how the use of municipally owned land influences collaboration between municipalities and property developers.

Collaboration between municipalities and property developers represents an important intersection between land and building development in sustainability-profiled districts. Developing knowledge of such collaboration is important for properly addressing cross-disciplinary topics like sustainable transitions in urban development, which calls for collaborative innovation between public and private actors (Eneqvist, 2022; Thomson et al., 2021; Buijs and Silvester, 1996). Value co-creation theory provides a relational and collaborative perspective on exchange and exchange relationships between public and private actors (Vargo and Lusch, 2008), and offers a conceptual framework suitable for interpreting and explaining it. The theory also goes beyond other collaborative governance theories by considering public-private collaboration as a potential means of fostering innovation (Ansell and Torfing, 2021a; Torfing et al., 2019). It has previously been applied in research within urban planning (e.g., Puerari et al., 2018; Webb et al., 2018) and construction management (e.g., Fuentes, 2019; Fuentes et al., 2019; Eriksson et al., 2016; Mills and Razmdoost, 2016; Jacobsson and Roth, 2014; Liu et al., 2014), although not with the specific intention of analysing collaborative exchange between municipalities and property developers in public land development processes. Herein, value co-creation is used as a theoretical lens and conceptual framework for analysing how public land development, and specifically municipal land allocation, is used by municipalities to shape generative collaboration between public and private actors.

1.3 Research purpose

The purpose of this dissertation is empirically derived and informed by previous literature on public land development, sustainability- and innovation-oriented urban development, and value co-creation theory.

The purpose of the dissertation is to increase the understanding of collaborative exchange between municipalities and housing developers during municipal land allocation processes in sustainability-profiled district developments.

The dissertation contributes to public land development research with an in-depth investigation of municipal land allocation processes in sustainability-profiled district developments. It specifically contributes with a collaborative and relational perspective on exchange between municipalities and housing developers during these land allocation processes by applying value co-creation theory. In the dissertation, the term perspective is used to denote an overarching theoretical lens. The research firstly encompasses a knowledge-seeking investigation and interpretation of municipal land allocations in sustainability-profiled districts as public-private value co-creation processes. The term 'public-private' is here intended to both emphasise the public and private actors working together, and to signify co-creation processes intended to generate both public and private value.

The research also encompasses a more normative evaluation of using municipal land allocations for the purpose of generating public-private value co-creation. How suitable municipal land allocations are for supporting and framing generative public-private collaboration for sustainable development is qualitatively assessed against value co-creation processes as presented by previous literature and theory. In addition to aptly fitting the empirical phenomenon, the value co-creation perspective is chosen here because it is showing promise within fields like project, programme, and construction project management (see e.g., Fuentes, 2019; Fuentes et al., 2019; Liu et al., 2019; 2014; Martinsuo et al., 2019; Smyth et al., 2018; Eriksson et al., 2016; Mills and Razmdoost, 2016), public management (see e.g., Ansell and Torfing, 2021a; Torfing et al., 2019; Bryson et al., 2017; Wåhlin et al., 2016), and urban planning (see e.g., Brokking et al., 2021; Bisschops and Beunen, 2019; Puerari et al., 2018; Teder, 2019; Webb et al., 2018; Bartenberger and Sześciło, 2016; Scholl and Kemp, 2016; Stangel and Szóstek, 2015). There are however few studies applying the theory to land development processes indicating an opportunity for substantial theoretical contributions.

By interpreting and evaluating current co-creation processes, my intention is to identify challenges and opportunities that practitioners are facing. I chose to pay special attention to conflicting interests, which I argue are an essential and central

part of public-private value co-creation processes. In urban development, actors must consider what values they are trying to achieve, such as those related to sustainable development, and what value they want to create for themselves, their stakeholders, and society at large. There are often tensions or conflicts between different values that actors need to find ways to deal with (Aschhoff and Vogel, 2018; de Graaf and Paanakker, 2015; van Gestel et al., 2008). Value pluralism both within and between actors makes dealing with various value conflicts in sustainability-oriented urban development a complex relational endeavour to unpack.

The scope of the study is limited to public land development cases because landownership has substantial implications for municipalities' opportunities to drive sustainability during land-use planning and development (Brokking et al., 2020; Francart et al., 2019; Kalbro and Lindgren, 2018). Focusing on public land development cases enabled a more in-depth investigation of the opportunities and challenges for value co-creation that are experienced under this specific set of conditions.

The empirical focus herein is on municipal land allocation processes in sustainability-profiled districts in Sweden. During land allocation, there is an overlap of municipal planning and the front-end of housing development projects. This is when municipalities and housing developers (property developers building residential buildings) coordinate land use planning with housing development planning, making collaborative exchange likely to take place. Of particular interest during this process is the design of municipal sustainability requirements for the transfer of public land, a central part of the public land development process used by municipalities to govern housing development. The contributions are focused on empirically grounded theoretical development of co-creation during land allocation, providing practitioners with suggestions for how they might improve their current practices. Although the focus is on providing empirical evidence of co-creation during land allocation processes in Sweden, how this knowledge might be relevant for practitioners in other countries will also be addressed and discussed throughout the dissertation.

My intention in the dissertation is to establish the use of municipal sustainability requirements in municipal land allocations as a distinct and current approach to developing sustainability-profiled districts. In sustainability-profiled districts, actors' ambitions are largely focused on sustainable development, which represents a current and fundamental public objective for urban development in Sweden (c.f. Brokking et al., 2021; 2020; Francart et al., 2019). However, public objectives are contingent on politics and thus subject to change. Therefore, the findings are also generalised in the discussion, through theoretical abstraction, to provide somewhat

more universal insights for urban development where there are ambitions to drive collaborative innovation and change.

1.4 Research questions

Two research questions have been derived in order to achieve the research purpose.

RQ1: How is collaborative exchange between municipalities and housing developers structured during municipal land allocation processes in sustainability-profiled district developments?

To increase the understanding of collaborative exchange between municipalities and housing developers during municipal land allocation processes in sustainability-profiled districts, I will begin by describing how it is structured. This will be achieved by applying value co-creation theory, which is suitable for understanding the collaborative dimension of exchange and exchange relationships (Bryson et al., 2017; Mills and Razmdoost, 2016; Grönroos, 2012; Vargo and Lusch, 2011; 2008), and has also been adopted for the study of collaborative innovation (see e.g., Ansell and Torfing, 2021a; Torfing et al., 2019). Answering the first research question entails investigating how municipalities and housing developers decide what desired value outcomes they are pursuing, how they align their respective value creation objectives and design their delivery. Part of understanding the delivery of value creation objectives will involve investigating the roles various actors play, as well as the distribution of responsibilities between them. I primarily focus on value co-creation between two actors that are instrumental for sustainable development in the urban context, namely municipalities, acting as local planning authorities and landowners, and housing developers. Although, in addition to these two actors, the investigation will include identifying other actors that engage in co-creation processes during the land allocation process.

Municipalities and housing developers have different perspectives, interests, and value creation ambitions. It is unclear how these differ, whether they overlap, and how this influences value co-creation between the actors. Therefore, before delving into the co-creation of value between municipalities and housing developers in sustainability-profiled district developments, I focus on determining what value these actors are pursuing. The ambition is to outline what desired value outcomes these different actors have and to compare them to each other. This will provide some insight into how the housing developers' desired private value outcomes align with the municipalities' public value creation objectives and how they differ.

Creative problem solving is a central aspect of any co-creation process (Ansell and Torfing, 2021a). Part of investigating co-creation between municipalities and housing developers will therefore involve exploring the nature of emerging

problems, such as value conflicts, in addition to the process of resolving or managing them. Although the chosen theoretical framework insinuates that some level of public-private value co-creation is expected, this is not necessarily a given and does not imply that I am disregarding the potential of value co-destruction.

RQ2: What determines the public value creation objectives that municipalities can achieve in sustainability-profiled districts using municipal land allocations?

The second research question seeks to evaluate the utility of using municipal land allocation for public value co-creation, and specifically to identify the main aspects that constrain this. The focus here is on municipalities' utilisation of municipal sustainability requirements connected to the transfer of public land, as the part of public land development that affords them the greatest opportunities for governing housing development. A big part of determining what constrains the municipalities' possibilities for public value creation is what hinders housing developers from being able to implement municipal sustainability requirements, which is addressed in paper 2. Municipalities' possibilities for public value creation through collaborative exchange with housing developers are then explored in papers 3 and 4.

Answering this research question provides an opportunity for meaningful contributions to practitioners. Part of this investigation includes identifying best practice and comparing the current role of municipalities to what is described in the value co-creation literature from other contexts to potentially extract suggestions for improvement. Improving value co-creation during municipal land allocation processes will help contribute to the overall outcomes of sustainability-profiled district developments, but it is important to note that this is not enough. The overall purpose of these districts is to improve sustainability in mainstream urban development, meaning knowledge of new solutions and practices must both be created and disseminated. The former is necessary for, but does not ensure, the latter. Knowledge transfer post completion is outwith the scope of the dissertation, but it is worth keeping in mind that it will determine whether value co-creation during development has meaningful impact afterwards.

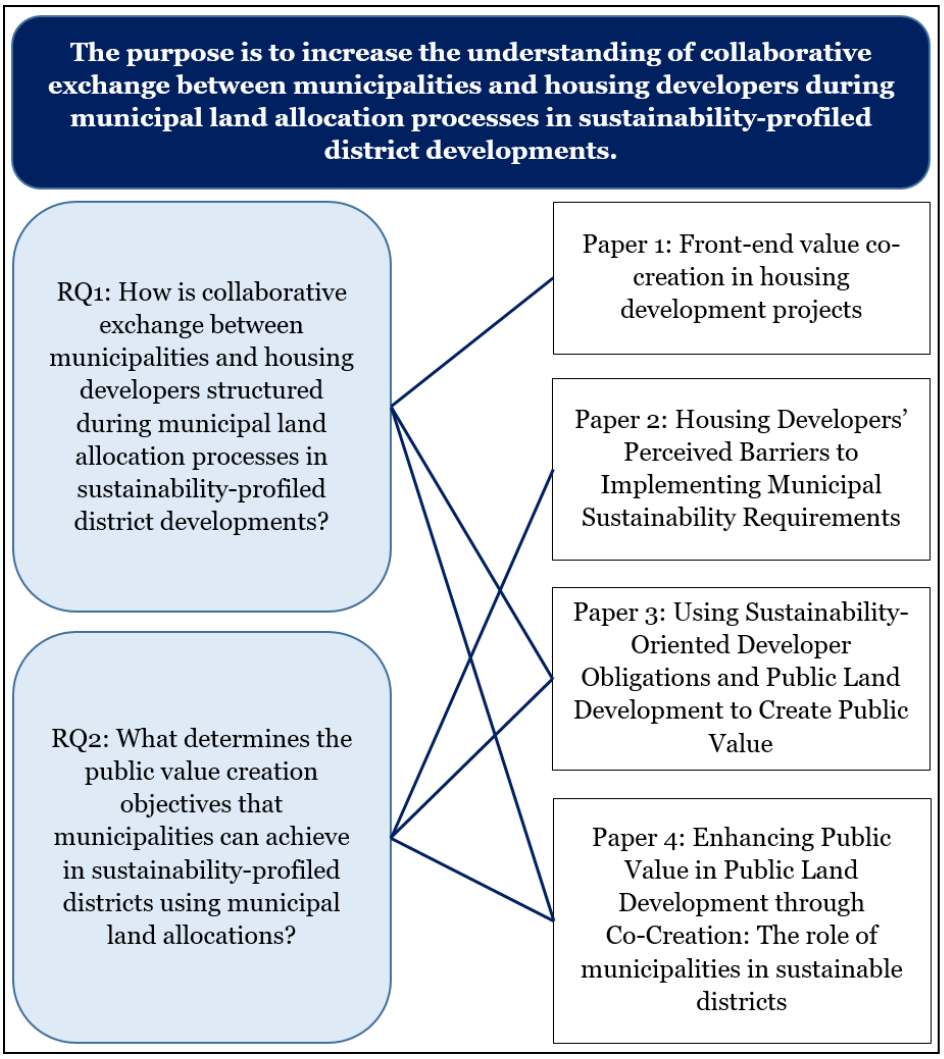

Figure 1. *Research purpose and the connection between the research questions and papers.*

1.5 Structure of the dissertation

This dissertation consists of a cover essay (*kappa in Swedish*) comprising eight chapters, and four papers appended at the end.

In chapter 1 of the cover essay, a brief background to the subject matter, a discussion of the problem being tackled, the research purpose and two research questions have been presented.

Chapter 2 provides an overview of the previous literature on public land development and sustainable urban development that the research builds on and contributes to.

In chapter 3, public land development in the Swedish planning context is introduced and described.

In chapter 4, value co-creation theory is presented and discussed. This includes an explanation of how it is applied as a theoretical framework and a description of the theoretical concepts that are used.

In chapter 5, the research methods are presented and justified. This chapter starts with a discussion on methodology, followed by a description of the research design, methods for collecting empirical materials, and the analysis process. The chapter is concluded with a discussion on research quality and ethics.

The four appended papers are summarised in chapter 6.

In chapter 7, the results from the papers are discussed in relation to the previous literature and theory in order to answer the two research questions and achieve the research purpose.

Chapter 8 sums up the dissertation with a discussion on theoretical contributions, implications for policy and practitioners, and ends with suggestions for future research.

The last parts of the cover essay contain a list of the references and appendices with interview guides.

2. Previous literature

In this chapter, the research is situated by presenting and critically discussing the previous literature that the dissertation builds on and contributes to. The first section 2.1 presents previous literature on public land development, which constitutes the primary audience. The following section 2.2 then presents previous literature exploring the role of municipalities in relation to driving sustainable innovation at the local level through urban experimentation. This leads to the topic of sustainability-profiled districts discussed in section 2.3. The chapter ends with a presentation of previous literature in section 2.4 on the role and perspective of housing developers in relation to sustainable innovation.

2.1 Public land development

Public land development is typically considered and referred to as an active land use policy, denoting a high involvement of public authorities (Hartmann and Spit, 2015; Louw et al., 2003; Priemus and Louw, 2003; Needham, 1997). Based on previous literature (Muñoz Gielen and Lenferink, 2018; Valtonen et al., 2017; Alterman, 2012), I define public land development as:

a process in which public authorities develop land they have acquired and provide infrastructure to produce serviced building plots, which are sold to property developers for the purpose of building development.

Public land development can be interpreted as a public strategy for arranging urban development (Valtonen, 2019; van der Krabben and Jacobs, 2013). Urban development, in this context, encompasses land assembly or readjustment; land use planning; land allocation and selling building plots to property developers; and servicing the building plots which involves the provision of public infrastructure (Valtonen, 2019; Valtonen et al., 2017; van der Krabben and Needham, 2008; Needham, 1997). These different parts of the public land development process may overlap and be carried out in a different order. In private land development, some of these processes are instead carried out by private property developers. Land ownership thereby influences land use planning processes, as well as land politics more generally (Priemus and Louw, 2003).

The bulk of previous literature on public land development comes from the Netherlands and investigates the practice in the context of their institutions (e.g., O'Brien et al., 2020; Woestenburg et al., 2019; Spit, 2018; van der Krabben and Jacobs, 2013; Needham, 1997). Public land development is however used in varying degrees in multiple other Western countries around the world. For example, it is widely employed in Sweden (Olsson, 2018; Caesar, 2016) and Finland (Valtonen et

al., 2018; 2017), and can be found in Denmark (Smedby and Quitzau, 2016), Norway (Mäntysalo and Saglie, 2010), Switzerland (Greber, 2016), Austria (Lawson, 2010), the US (Zhao et al., 2012; Norton, 2018), and is currently being considered more in the UK (Dunning et al., 2021). In addition to this, there are several countries where private land ownership is restricted, making public land development the dominant approach. Examples include China (Ye et al., 2018; Cai et al., 2013; Du et al., 2011; Tan et al., 2009), Singapore (Ooi, 2011; Yuen, 2009), and Hong Kong (Chiu, 2007; Chi-Man Hui et al., 2004; Ching and Fu, 2003). To form a more internationally relevant understanding of the public land development approach, more research of its use in other national contexts is needed (Valtonen, 2019; Valtonen et al., 2018), especially considering how land use planning systems differ between countries (Nadin and Stead, 2008).

Valtonen (2019) and Valtonen et al. (2018) have also noted a lack of research analysing the implementation of public land development at the district level in individual developments. There is a need for more in-depth empirical research investigating how public land development approaches and policies influence work in individual developments during various parts of the development process. The majority of previous public land development literature focuses on the institutional level, analysing legal, economic and transactional aspects of the models/approaches and policies found at the local, regional, national, or international level using material gathered from interviews, policy documents and previous planning literature (see e.g., O'Brien et al., 2020; Woestenburg et al., 2019; Hartmann and Spit, 2015; van der Krabben and Jacobs, 2013; Alterman, 2012; Louw et al., 2003; Priemus and Louw, 2003; Needham, 1997). Reviewing this literature, there is also a notable lack of research investigating the implementation of public land development in different types of developments, such as sustainability-profiled districts, and from more collaborative theoretical perspectives.

One of the main arguments for public land development is that being a supplier of building plots will give public authorities more control over development quality and coordination (Louw et al., 2003; Priemus and Louw, 2003), as they are in stronger positions to negotiate with developers (Muñoz Gielen and Lenferink, 2018). Previous literature has explored the strategic use of public land development to secure various public objectives (see e.g., van der Krabben and Jacobs, 2013; Caesar and Kopsch, 2018; Valtonen et al., 2018), some of which can also be categorised as sustainable development objectives. For example, Valtonen et al. (2018) investigate the utility of using public land development to promote environmental sustainability, equal treatment of developers as a part of social sustainability, and public cost for public economic sustainability. Other more general public objectives to strive for in land use planning and management, which are considered inherent dilemmas for public

land development, include democratic legitimacy, fairness, effectiveness and efficiency (Hartmann and Spit, 2015; Needham, 2014).

Public land development is however most typically known as a public value capture and cost recovery instrument used to finance public urban infrastructure and public services, and make more land available for housing (Dunning et al., 2021; Valtonen et al., 2018, 2017; van der Krabben and Jacobs, 2013; Walters, 2013; Alterman, 2012; Zhao et al., 2012; Louw, 2008; van der Krabben and Needham, 2008; Passow, 1970). Using public land sales in this way is especially commonplace in countries where most of the land is publicly owned (Chi-Man Hui et al., 2004). Muñoz Gielen and Lenferink (2018) have however found that public bodies' ability to finance public urban infrastructure and public services using public land development is highly dependent on the housing market. Public bodies thereby end up assuming substantial financial risks when using active land management policies (O'Brien et al., 2020; Muñoz Gielen and Lenferink, 2018; Valtonen et al., 2017).

Public land development literature typically focuses on the public perspective, since the land development process is led by the local public authority that owns the land. However, public land development practices have important implications for housing developers, who are the actors that will be implementing the building development projects (Caesar, 2016). More attention should be given to the developers' perspective to gain a full picture of the implications of public land development approaches and how these public and private actors work together in practice. Herein, both the municipalities' and housing developers' perspectives and roles are therefore investigated and discussed.

2.2 Sustainable development and the role of municipalities

Research and literature on sustainability in urban development has grown considerably over the last couple of decades. As a part of this discourse, researchers have been urging governments to play a key role by actively promoting sustainable building projects for well over a decade now (see e.g., Circo, 2008; 732), although it is still not clear how precisely they should be going about this task (see e.g., Metzger and Lindblad, 2020). It is nonetheless considered the responsibility of public authorities to ensure that urban development is carried out sustainably (Campbell, 1996). Governments are attempting to influence the construction industry though policy and regulations, with a heavy focus on reducing energy usage. There has also been a growing involvement of local authorities. Before delving into the role and current practices of local authorities, I will elaborate on the concept of sustainable urban development and how it is treated in this dissertation.

Sustainable urban development has become a very broad and somewhat ambiguous concept (Metzger and Lindblad, 2020) that is used by both practitioners and researchers within a wide range of research fields. Sustainability is herein primarily treated as an empirical descriptor for the type of urban development practices being investigated. The focus is on practices and solutions that practitioners chose to label as related to sustainable development, and practitioners' own interpretations of the concept, which may vary considerably. However, sustainable development is commonly defined as:

"development that meets the needs of the present without compromising the ability of future generations to meet their own needs"

(WCED, 1987).

Sustainability is typically considered to consist of three pillars: environmental, social and economic. Environmental sustainability generally refers to protecting and supporting natural ecosystems. Definitions of social sustainability vary, but regarding the built environment it is most often associated with the themes: equitable access, safety, social capital within the community, democracy, and participation (see e.g., Granath Hansson, 2020; Eizenberg and Jabareen, 2017; Dempsey et al., 2011). Finally, economic sustainability refers to long-term economic growth that is not achieved at the expense of ensuring environmental and social sustainability. Sustainable development has been broken down further in the UN 2030 agenda, which defined more areas of concern by laying out the 17 SDG (United Nations, 2015). As mentioned previously, the relevant goals for this dissertation are number 11, entitled "sustainable cities and communities", and number 17, entitled "partnerships for the goals", which calls for the promotion of PPPs in order to reach the other sustainable development goals. Sustainable urban development can be interpreted as the application of the sustainable development concept to the urban context (e.g., Koch and Ahmad, 2018). Wu (2014) argues for emphasising urban sustainability as a process rather than a fixed goal, defining it as:

"an adaptive process of facilitating and maintaining a virtuous cycle between ecosystem services and human wellbeing through concerted ecological, economic, and social actions in response to changes within and beyond the urban landscape"

(Wu, 2014; 213)

Conflicting interests and objectives are often cited as one of the biggest challenges for sustainable urban development (Joss, 2015; Campbell, 1996) and housing development (Hagbert et al., 2013). As a result, practitioners are often forced to make difficult trade-offs (Metzger and Lindblad, 2021; Metzger and Rader Olsson, 2013), although these challenges can also be a source of opportunity for improving

practices (Adolfsson and Brorström, 2020). Since sustainable development covers a very wide range of environmental, social and economic issues, objectives in sustainability-profiled district developments can differ considerably and are frequently in conflict with each other (Francart et al., 2019). Reconciling, or at least balancing, conflicts between ecological sustainability, social sustainability and economic growth is an urgent challenge facing today's (and yesterday's) planners that researchers should help them tackle (c.f. Metzger and Lindblad, 2021; Campbell, 1996). This is an issue concerning land use planning in general, which researchers have long agreed calls for more participatory approaches to conflict resolution and decision-making processes (Ciplet and Harrison, 2020; Wittmer et al., 2006; de Roo, 2000). Others have however argued that sustainable urban development agendas enable a form of census-driven post-politics to emerge that can be used to avoid conflict by shifting the focus from local issues to global ones (e.g., Raco and Lin, 2012). Bridging this gap between the local context and global objectives is another major challenge for sustainable urban development (c.f. Fell and Mattsson, 2021).

Important conflicts between the pillars of sustainability have been overlooked in much of the previous literature as most of this research has solely been concerned with environmental sustainability in urban development (Martin et al., 2018). This is perhaps a result of the historical roots of the concept as sustainable development originally only encompassed environmental considerations. Conflicts between the pillars of sustainability can also be seen at the more abstract theoretical level, meaning they are not exclusively a practical issue. For example, some question the environmental sustainability of continued economic growth and speculate that urban development cannot be sustainable in the long-term (e.g., Svenfelt, at al., 2019).

Municipalities play a key role in leading sustainable urban development and promoting sustainable housing development (Eneqvist, 2022; Salmi et al., 2022; Eneqvist and Karvonen, 2021; Holm et al., 2011), in which reconciling conflicting objectives is an important part. As local planning authorities, municipalities in numerous countries (e.g., the Scandinavian countries) have what can be described as a monopoly on urban planning and land use, which creates opportunities for action (Tambach and Visscher, 2012). Municipal urban planning thus plays a central role in developing sustainable solutions and practices for urban development (Brokking et al., 2021). However, several researchers have questioned municipalities' capacity to actually lead change (Zakhour and Metzger, 2018, Smedby, 2016; Tambach and Visscher, 2012), and found that many of them consider their role as an authority to be insufficient in governing sustainable transitions (Smedby and Quitzau, 2016).

Many municipalities have found that their position as landowners offers them more effective ways to govern development. Due to "insufficient jurisdiction over buildings' technical qualities" (Smedby and Quitzau, 2016; 328), municipalities in some countries have instead used land ownership as a way of regulating local development and promoting sustainable innovation. Land ownership enables municipalities to regulate local development and promote sustainable innovation by placing requirements on property developers' projects that go beyond the current legislation (Caesar, 2016; Smedby and Quitzau, 2016; Smedby 2016). As expectations of municipalities to drive sustainability increase, they can be expected to continue utilising their position as landowners to regulate and promote sustainability, even if their ability to change mainstream building development practices is questioned (Smedby, 2016; Tambach and Visscher, 2012).

In addition to using their position as landowners, municipalities enable and engage in urban experimentation for sustainable development using a variety of approaches (Eneqvist and Karvonen, 2021). Notable examples observed in Sweden include Urban Living Labs (see e.g., Mukhtar-Landgren et al., 2019; Evans et al., 2015) and sustainability-profiled districts (see e.g., Eneqvist and Karvonen, 2021). Municipalities are generally engaged in some way as their involvement improves the perceived legitimacy of these types of innovation projects (Eneqvist, 2022).

2.3 Sustainability-profiled districts for urban experimentation

Sustainability-profiled district developments are urban development projects intended to act as models for sustainable urban development and testbeds or practical experiments for sustainable innovation where new ideas and technologies are tried and evaluated (see Eneqvist, 2022; Eneqvist and Karvonen, 2021; Kågström, 2020; Hagbert and Femenías, 2016; Storbjörk and Hjerpe, 2014; Femenías, 2004). Sustainability profiles for district developments are formed in order to brand and market visions and ambitions to various stakeholder. Similar sustainability-related profiling is also found at city-level policymaking, which sustainability-profiled districts are designed to contribute to and lead (see e.g., Adolfsson and Brorström, 2020; Growe and Freytag, 2019; de Jong et al., 2015; Smyth, 2005). The district scale is a common level of analysis for research on sustainable urban development (see e.g., Holmstedt, 2018; Sharifi and Murayama, 2015). Focusing solely on buildings when addressing sustainable transitions misses many aspects, such as the spaces between buildings and more systemic functions (Sharifi and Murayama, 2015). On the other hand, making large-scale changes to whole city systems can be challenging. The district scale provides an opportunity for incremental step-wise transitions of current urban areas or new expansions, where

a more holistic view of systems, including buildings, is possible (Holmstedt, 2018; Fraker, 2013). Of particular interest herein is the relationship between the district scale and the individual building development projects within them.

Sustainability-profiled districts are a current research topic (see e.g., Eneqvist, 2022; Eneqvist and Karvonen, 2021; Hamdan et al., 2021), but they are by no means a new phenomenon (see e.g., Buijs and Silvester, 1996). The terminology used to refer to them is however notably fragmented, inconsistent and extensive (see e.g., Bottero et al., 2019), both between and within research fields. The same is also true for city-level conceptualisation (de Jong et al., 2015). Firstly, there is a slew of more general terms denoting urban development projects used as testbeds for innovation and experimentation to lead mainstream development, such as flagship developments (Smyth, 2005), demonstration projects (e.g., Femenías, 2004; Buijs and Silvester, 1996), and showcase projects (e.g., Growe and Freytag, 2019). Then there are many terms for district-level developments specifically focused on leading sustainable development. Common examples include sustainable neighbourhoods (e.g., Hamdan et al., 2021; Sharifi and Murayama, 2015), eco-districts (e.g., Bottero et al., 2019; Fitzgerald and Lenhart, 2016), and sustainable urban districts (e.g., Holmstedt, 2018; Pandis Iverot and Brandt, 2011), to name a few. However, labelling something as sustainable naturally invites inquiry into the validity of that label, and how sustainability should be determined, which is not my intention. This is outside the scope of the dissertation wherein sustainability is primarily treated as an empirical descriptor, as mentioned previously. For this reason, the term sustainability-profiled district is more precise and will be used throughout the dissertation. This is translated from the Swedish term *hållbarhetsprofilerade områden/stadsdelar* used by practitioners from the study.

Sustainability-profiled districts have been used to support sustainable urban development for over a decade in Sweden (Femenías, 2004). The trend of developing such districts in Sweden began in the early 2000s with Hammarby Sjöstad, a success story that inspired several other Swedish municipalities to initiate their own projects (Eneqvist and Karvonen, 2021). The focus in Hammarby Sjöstad was primarily on developing environmentally sustainable technical infrastructure (see e.g. Pandis Iverot and Brandt, 2011). Central to governing this work was an environmental programme (ibid), which led to the use of sustainability programmes becoming a staple practice in contemporary Swedish sustainability-profiled districts. This flagship development also made evident the importance of collaboration with developers in order to achieve public sustainability objectives (Francart et al., 2019). The central idea with these districts is that the knowledge gained will be shared to influence mainstream construction practices (Femenías, 2004).

A related trend worth mentioning, which is seen in many major European cities, is the redevelopment of old ports and industrial areas in city centres into attractive new residential and commercial districts (see e.g., Bruns-Berentelg et al., 2022). Local authorities often consider these waterfront and brownfield redevelopments as valuable opportunities for achieving various public objectives, such as sustainable development. For this reason, many sustainability-profiled district developments in Sweden are waterfront and brownfield redevelopments, although greenfield developments are common as well. Growe and Freytag (2019) found that sustainability-profiled district developments are locally contingent and determined by spatial constraints, resulting in variation between greenfield and brownfield developments.

Sustainability-profiled district developments receive both positive and negative attention from researchers and media, and the choice to initiate them at the local level is often closely connected to the perceived economic and political value of the area (Storbjörk and Hjerpe, 2014). While municipalities in Sweden, for example, can exert their influence as a landowner in construction projects on municipal land, they cannot ensure that their influence extends beyond these individual projects. Flagship projects therefore seem like a good solution, with the alluring potential of changing mainstream construction practices through the dissemination of new knowledge. However, one of the main concerns and challenges regarding sustainability-profiled districts is their ability to change mainstream development after completion through upscaling new solutions and practices (see e.g., Eneqvist, 2022).

While sustainability-profiled districts might result in successful advances in sustainable technologies and practices, it is important to keep in mind that this is not enough. New knowledge also needs to be communicated and marketed to the right actors for a successful dissemination and eventual transition. Previous research indicates that favourable outcomes in demonstration projects have a very limited influence on sustainability in the building sector overall (Femenías, 2004). Meanwhile, others (e.g., Growe and Freytag, 2019; Fitzgerald and Lenhart, 2016) argue that they still provide valuable lessons that can be applied to improve sustainability in urban planning for other parts of the same city and in other municipalities. In response, I stress that new sustainable practices and solutions need to be developed before there is any possibility of sharing them. However, I also recognise that the overall impact of sustainability-profiled districts will ultimately depend on how well knowledge is transferred to mainstream developments and whether the new solutions and practices are attractive enough for market actors to be willing to adopt them.

In Swedish sustainability-profiled districts, municipalities are using land that they own to place project-specific sustainability requirements on housing development

projects that go beyond the national building regulations (Francart et al., 2019; Smedby and Quitzau, 2016; Smedby 2016). In these districts, public land development is being used to shape public-private collaboration and achieve public sustainability objectives. Similar practices have been observed in Denmark, the Netherlands and Germany (Smedby and Quitzau, 2016; Tambach and Visscher, 2012; Holm et al., 2011; Bulkeley and Kern, 2006). This is a phenomenon that few studies of sustainability-profiled districts focus on, despite the noteworthy influence the practice has on the relationship between municipalities and property developers, which are both considered key actors for driving sustainable development. This use of public land development in sustainability-profiled districts deserves further investigation, especially since it is inspiring the consideration of introducing more public led development in countries where it is currently not very common (see e.g., Adams, 2015).

2.4 Housing developers and construction innovation

Private influence of property developers in land use planning is well recognised (see e.g., Solly, 2021; Mäntysalo and Bäcklund, 2018; Fox-Rogers and Murphy, 2015; Palmås and von Busch, 2015; Parker et al., 2015; Watson, 2014; Mäntysalo and Saglie, 2010; Alford and O'Flynn, 2009). Property developers also play an important part in implementing sustainability-oriented policies for urban development, although there has generally been a lack of research investigating their role and perspective (Storbjörk et al., 2018; Taylor et al., 2012). For developers, governmental policies and regulations can act as important drivers and enablers for developing and adopting sustainable practices and solutions (Olanipekun et al., 2016; Zainul Abidin et al., 2013). On the other hand, a lack, or incorrect form, of regulations can act as a barrier (Häkkinen & Belloni, 2011). This is not uncommon considering regulations for sustainable development are designed to reflect societal needs while developers are largely concerned with consumer needs, which may vary (Toppinen et al., 2018).

Previous research indicates developers' perceived challenges related to implementing municipal sustainability policies in individual developments might differ depending on the type of property developer in question (c.f. Hagbert & Malmqvist, 2019; Storbjörk et al., 2018). The focus herein is on housing developers, which are property developers that are financing and building residential dwellings, either for the purpose of selling or to own long-term and rent out. Property developers can be both public and private organisations, although most development in Sweden is carried out by private developers (Caesar, 2016). In the Swedish Planning and Building Act (SFS 2010:900), a property developer (*byggherre*) is defined as:

"The one who carries out or assigns others to carry out design, construction, demolition or groundworks for their own account"

(SFS 2010:900; author's translation)

In addition to the developers' role relating to sustainability-oriented policy implementation, they are recognised as central actors for driving sustainable urban development. In the construction management literature, where they are more commonly referred to as construction clients, they are typically considered key actors for driving innovation and change both within individual construction projects and the construction industry at large (Havenvid et al., 2016; Loosemore, 2015; Kulatunga, 2011; Nam and Tatum, 1997). Developers are especially important actors because they govern construction projects through procurement requirements (Havenvid et al., 2016). The development of sustainable construction practices and solutions is thus largely determined by developers' willingness and interest in adopting such considerations in their projects (Isaksson & Linderoth, 2018; Häkkinen & Belloni, 2011).

Developers' primary concern is value for money and returns on their investments (Boyd and Chinyio, 2006). Consequently, previous research indicates that the main reason developers choose not to adopt sustainable construction considerations in their projects is to avoid perceived risk of increased costs (see e.g. Shen et al., 2017; Opoku & Ahmed, 2014; Zainul Abidin et al., 2013; Osmani & O'Reilly, 2009; Williams & Dair, 2007;). Sustainability-profiled districts pose many challenges for developers precisely because their experimental nature adds an additional layer of risk and uncertainty (Femenías, 2004). A lack of incentives and unfavourable distributions of costs, risks and benefits for developers compounds this issue (Isaksson & Linderoth, 2018; Deng & Wu, 2014; Circo, 2008; van Bueren & Primeus, 2002).

In addition to the risk of reducing potential profits, as a result of solutions that increase costs, developers are generally concerned with a lack of customer demand for sustainable solutions and practices (Häkkinen & Belloni, 2011; Zainul Abidin et al., 2013). A lack of demand implies the value of their final product will not increase meaning there is no financial benefit. As with sustainability-profiled districts, sustainability objectives in housing development can also differ greatly and are frequently in conflict with each other. This often forces developers to prioritise between objectives based on what they consider most important and the local circumstances (Williams and Dair, 2007).

Despite the barriers, many Swedish property developers are initiating and actively participating in various efforts to improve sustainability in the construction sector. For example, *Byggherrarna*, a network/association of around 110 Swedish property

developers formed in 1964, offers courses on sustainable procurement for developers and are actively participating in projects to improve the energy standards in Sweden. Although the principles of the market economy function as their primary point of departure, most of the large property developers in Sweden (e.g., JM, Skanska, Peab, Riksbyggen, HSB, Veidekke) have also incorporated sustainability and CSR in their corporate strategies, developed their own set of sustainability standards and requirements for procurement, and/or they will typically have their buildings certified using various environmental certification systems.

In the construction management literature on property developers, the focus is often on their procurement of contractors. Little attention is given to developers' design and planning activities that take place before their procurement of contractors, which are heavily influenced by municipalities. These activities deserve further investigation as they shape the conditions for developers' procurement of contractors and thereby determine the scope for value they can realise by completing their projects (c.f. Martinsuo et al., 2019; Smyth et al., 2018). In addition to governing their own building development projects, developers can also influence land use planning processes. This trend, which is largely attributed to the promotion of collaborative forms of governance, has garnered a fair amount of critique founded in concerns over legitimacy and the domination of certain private interests in planning (see e.g., Fell and Mattsson, 2021; Solly, 2021; Mäntysalo and Bäcklund, 2018; Fox-Rogers and Murphy, 2015; Palmås and von Busch, 2015; Parker et al., 2015; Watson, 2014; Mäntysalo and Saglie, 2010; Alford and O'Flynn, 2009).

3. The Swedish planning context

This chapter describes the use of public land development to drive sustainable urban development in the Swedish planning context. The first section 3.1 describes land use planning and land development in Sweden more generally. Section 3.2 then goes into more detail regarding public land development in the Swedish context, of which municipal land allocations are an important part. Finally, the last section 3.3 describes Swedish municipalities' use of land allocations to place project-specific sustainability requirements on individual building development projects.

3.1 A brief overview of land use planning in Sweden

In Sweden, land use planning and development is primarily regulated by the Planning and Building Act (*plan- och bygglagen*), and the Environmental Code (*miljöbalken*) which protects ecologically and/or culturally valuable land. According to the Planning and Building Act (SFS 2010:900), Swedish municipalities are to use the planning instruments available to promote urban development that creates equal, good and sustainable living environments. However, different municipal departments have different interests and objectives which do not always align. Therefore, it is important to keep in mind that Swedish municipalities are not singular unified actors (SOU 2015:109), even if they are often discussed as such. In Sweden, the responsibility to ensure that everyone has access to good housing in their area falls on the municipalities (SFS 2000:1383). Compared to most European countries, municipalities in Sweden have more independence and less compulsory national regulations. As the local planning authorities, they decide how, when and where land development takes places. The Swedish planning system is thereby very decentralised (Högström et al., 2019) and has a history of being described as a planning monopoly (Blücher, 2013).

The main planning instruments used by Swedish municipalities include comprehensive plans (*översiktsplan*), detailed development plans (*detaljplan*) and building permits (*bygglov*). Comprehensive plans are used to guide the long-term development in municipalities and are not legally binding but strategic. Detailed development plans are, on the other hand, legally binding and are used to regulate individual urban development projects. Building permits are also legally binding and are typically required for constructing new buildings and making changes to existing ones. This overall structure of the municipal planning and permit system in Sweden, entailing comprehensive planning, detailed planning, and building permits, is comparable to the systems in Denmark, Norway, Finland and Germany (Kalbro et al., 2014). The Swedish national planning system belongs to the Scandinavian legal

and administrative family, which has been influenced by the Germanic and Napoleonic families (Newman and Thornley, 1996).

According to Kalbro and Lindgren (2018), land ownership and the role of developers during the detailed planning process are the two foremost factors that determine the initiation, planning and implementation of land development processes in Sweden. In most cases, the land is either owned by the municipality or the property developer, and the developer can either actively participate in the detailed planning process or not contribute to producing the detailed development plan. Thus, there are four different types of land development processes (see Figure 2).

	Developer is not active during the detailed planning process	Developer actively contributes to the detailed planning process
Land is owned by the developer	Type 1	Type 2
Land is owned by the municipality	Type 3	Type 4

Figure 2. *Four types of development processes in Sweden (Kalbro and Lindgren, 2018)*

In addition to governing their own projects and negotiating land use regulations, housing developers in Sweden frequently contribute to municipalities' land use planning. It is common for developers to participate in the detailed planning process. This enables land use planning to be coordinated with building development planning. Herein, the focus is primarily on these types of development processes wherein housing developers are actively contributing to the production of detailed development plans, and the land is owned by the municipality (type 4 development processes). These are among the most common forms of development found in Sweden (Kalbro and Lindgren, 2018). Developers actively contribute to the detailed planning process in most developments in Sweden, and while it may vary between municipalities, a significant percentage of these developments are carried out on municipal land (ibid).

There has been an observable neoliberal shift towards more collaborative and market-oriented planning in the Swedish planning system over the last decade

(Solly, 2021; Olsson, 2018; Koglin and Pettersson, 2017), making type 2 and 4 development processes more common. While this has proven successful in some cases, private developers' short-term profits are sometimes prioritised over long-term societal value, making it more difficult for spatial planners to drive sustainable urban development (ibid). As a result of municipalities cooperating more with private actors in land development processes, Vannebäck (2019) has also identified several legal conflicts which are rooted in regulations designed to satisfy different interests. Similar trends and consequences have previously also been observed in the neighbouring Scandinavian countries Norway and Finland (Mäntysalo and Saglie, 2010).

3.2 Public land development and municipal land allocations

In Sweden, housing production is heavily dependent on the supply of municipal land (Caesar, 2016). Housing developers need viable land for new developments and Swedish municipalities generally own significant portions of it. For instance, a report from 2013 found that in 12% of Swedish municipalities all housing development was being carried out on municipal land, 76% of the municipalities own parts of the land being used for housing development, and the average Swedish municipality owns 41-60% of land suitable for housing development (Caesar et al., 2013). Swedish municipalities are therefore considered important suppliers of developable land for property developers.

Public land development in Sweden can be divided into land assembly or readjustment, land allocation, and the servicing of building plots (c.f. e.g., Kalbro and Lindgren, 2018; Caesar, 2013). Land assembly is the process where land is acquired and subdivided up into parcels for different building development projects. If the land has previously been used for something else, such as industry, this might instead be a readjustment process where land use is changed from one thing to another. The focus in the dissertation is mainly on the land allocation process that follows since it is the part of public land development where property developers are brought in to start working on their projects. The land allocation process entails selecting a developer to allocate specific building plots to and transferring the land to them. After, or sometimes alongside, the land allocation process, the municipalities service the building plots, which includes building surrounding infrastructure such as roads and pipes, while the developers carry out their building development projects.

The land allocation process begins with the selection of property developers (see Figure 3) through land allocation competitions (*markanvisningstävling/anbudsanvisning*) or direct allocations (*direktanvisning*) (Caesar, 2013). Land allocation competitions can take a few different forms. One

common option is to have developers compete based on price. Another alternative is concept competitions where the price is fixed and the developers instead compete with early concept designs or references to previous projects and are selected based on specific criteria or quality programmes provided in the municipalities' invitations to the competitions. Another option is where developers compete based on price but get discounts for implementing various sustainability measures. For direct allocations the municipalities decide on a property developer to allocate the building plot to without organising a competition, typically based on previous experience working with the developer or on a previous competition. After a developer has been selected, they sign a land allocation agreement with the municipality. In the Swedish Planning and Building Act (SFS 2010:900), land allocation agreements are defined as:

"an agreement between a municipality and a developer [byggherre] that gives the developer the sole right to negotiate with the municipality for a limited time and under given conditions on the transfer or lease of a certain piece of land owned by the municipally for development"

(SFS 2010:900; author's translation)

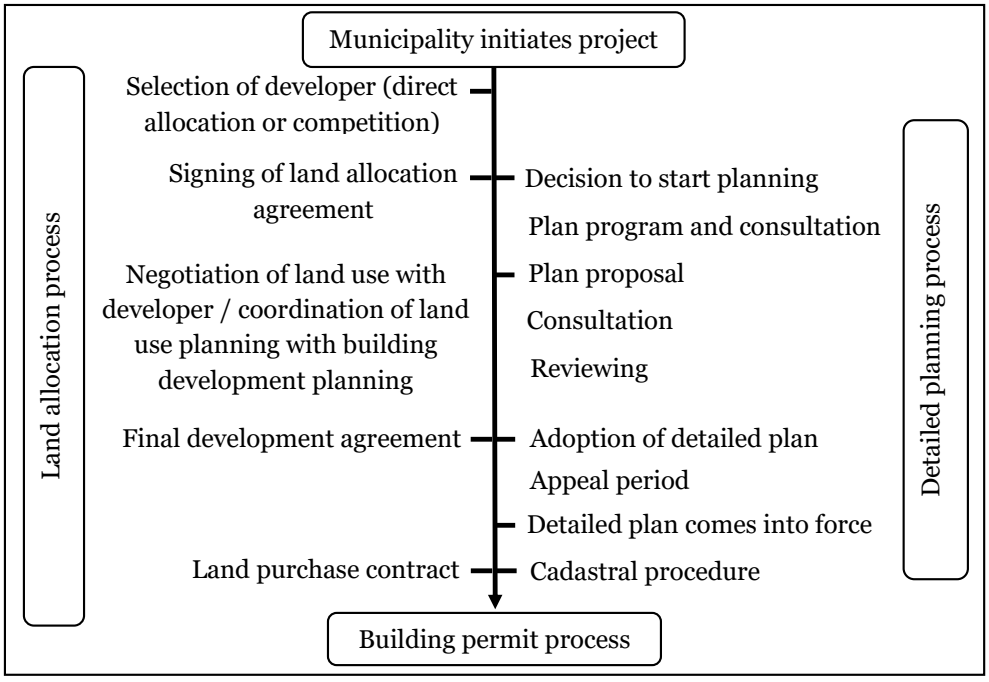

Figure 3. *Municipally initiated type 4 land allocation and detailed planning processes (created by modifying and expanding on figures by Caesar, 2016; 2013)*

After land allocation agreements are signed, the rest of the land allocation process entails collaboratively adapting and negotiating municipal requirements for implementation in the housing development projects (Caesar, 2016; SOU 2015:109). These negotiations occur alongside the municipalities' land use planning and developers' housing development planning. The process should result in a final development agreement and concludes with both parties signing land purchase contracts. Figure 4 illustrates municipalities' and housing developers' work during the land allocation process as parallel processes with different objectives and external influences. These processes influence the negotiations over requirements.

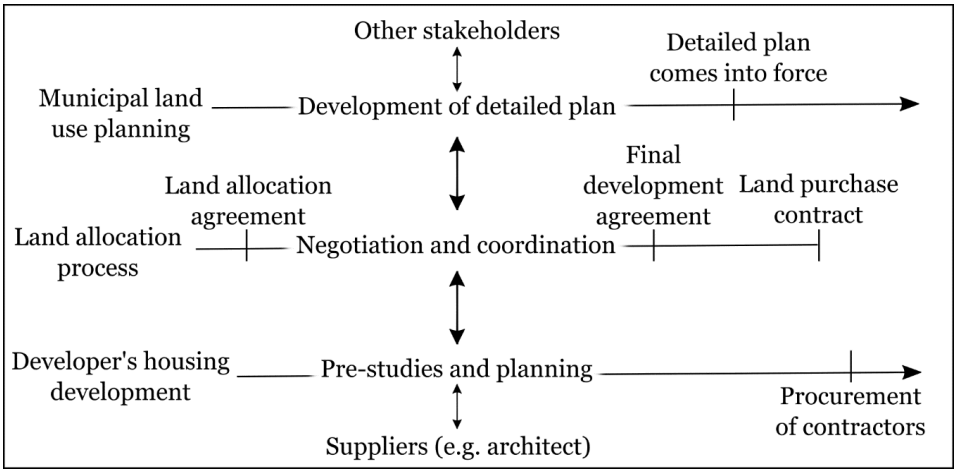

Figure 4. *Overlapping municipal land-use planning, land allocation and housing development processes (source: paper 4).*

It is common in Sweden for municipalities that use land allocation agreements to place requirements on developers that go beyond current legislation (Smedby and Quitzau, 2016). From 2015 it became mandatory for Swedish municipalities that use public land development to produce a document with their land allocation policies, including their goals and basic conditions for transferring land, as well as their principles for land pricing (SFS 2014:899). In 2020, I reviewed these municipal land allocation policies (also referred to as guidelines by some municipalities) to gain a general overview of how Swedish municipalities intend to use them, especially in relation to driving sustainable urban development. Using total population sampling, municipalities' land allocation policies were downloaded from their websites.

Out of Sweden's 290 municipalities, 174 had adopted land allocation policies that were available on their websites. There were also another 40 municipalities that had recently used land allocations for urban developments, made evident on their websites, but that had not produced policies/guidelines yet. The 174 documents were

reviewed by searching for the keywords: 'sustainability', 'innovation', 'requirements' and 'criteria' to identify relevant passages. Out of the 174 land allocation policies, 115 (40% of all municipalities) mention sustainability as a part of their overall vision for urban development which municipal land allocations should contribute to. 105 policies (36% of all municipalities) also explicitly state that the municipality uses or intends to use sustainability as a criterion for choosing developers in certain developments on municipal land. This is sometimes specified as being the case for developments with certain profiles decided by the municipality.

3.3 Municipal sustainability requirements

Municipal sustainability requirements in land allocation agreements entail various contributions from developers. Although they are implemented by the developers within the private property, they are designed and prescribed by municipalities to create long-term public value beyond that individual property for the district and city. Examples of municipal sustainability requirements previously observed by Francart et al (2019) in sustainability-profiled districts include energy performance, adopting certain environmentally sustainable technologies, using specific materials, and calculating the environmental impact of construction materials.

The utilisation of municipal sustainability requirements in public land development is not completely uncontroversial in Sweden (see e.g., Olsson, 2018; Svensson and Torbäck, 2016). A new law was introduced in 2014 and enforced from 2015 which restricts municipalities from placing their own requirements that go beyond those stipulated in the national building regulations (*Boverkets byggregler*), also referred to as special requirements (*särkrav*), on construction works' technical properties (SFS 2010:900). The intention with the new law was to reduce construction costs in order to improve conditions for meeting the growing demand for housing in Sweden, although municipalities have perceived it as a major impediment to their ability to drive sustainable development (Francart et al., 2019). Despite the 2015 legal block, Swedish municipalities continue to place special requirements in development agreements connected to the transfer of land that they own either due to misinterpretations or deliberate transgressions of the new law (Francart et al., 2019; Svensson and Torbäck, 2016). When acting as landowners, there seems to be more uncertainty regarding the legal limitations of municipalities' ability negotiate over and prescribe special requirements on construction works' technical properties (Francart et al., 2019).

Despite the apparent controversy, there have barely been any legal cases that address special requirements in municipal land allocation agreements. Based on a search in JUNO (a digital service with Sweden's legal materials) there is currently only one legal case that deals with special requirements in municipal land allocation

agreements: Stockholms tingsrätt T 9248-13 konkurensverket./.Växjö kommun (2015-11-16). The Swedish Competition Authority ruled that the municipality's requirement on connecting to district heating and installing a heat pump in connection to selling the municipality's land for the construction of small houses constituted an anticompetitive public sales activity according to the Swedish Competition Act (3 kap. 27§).

4. Theoretical framework

This chapter outlines the theoretical framework used as a lens to analyse empirical material and provides definitions of key theoretical concepts. The theory presented in sections 4.1 to 4.4 comprise the theoretical perspective and conceptual framework used to interpret cases and generate findings.

4.1 Value co-creation: the service-dominant logic

Value co-creation theory was originally developed in the field of marketing by Vargo and Lusch (2008; 2004) who introduced the so called 'pre-theory' Service-Dominant Logic (SDL). The premise of this paradigm is that customers always co-create value with service providers, which is an inherently relational and collaborative view of exchange (Vargo and Lusch, 2008). This means services are exchanged, denoting a shift from the traditional goods-dominant logic where the focus is on goods (Grönroos, 2012; Vargo and Lusch, 2008; 2004; Prahalad and Ramaswamy, 2004). Services are here referring to the benefits of specialised competences, encompassing both knowledge and skill (Vargo and Lusch, 2004). In more recent years, the initial focus on suppliers and customers has been broadened to include exchange relationships with a wider range of beneficiaries (Grönroos, 2012; Vargo and Lusch, 2011), resulting in what might be considered as a multi-actor or actor-to-actor focus (Bryson et al., 2017; Mills and Razmdoost, 2016).

Regarding value co-creation, discussions revolve around what value is being created (the service) and how it is created (the process). According to the SDL, value is not determined by the producer of goods, but is rather determined and perceived by the beneficiary as a result of an application of resources, which is typically referred to as *value-in-use* (Vargo and Lusch, 2008; 2004). Since suppliers are not able to deliver actual value, as it is only realised in-use when determined by the beneficiary, they can only provide potential value in the form of value propositions (Grönroos, 2017; Vargo and Lusch, 2008). Value propositions are, simply put, benefits which suppliers intend to provide (Skålen et al., 2015), which can also be thought of as the desired and intended outcomes. Given the empirical focus on land-use planning and housing development planning, the theoretical focus herein is primarily on desired and intended value outcomes, rather than value-in-use which is first realised when development is completed.

Value co-creation has been adopted and developed within multiple fields. Two of these branches of value co-creation thinking are deemed particularly relevant for the research presented herein. Firstly, the value co-creation literature from the project management field is suitable for investigating the housing developers' perspective. Most literature on housing developers comes from the construction management

field, which often draws on project management literature. Using the project value co-creation literature is therefore suitable for building on this previous knowledge of housing developers from the construction management field. The branch of value co-creation literature best suited for investigating the municipalities' perspectives is, on the other hand, found in the public administration and public management literature. This literature is concerned with public sector led co-creation of public value. These two strands of value co-creation literature, and the combining of them in the dissertation, are expanded on in the following sections. In addition to this, the following sections present other theoretical frameworks that have been drawn on to fill perceived gaps in the value co-creation theory.

4.2 Conceptualising projects and programmes as value co-creation processes

4.2.1 Value co-creation in projects and programmes

In the project management literature, projects and programmes are being re-conceptualised as value-co-creation processes for multiple actors (Liu et al., 2019; Martinsuo et al., 2019; Smyth et al., 2018; Winter and Szczepanek, 2008). In this literature, project outputs are interpreted as inputs to value creation (Chang et al., 2013). Following the conception of value-in-use, value creation first occurs when customers use services, "rendered by the product and services together" (Liu et al., 2014), that are produced by completing a project. End-users should therefor ideally be actively involved throughout the project to ensure value co-creation occurs (Chang et al., 2013). However, Fuentes (2019) found that this is not always the case in construction projects.

In addition to differentiating between value propositions and value-in-use, Liu et al. (2019) suggest distinguishing value for suppliers. For example, value for housing developers includes profits from selling their newly constructed apartments/houses, whereas value-in-use is co-created with the end users and comprises a home. Profit as a value outcome is something that the SDL has previously overlooked (Smyth et al., 2018). However, Aliakbarlou et al. (2018) argue that value for developers goes beyond traditional measures of time, cost, and quality to include non-result-oriented values. Important values for the private sector include profitability, as well as competitiveness and customer orientation (de Graaf and van der Wal, 2008).

The literature on projects and programmes as multi-actor value co-creation processes has been critiqued for focusing too much on the conceptual level. Several scholars have therefor called for more micro-level empirical research to make this literature managerially relevant (Fuentes, 2019; Fuentes et al., 2019; Grönroos, 2017; Luotola et al., 2017). Furthermore, the focus has mainly been on projects,

meaning there is a need for more research exploring value co-creation in programmes (Näsholm and Blomquist, 2015). Programmes are defined as groupings of projects "managed in a coordinated way, either to achieve a common goal, or to extract benefits which would otherwise not be realized" (Pellegrinelli 1997, p. 142). Knowledge of project dynamics should be integrated in the study of programmes where inter-project relations are integral.

Value co-creation theory has previously also been applied to the study of construction projects specifically (see e.g., Fuentes, 2019; Fuentes et al., 2019; Eriksson et al., 2016; Mills and Razmdoost, 2016; Jacobsson and Roth, 2014; Liu et al., 2014). However, this literature is still scarce (Smyth et al., 2016). These previous studies have investigated value co-creation during the design and production phases of construction projects and focused on relationships between developers and upstream suppliers (Eriksson et al., 2016; Jacobsson and Roth, 2014; Liu et al., 2014) or end-users (Fuentes, 2019). This suggests more research is needed on value co-creation between developers and downstream suppliers, such as municipalities.

4.2.2 Value co-creation and the front-end of projects

There is also a need for more empirical research investigating value co-creation processes at the front-end of projects (Liu et al., 2019; Martinsuo et al., 2019; Smyth et al., 2018), as well as more research on these parts of projects in general (Edkins et al., 2013). The front-end is the strategic shaping of a project with the option of putting it on hold or cancelling it (Edkins et al., 2013). This is when developers identify and define their project goals; identify their stakeholders' desired value outcomes; form their project teams and partners; and they define their procurement requirements (Martinsuo et al., 2019; Edkins et al., 2013). Value co-creation is important for this kind of decision-making during the front-end where there is much uncertainty, as various actors contribute with different knowledge and know-how (Liu et al., 2014). It is especially important for developers since managing external project relationships is a vital part of their business (ibid).

In projects, value propositions are first co-created at the front-end, and these then have implications for value that is realised after completion (Smyth et al., 2018). Value propositions are defined as "reciprocal promises of value, operating to and from suppliers and customers seeking an equitable exchange" (Ballantyne and Varey, 2006; 334-5). In other words, they are benefits which actors intend to provide by finishing the project (Skålen et al., 2015). They are typically co-created by multiple actors through various decisions (Smyth et al., 2018). Identifying and defining desired value outcomes helps ensure project actors are all on the same page and understand the overall goals and expectations of the project (Fuentes et al., 2019). The front-end is important as this is when any potential value that can be co-created

is defined (Fuentes et al., 2019; Martinsuo et al., 2019; Smyth et al., 2018). However, there is also a substantial possibility of "errors and faults becoming built-in" during this stage of a project (Edkins et al., 2013; 82).

Smyth et al. (2018) have found that client requirements are used to define value propositions in terms of cost, time and quality. However, project value is subjective, dynamic and a relative quotient of benefits and costs perceived differently by different actors in different contexts in different stages of the project (Laursen and Svejvig, 2016; Chang et al., 2013). Selçuk Çıdık and Bowler (2022) argue that project value should thereby be understood through project actors' valuation practices. Zerjav et al. (2021) found that the multiplicity of project value is especially notable at the front-end where it influences early decision-making. This multiplicity makes defining value propositions a complex negotiation process which will determine the value that can be realised by completing the project (Smyth et al., 2018). Thus, in order to develop feasible solutions that all project actors can agree on, project management during the front-end of building development projects involves both the identification and communication of project actors' emerging understanding of their desired value outcomes (Liu et al., 2014).

Many project relationships are formed during the front-end of projects, which are important for understanding value co-creation during this stage. For instance, this is when housing developers begin to procure their contractors, architects and other suppliers. In type 4 development processes, the housing developers also coordinate planning for their projects with the municipalities' land-use planning and negotiate aspects included in development agreements. Many of these relationships in housing development projects, including the one between developers and municipalities, can to some extent be considered as buyer-supplier relationships.

A common theory used to interpret buyer-supplier relationships is the classic principal-agent theory, wherein one party (*the principal*) delegates work, in the form of a service or task, to another party (*the agent*) (Turner & Müller, 2004; Eisenhardt, 1989a). It has been argued that principal-agent relationships are unconducive for co-creation (Ansell and Torfing, 2021) and sustainable urban development (Högström et al., 2019). However, this previous literature does not engage much with the actual principal-agent theory to investigate why this might be the case. Herein, I chose to put this claim to the test and use principal-agent theory to analyse the relationship between municipalities and housing developers in sustainability-profiled districts. I expected to find that if the actors were indeed forming principal-agent relationships this might be resulting in various difficulties to achieve co-creation processes. I also anticipated that principal-agent theory might then offer insight on developers' perceived challenges to engaging in co-creation processes while operating as agents.

Principal-agent theory posits that principals' and agents' objectives and interests can be aligned using incentives, but that this is typically prevented by asymmetric information and knowledge between them (Waterman and Meier, 1998; Eisenhardt, 1989a; Hart and Holmström, 1987). Agents are considered to have an information advantage over principals who cannot monitor everything they do (Eisenhardt, 1989a). Agents are, on the other hand, typically serving multiple principals, meaning they must weigh their principals' competing and sometimes conflicting interests with their own self-interest (Shapiro, 2005). This means that agents are typically forced to make compromises and trade-offs between the interests of their principals and themselves, while principals end up competing to gain more influence over agents (Waterman and Meier, 1998).

Also of note from principal-agent theory is the distinction typically made between behaviour-based contracts and outcome-based contracts. The latter is based on agents achieving specific requirements, making municipal land allocation agreements a form of outcome-based contract. As there is always some uncertainty over outcomes due to environmental factors, outcome-based contracts shift risk from principals to agents (Shapiro, 2005). They also require principals to gather information on outcomes to measure performance, which can be challenging and make them difficult to enforce (Eisenhardt, 1989a; Jensen et al., 2006). Contracts are considered to hinder co-creation by forming principal-agent relationships and fostering competition between suppliers (Ansell and Torfing, 2021). Furthermore, unless actors can continuously and collaboratively adapt the requirements in outcome-based contracts, co-creation is not considered possible (ibid).

In addition to various buyer-supplier relationships, there are also project relationships between suppliers. For instance, in district developments, interdependencies between developers building next to each other force them to collaborate whilst also being competitors (see e.g., Hedborg and Karrbom Gustavsson, 2020). While co-creation processes are important during the front-end of projects when value propositions are being negotiated and defined between various actors forming these project relationships, it should be noted that they are not necessary at all stages of a project (Fuentes, 2019). Some aspects of projects do not necessarily benefit from relational approaches and are better to keep more transactional in nature (ibid).

4.2.3 Value co-creation, co-destruction and conflict management

There has been some recognition of the dark side of value co-creation, however, Mills and Razmdoost (2016) criticise this literature for focusing too much on positive aspects. Since project relationships can be destructive, there is also a possibility for value co-destruction in projects (Echeverri and Skålén, 2011). Smyth et al. (2018)

argues that this is often the case during the front-end. Value co-destruction can occur as a result of actors pursuing their own interests at the expense of other actors' interests since benefits for some actors might be perceived as sacrifices for others (Fuentes et al., 2019; Mills and Razmdoost, 2016). This kind of value co-destruction is spurred by power imbalances between actors engaging in co-creation processes (Fuentes et al., 2019). Poorly managed project relationships and expectations can also lead actors to withdraw their resources from a project (Mills and Razmdoost, 2016). Lastly, value co-destruction in projects can occur as a result of not engaging end-users in decision-making processes, thereby limiting the potential for value co-creation after completion (Fuentes, 2019).

Value co-destruction can be the result of unresolved conflicts between project actors. Mele (2011) has therefore called for more research on conflict resolution in value co-creation processes in projects. Conflicts are often present in PPP arrangements, although they generally receive much less attention than the more positive aspects of managing such partnerships (Currie and Teague, 2015). Conflicts are however not always negative as constructive conflict resolutions can strengthen project relationships (Mele, 2011). A distinction is therefore conventionally made between destructive/dysfunctional and constructive/functional conflicts, which is dependent on how they are managed (Loosemore et al., 2000; Gardiner and Simmons, 1995). In addition to strengthening project relationships, constructive conflicts can act as important sources of innovation and creativity (Vaaland and Håkansson, 2003), especially for value co-creation process which entail actors jointly defining and solving problems together (Prahalad and Ramaswamy, 2004). Destructive conflicts can, on the other hand, lead to increased project costs, delays, and negatively affect project relationships (Vaaland and Håkansson, 2003).

Rahim's (1983) conflict handling styles is a classic taxonomy suitable for applying to construction management (Loosemore et al., 2000), which is adopted herein (Paper 1). He identifies five different conflict handling styles classified using the two dimensions: concern for oneself, also known as assertiveness, and concern for others, also known as cooperativeness, which motivate actors during conflict (see Figure 5). Integrating styles are considered the most conducive for constructive conflict management and resolution, through collaborative problem solving, as they are characterised by actors having high concerns for all actors involved, including themselves (Loosemore et al., 2000; Rahim, 1983). The opposite of integrating styles is avoiding styles, which typically involve ignoring conflicts, leaving them unresolved. Dominating or competing styles, which entail actors having high concern for themselves and low concern for others, are also not conducive for conflict management as they typically result in increased tension and an escalation in disputes. Obliging styles are the inverse of dominating styles, which also lead to an imbalanced consideration of actors' interests. Finally, comprising styles do balance

the interests of all involved actors but entail resolving conflicts by having everyone give something up, also known as lose-lose solutions (ibid).

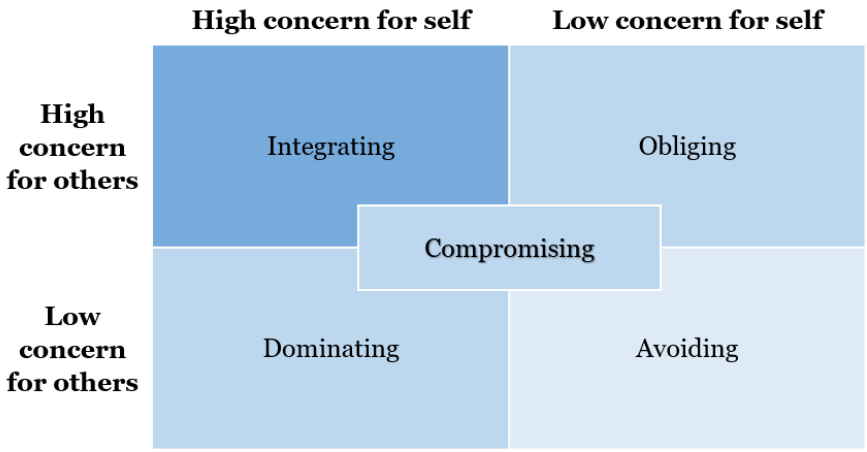

Figure 5. *Rahim's five conflict handling styles (Rahim, 1983).*

Since there has been a lack of research on conflicts and value co-destruction in the co-creation literature (Mills and Razmdoost, 2016; Mele, 2011), introducing conflict management theory helps fill this gap. The theories are compatible with each other as both are concerned with relationships, as a social phenomenon, and are suitable for research on interorganisational project and programme relationships. Rahim's (1983) conflict handling styles was specifically selected since it accounts for both destructive/dysfunctional and constructive/functional approaches to handling conflicts.

4.3 Public value co-creation

4.3.1 Public value and public values

Public value is the desired outcome of public-sector co-creation (Ansell and Torfing, 2021a). The concept of public value is drawn from the public value creation literature, which has a different history to the co-creation literature. Public value creation theory and co-creation theory were developed separately in different fields and have more recently been combined to form the theory on public-sector co-creation. Before delving into public-sector co-creation, it is therefore worthwhile to elaborate on this concept of public value and discuss how it relates to the concepts of public values and the public interest. Public value creation is considered a paradigm in the field of public administration and management largely accredited to Mark Moore's (1995) seminal book, "Creating Public Value: Strategic Management in

Government". There are several conceptualisations of public value that have evolved over the years, so it is important to specify the definition that is being used (Hartley et al., 2017; Alford and O'Flynn, 2009). Public value is considered to encompass both "what the public values" and "what adds value to the public sphere" (Benington, 2011; 42), which do not necessarily align with each other in practice. Based on previous literature (Ansell and Torfing, 2021a; Hartley et al., 2017; Benington, 2011; Moore, 1995), I define public value as:

contributions to the public sphere that are valued by the public.

Public value is considered to be dynamic (see e.g., Nailer et al., 2019), making it comparable, in this regard, to the conception of project value in co-creation literature. In order to create public value, public authorities must first determine what the public considers to be valuable, a process referred to as defining public value (Moore, 1995). It is a contested democratic practice since the public is not unitary but consists of many diverse groups, each with differing conceptions of value (Hartley et al., 2017; Benington, 2015). Public value is thereby also considered to be subjective. When a public authority has determined what it is the public values, which can be interpreted as inputs from the public, they can decide what specific public value outcomes they wish to pursue, and then proceed to creating or co-creating those outputs or outcomes for society (Benington, 2011).

Defining and creating public value is closely related to the literature on democratic legitimacy as an essential public objective in spatial land-use planning and management (see e.g., Valtonen, 2019; Woestenburg et al., 2019; Hartmann and Spit 2015; Needham, 2014; 2012), which has also been applied to the study of municipal experimental governance (Eneqvist, 2022; Eneqvist et al., 2022). Here too, there is a discussion of inputs and outputs, but in relation to legitimacy (e.g., Woestenburg et al., 2019; Hartmann and Spit, 2015) derived from serving the public interest (Needham, 2012). Like public value inputs and outputs, input-legitimacy is determined by the representation of the public's interests, while output-legitimacy is determined by the how well outcomes serve those public interests (Hartmann and Spit, 2015). Defining public value is thus closely related to achieving input-legitimacy, while creating certain public value outcomes is closer akin to achieving output-legitimacy. The public interest is here seen as an aggregate of all private interests (Bozeman, 2007), while determining public value is a contested democratic process (Hartley et al., 2017; Benington, 2015).

In addition to distinguishing between inputs and outputs, a distinction can be made between anticipated value and realised value, the former being turned into the latter through some form of activity (Nailer et al., 2019). Realised value, comprising contributions that add value to the public sphere, are herein referred to as public

value outcomes (Ansell and Torfing, 2021a). Desired public value outcomes are comparable to value propositions, while realised public value outcomes are comparable to value-in-use (Grönroos, 2017; Vargo and Lusch, 2008), although these terms have not been adopted in the public value creation literature. Benington (2011) has divided public value outcomes into four dimensions (see Table 1). These are closely related to the three pillars of sustainability presented previously, with social sustainability encompassing the social, cultural, and political public value dimensions.

Table 1. Dimensions of public value and their definitions

Dimensions of public value	Definitions
Ecological value	*"adding value to the public realm by actively promoting sustainable development and reducing public 'bads' like pollution, waste, global warming"*[1]
Social and cultural value	*"adding value to the public realm by contributing to social capital, social cohesion, social relationship, social meaning and cultural identify, individual and community well-being"*[1]
Political value	*"adding value to the public realm by stimulating and supporting democratic dialogue and active public participation and citizen engagement"*[1]
Economic value	*"adding value to the public realm through the generation of economic activity, enterprise and employment"*[1]

[1](Benington, 2011; 45-46)

In the literature on public value creation, a distinction is typically made between public value and public values (Bryson et al., 2014), which are easily confused with each other. Public values are citizens' rights and responsibilities in a society and "the principles on which governments and policies should be based" (Bozeman, 2007; 13), which there should be a normative consensus over. Unlike public value, which is created, public values are achieved through good governance (Bryson et al., 2014; de Graaf et al., 2016; de Bruijn and Dicke, 2006). Since public authorities should be able to achieve public values, they should be measurable (Meynhardt, 2009; Moore, 1995), although this can be difficult in practice (Alford and O'Flynn, 2009). How they should be measured is also disputed (Bryson et al., 2014), since some scholars argue that public values are objective (e.g., Bozeman, 2007; Moore, 1995), while Meynhardt (2009), for example, argues that they reside in subjectively assessed quality of relationships between individuals and society, meaning their creation or diminishment is assessed inter-subjectively.

While public value creation literature focuses on actors creating public value, such as public managers, public organisations (Moore, 1995), partnerships, and networks (Stoker, 2006), public values are studied at the societal level. They should be identifiable in public documents like policies, constitutions, and legislative mandates (Jørgensen and Bozeman, 2007). Central public values in the US, UK and Scandinavia are human dignity, sustainability, citizen involvement, openness, secrecy, compromise, integrity and robustness (ibid). Other important public values include legitimacy, lawfulness, accountability, and impartiality (de Graaf and van der Wal, 2008).

A distinction is sometimes made between procedural, performance, and substantive public values (de Graaf and Paanakker, 2015; de Bruijn and Dicke, 2006). The two former categories are both normative and process related. Procedural public values relate to the quality of governance processes. Examples include lawfulness and transparency. Performance values, on the other hand, relate to effectiveness and efficiency when delivering public services. Finally, substantive public values are sector-specific objectives to provide products and services (ibid). A distinction is sometimes also made between public values and the public interest. The public interest concerns outcomes for a society's well-being and long-term survival (Bozeman, 2007). They constitute ideals to be pursued, as opposed to something that can be achieved (ibid).

A common and well recognised consequence of value pluralism are value conflicts (Bozeman, 2007; Wagenaar, 1999), which means some public values must sometimes be prioritised over others (Aschhoff and Vogel, 2018; de Graaf and Paanakker, 2015; van Gestel et al., 2008). For example, it is not difficult to imagine how openness and secrecy or compromise and integrity, listed above, might conflict with each other in practice as they are essentially opposites. This is a common issue also reflected in complex land use conflicts, which are often rooted in conflicts between economic interests and environmental protection (Tudor et al., 2014; Wittmer et al., 2006). Although they are well recognised, there is a need for more research on how such value conflicts are handled in multi-organisational public-private collaborations (Bryson et al., 2017; van Gestel et al., 2008).

4.3.2 Public sector co-creation

Co-creation has over recent years been gaining popularity in the fields of public administration and management (Ansell and Torfing, 2021a; Torfing et al., 2019; Torfing and Sørensen, 2019; Bryson et al., 2017). The public value co-creation concept has been developed through a substantial amount of theorising on the conceptual level, debating topics like what the primary purpose of the public sector should be (e.g., Bryson et al., 2017). Combined with this are research endeavours

that entail more empirical investigations (e.g., Leino and Puumala, 2020; Wåhlin et al., 2016) and the development of empirically grounded and tested models that are more practice oriented (e.g., Sillak et al., 2021). Thus, public value co-creation theory is currently being developed as a conceptual ideal for public-sector practitioners to strive for, a conceptual framework for researchers to describe and explain empirical phenomenon, and as a model that practitioners can adopt. Herein, it is accepted as an ideal for practitioners to strive for and is being applied as a theoretical lens for empirical analyses to describe, explain and evaluate current practices. Torfing et al. (2019) define public sector co-creation as:

"a process through which two or more public and private actors attempt to solve a shared problem, challenge, or task through a constructive exchange of different kinds of knowledge, resources, competences and ideas that enhance the production of public value"

(Torfing et al., 2019; 802)

This public-private multi-actor perspective evident in the definition is typical for research on public-sector co-creation (see e.g., Wåhlin et al., 2016), and is adopted herein as well. When investigating public sector co-creation processes, key aspects to consider are; the *actors* that are involved, what their *practices* are, the *arenas* in which those actors engage with each other, the *functions* of co-creation activities in those arenas, and finally the *problems* and challenges they are tackling (Bryson et al., 2017). Actors involved in co-creation processes may include various public actors (e.g., public managers, politicians) and private actors (e.g., private corporations, civil society organisations, and citizens) (Torfing et al., 2019; Torfing and Sørensen, 2019). Bryson et al. (2017) suggest focusing on relevant actors in descriptive research, which is therefore my point of departure for answering the research questions. Practices refers to what these actors are doing, which is determined by their responsibilities and objectives. Arenas are the spaces where actors engage with each other in dialogue and joint action and are conceptualised as generative institutions supporting and framing co-creation (Ansell and Torfing, 2021a). Typical functions of such co-creation processes include improving outcomes, transforming actors' understanding of problems and finding creative and innovative ways of solving problems (Torfing et al., 2019). Another conceptual phenomenon typically discussed in relation to co-creation arenas are *platforms*. These are generative institutions that support continuous creation and adaptation of arenas, and thereby also provide broader systemic infrastructures for collaborative partnerships, projects, programmes and networks over longer periods of time (Ansell and Torfing, 2021a).

In the co-creation literature, the role of the public sector and public organisations are typically a main concern. The primary co-creation-related role of the public sector is the formation of platforms and arenas that support cross-boundary collaborative innovation and creative problem solving between public and private actors (Ansell and Torfing, 2021a; Cordella and Paletti, 2019; Torfing et al., 2019). Public organisations typically lead co-creation processes in those arenas, which can be a challenging task that requires more than the traditional forms of steering through contracts and legal authority. The task entails bringing relevant and affected actors together, motivating them to participate and holding them accountable for creating desired public value outcomes. It also entails mitigating power imbalances and mediating conflicts between actors, because, to enable co-creation, trust and constructive communication must be fostered. This is easier to achieve if actors recognise, acknowledge and make their interdependencies explicit, since they are then forced to accept that they cannot achieve their goals on their own without the help of other actors. In addition to all this, there are risks inherent in innovation that must be managed (Ansell and Torfing, 2021a; Torfing et al., 2019).

Regarding the level of engagement from public organisations and other actors, co-creation may encompass co-initiation, co-design and co-implementation (Voorberg et al., 2015). Co-initiation refers to instances where public organisations initiate projects together with other actors. Co-design, on the other hand, refers to instances where other actors are involved in decision-making for designing service delivery, including jointly defining problems, designing the solutions and planning for the implementation process, but they are not involved in the initiation. Finally, co-implementation, which is closely related to co-production, involves collaboratively delivering public services (ibid).

The co-creation concept is very similar to, and often confused with, co-production, although they are different and will therefore not be used interchangeably in the dissertation. The main difference is that co-creation emphasises value creation, while co-production does not (Torfing et al., 2019; Voorberg et al., 2015). Co-production is also much more narrowly focused on public service provision with service users, while co-creation is broader in terms of its scope, involved actors, and outcomes (Ansell and Torfing, 2021b). Similarly, the distinction between co-creation and collaborative governance is sometimes considered unclear as they both emphasise the importance of multi-actor and cross-boundary collaboration (Torfing et al., 2019). The primary difference between them is in the perceived utility of multi-actor collaboration between public and private actors. Collaborative governance is concerned with multi-actor collaboration as a means of collective decision-making for public policy development and implementation (see e.g., Ansell and Gash, 2008). Co-creation theory is, on the other hand, primarily concerned with fostering collaborative innovation (sometimes referred to as co-innovation) and

transformative problem-solving between public and private actors (Ansell and Torfing, 2021a; Torfing et al., 2019). Innovation is here defined as:

"an intentional and proactive process that involves the generation and practical adoption and spread of new and creative ideas, which aim to produce a qualitative change in a specific context"

(Sørensen and Torfing, 2011; 849)

The concern with generative public-private collaboration makes public sector co-creation theory well suited for interpreting sustainability-profiled district developments. These districts are delivered in collaboration with multiple public and private actors and are explicitly intended to act as testbeds for innovation. Conversely, the focus on achieving collaborative innovation in sustainability-profiled district developments makes them suitable cases for empirically demonstrating public sector co-creation processes in practice and developing the theory.

Bentzen et al. (2020) found that co-creation is already prevalent in contemporary urban development and local urban planning in Scandinavian municipalities. There are also many examples of previous studies that apply the concepts of co-creation and co-design to describe and explain observed practices in urban planning and development (e.g., Brokking et al., 2021; Bisschops and Beunen, 2019; Puerari et al., 2018; Teder, 2019; Webb et al., 2018; Bartenberger and Sześciło, 2016; Scholl and Kemp, 2016; Stangel and Szóstek, 2015). However, most of this literature focuses solely or primarily on participatory design with citizens, missing important co-creation processes between urban planners and other actors. Increasing public and private participation in urban planning processes has been found to improve outcomes, increases benefits and creates opportunities for innovation (Watson, 2014; Albrechts, 2013). Adopting co-creation as a core governance principle also provides public authorities with opportunities for mobilising resources (Ansell and Torfing, 2021a; Neumann et al., 2019; van Melik and van der Krabben, 2016). These are much needed considering the current trends in Europe of cutting back on public expenditure coupled with high ambitions and a multitude of contemporary wicked problems and challenges (Hendricks et al., 2021; Metzger and Lindblad, 2021).

Although co-creation in planning may be beneficial in several ways, there are also major concerns regarding the balance between participation and legitimacy that need to be addressed. A major concern regarding collaborative forms of urban governance is the possibility that they enable the domination of certain private interests in land-use planning processes (Fell and Mattsson, 2021; Solly, 2021; Mäntysalo and Bäcklund, 2018; Fox-Rogers and Murphy, 2015; Palmås and von Busch, 2015; Parker et al., 2015; Watson, 2014; Mäntysalo and Saglie, 2010; Alford and O'Flynn, 2009). For example, as mentioned previously, Swedish planners find

it more difficult to drive long-term sustainable development as a shift towards collaborative and more market-oriented spatial planning leads to developers' short-term profits being prioritised more (Solly, 2021). Palmås and von Busch (2015) also found that the interests of citizens identified through early dialogues in participatory urban planning do not lead to co-design since they are gradually lost as objectives shift during negotiation and translation.

4.3.3 Public value co-creation versus public value capture

In the public land development literature, little attention has been given to public value creation and co-creation. However, there is a much more extensive body of literature addressing public value capture in public land development (see e.g., Valtonen, 2019; Woestenburg et al., 2019; Muñoz Gielen and Lenferink, 2018; Valtonen et al., 2018; van der Krabben and Jacobs, 2013; Walters, 2013; Alterman, 2012). Public value, in the public value capture literature, refers to public revenue, which is quite different from the definition in the public value creation literature provided previously. I will therefore distinguish between public value, as previously defined, and public revenue. Introducing public value capture theory provides a more extensive knowledge and conceptual framework for describing and explaining exchange between municipalities and property developers in public land development. Exploring potential links between public value capture and public value creation is also fruitful for theoretical development, as these two literatures are not typically combined. Based on previous literature (Hendricks, 2021; Valtonen et al., 2018; Alterman, 2012; van der Krabben and Needham, 2008), I define public value capture as:

methods public authorities use to capture unearned land or real estate value increments from landowners.

In the definition of public value capture, unearned land/real estate value increments are increases in value caused by public action. Examples of public action include public planning decisions; changes in land-use regulations; public investments in infrastructure and public services; population growth; and economic development (Valtonen et al., 2018; Havel, 2017; Ingram and Hong, 2012). Since these value increases are not caused by landowners, the rationale is that they should be captured by public authorities and redistributed to the community, *id est* the public.

A distinction is typically made between direct and indirect public value capture instruments, depending on their motivating rationale. *Direct instruments* are entirely based on the motivating rationale of capturing unearned land/real estate value increments, oftentimes accomplished through different forms of taxation (Muñoz Gielen and van der Krabben, 2019; Muñoz Gielen and Lenferink, 2018;

Alterman, 2012). A major challenge when using these public value capture instruments in practice is determining what value is earned and unearned. Value increases are caused by a variety of actors and factors throughout different phases in property development, making it difficult to determine which actors caused which value increase and when (Hendricks et al., 2021; Muñoz Gielen and van der Krabben, 2019; Gozalvo Zamorano and Muñoz Gielen, 2017; Christensen, 2014; Ingram and Hong, 2012). Landowners can also change, for instance from an initial owner to municipalities that acquire the land, to property developers building on the land, to a final buyer looking to live in the new dwelling. This is a big issue for equitable public value capture as there is uncertainty over what precisely should be captured from property developers (Valtonen et al., 2018). It is also especially problematic when using direct instruments, considering they hinge on linking specific value increments to public action (Muñoz Gielen and van der Krabben, 2019; Muñoz Gielen and Lenferink, 2018; Alterman, 2012).

Indirect instruments build on a variety of motivating rationales (Muñoz Gielen and van der Krabben, 2019; Alterman, 2012). This makes them more pragmatic and adaptable in practice, and consequently they are used more by practitioners (Alterman, 2012). Motivating rationales for using indirect instruments may include, for example, cost recovery, accruing resources for public service provision, and mitigating impacts and negative externalities by having developers internalise costs (Muñoz Gielen and van der Krabben, 2019; Muñoz Gielen and Lenferink, 2018; Alterman, 2012). Capturing unearned increments can be one motivating rationale when using indirect instruments, but this is often much less explicit or completely concealed (Muñoz Gielen and Lenferink, 2018; Valtonen et al., 2018; Alterman, 2012). Since the use of indirect instruments is often not clearly linked to capturing specific unearned private land/real estate value gains, they risk capturing earned value increments that the landowners have themselves caused. Considering this uncertainty, which can also be an issue when using direct instruments in some empirical contexts, public value capture is herein referring to instruments that simply capture any increases in land/real estate value (Hendricks, 2021; Muñoz Gielen and van der Krabben, 2019).

Alterman (2012) identifies a third category of instruments that constitute more active land use policies, which she refers to as *macro instruments*. Table 2 presents common examples of the three types of value capture instruments presented by Alterman (2012). Land banking and public land development are an example of macro instruments. Public value capture in public land development entails adding value increases from public investments, such as infrastructure and development rights, to the land sale price (Muñoz Gielen and Lenferink, 2018; Alterman, 2012). Alternatively, value increments can be captured by prescribing contributions from developers that are leveraged from the sale (Muñoz Gielen and van der Krabben,

2019), such as the municipal sustainability requirements Swedish municipalities include in their development agreements and consequent land purchase contracts.

Table 2. Examples of direct, indirect and macro public value capture instruments

Macro instruments	Direct instruments	Indirect instruments
• Land banking • Land readjustment • Nationalisation of land • Long-term public leaseholds	• Capital gains tax • Property tax • Betterment levy policies • Land value tax	• Exactations • Cost recovery • Developer obligations • Planning obligations • Linkage fees • Impact fees

(Source: Muñoz Gielen and van der Krabben, 2019; Alterman, 2012)

If developer contributions are negotiated alongside land-use regulations, they can arguably be considered as developer obligations, which are another type of value capture instrument (c.f. Muñoz Gielen and van der Krabben, 2019). This may, for example, happen in Type 4 development processes where negotiations over municipal sustainability requirements, as a part of the land allocation process, occurs alongside negotiations over land-use regulations, as a part of the detailed planning process. Two different types of public value capture instruments are in these instances being used within the same project, which is not entirely uncommon (Alterman, 2012), but does raise concerns over the possibility of a double levy. Walters (2013; p. 8) suggests that, in these cases, developer obligations are being used more as cost recovery mechanisms than instruments for capturing unearned private land/real estate value gains, as they are converting public "land assets to infrastructure assets". Public land development and developer obligations are herein considered as different kinds of public value capture instruments, the former being a macro instrument and the latter an indirect instrument, with potential utility for public value co-creation.

Developer obligations are a specific type of public value capture instrument, typically, but not always, used as indirect instruments (Muñoz Gielen and Lenferink, 2018). 'Developer obligation' is a term recognised and used internationally (Turk, 2018; Alterman, 2012; 1990), and is thereby adopted herein as well. Other terms for this instrument are however sometimes used in other countries, such as 'planning gain' in the UK (Fox-Rogers and Murphy, 2015; Crow, 1998), and 'exactions' in the US (Alterman, 1990).

Developer obligations can be defined as:

"contributions of property developers and landowners made in exchange for a public decision on land-use regulations that increases the economic value of their properties"

(Gozalvo Zamorano and Muñoz Gielen, 2017; 278).

Examining developer obligations should include investigating both the product, that being the gain that is sought or offered, and the process of using them in practice (Crow, 1998). Regarding the product, contributions typically entail land, monetary payments, or construction services from the property developer (Turk, 2018; Muñoz Gielen and Lenferink, 2018). By placing requirements on developers, public authorities can finance public urban infrastructure (Turk, 2018; Muñoz Gielen and Lenferink, 2018), which may include roads, public spaces, public facilities, climate adaptation and mitigation, and affordable and social housing (Muñoz Gielen and van der Krabben, 2019). The favourable public decisions on land-use regulations that developer obligations might be exchanged for include "additional development rights, fast-track processing, or relaxation of some regulations" (Alterman, 2012; 775), as well as the direct provision of surrounding infrastructure (Turk, 2018; Muñoz Gielen and Lenferink, 2018).

A distinction is typically made between non-negotiable developer obligations (N-NDO) and negotiable developer obligations (NDO) (Muñoz Gielen and van der Krabben, 2019; Turk, 2018). N-NDOs are prescribed in legislation at the national and regional level, and in policy documents and legally binding land use or zoning plans at the local level (Muñoz Gielen and Lenferink, 2018; Gozalvo Zamorano and Muñoz Gielen, 2017). NDOs are, on the other hand, negotiated between local planning authorities and property developers, and have generally been explored less in previous literature (Turk, 2018). They do not require detailed legislative support, which makes them easier for practitioners to prescribe and provides planning flexibility that helps local planning authorities deal with high levels of complexity (Muñoz Gielen and Lenferink, 2018; Turk, 2018).

As a result of being less regulated, there is typically less transparency and accountability when NDOs are used in practice. This creates political and legal issues regarding misuse, bias, and unequal treatment, as well as increasing uncertainty and risk for developers (Hendricks et al., 2021; Muñoz Gielen and Lenferink, 2018; Turk, 2018; Alterman, 2012). Furthermore, many have argued that buying and selling planning permissions made by local planning authorities does not constitute legitimate and good practice (see e.g., Fox-Rogers and Murphy, 2015; Mäntysalo and Saglie, 2010; Crow, 1998). Considering these issues with NDOs, Hendricks et al.

(2021) argue that there is a need for clear and reasonable criteria that delimit their use.

Considering European municipalities' decreasing means to finance public urban infrastructure and public service provision, public value capture is an important topic (Hendricks et al., 2021). However, Heeres et al., (2016) have previously pointed out that public revenue is not the only form of value that can be created as a result of using value capture instruments. They found that, in addition to being financially beneficial, value capturing can have cooperative value as cooperation between fragmented actors is enhanced. This line of inquiry could be taken further to explore other forms of value creation associated with the use of value capture instruments. Herein, I investigate the combined use of public land development and developer obligations to co-create both public value and private project value.

4.4 Towards a public-private value co-creation framework

Public-private collaborations have been investigated in both the literature on value co-creation in projects and programmes (e.g., Liu et al., 2019; 2014; Smyth et al., 2018; Näsholm and Blomquist, 2015) and the public sector co-creation literature (e.g., Sillak et al., 2021; Neumann et al., 2019; Torfing et al., 2019; Puerari et al., 2018). However, there has been little overlap between these two strands of value co-creation literature to investigate how private project value and public value are both co-created by private and public actors within the same empirical settings. Previous studies have strictly focused on either private project management or public service management. Therefore, these strands of value co-creation theory were applied independently in the appended papers and are first compared and combined here in the cover essay.

In PPP arrangements, a form of hybrid value co-creation process might be expected, since the objective is to collaboratively create both private project value and public value. Herein, the term public-private is therefore used to refer to both the different types of value that are overlapping and merging through tangential creation, and to the actors that are engaging in value co-creation processes with each other. Regarding the former, private project value and public value are both conceptualised as something that is multiplicitous. Value is subjective and dynamic as it is continuously being defined by multiple project actors and stakeholders through negotiation (see Selçuk Çıdık and Bowler, 2022; Zerjav et al., 2021; Smyth et al., 2018; Laursen and Svejvig, 2016; Liu et al., 2014; Chang et al., 2013) or by the public through democratic processes (see Ansell and Torfing, 2021a; Hartley et al., 2017; Benington, 2011; Moore, 1995).

The scope of what constitutes private project value and public value is the main thing that differentiates them, the former being much more delimited than the latter. This is directly linked to the scope of actors that the value is being defined by and created for. In project value co-creation, benefits are being created for project stakeholders, and primarily the suppliers and end-users (see e.g., Liu et al., 2019; Martinsuo et al., 2019; Smyth et al., 2018). Public value co-creation processes are, on the other hand, intended to create benefits for the public (Ansell and Torfing, 2021a; Bryson et al., 2017), which includes both the current relevant and affected citizens and communities, as well as future generations made up by citizens yet to be born (Benington, 2009).

Different terminology is also used when discussing value in the two branches of co-creation literature, a result of drawing on different theoretical fields. Project value co-creation literature draws more directly on value co-creation theory, making use of terminology like value propositions and value-in-use, but also introducing new ideas like value for suppliers (see e.g., Liu et al., 2019; Smyth et al., 2018). Public value co-creation literature, on the other hand, draws on public value creation literature, where the term public value is discussed in relation to public values and the public interest (see e.g., Bryson et al., 2017; Bozeman, 2007).

Regarding values, there is also considerable overlap between the public and private sector. For example, van der Wal et al. (2008) found that both public and private sector organisations in The Netherlands consider accountability, expertise, reliability, effectiveness and efficiency to be among their eight most important values. However, private organisations consider profitability as their highest value, and also value innovativeness and honesty, while public sector organisations value lawfulness, incorruptibility and impartiality (ibid).

Regarding the co-creation process, there are also similarities and differences. Firstly, project co-creation has a clear beginning and end, as projects constitute a form of temporary organising, while co-creation in the public-sector can often be perceived as more continuous efforts. Continuous public value co-creation can be achieved through incremental improvements in cyclical processes (extended programmes). It has however been argued that projects are not islands, but should be understood in the context of their parent organisation where they are a part of a more continuous business (see e.g., Engwall, 2003). Projects in more long-term programmes are also part of a cyclical process. Another aspect that brings public value co-creation closer to project value co-creation is that a lot of work within the public sector is carried out using projects, urban development projects being the natural example to draw on herein.

5. Methods

This chapter provides a description and justification of the research philosophy (5.1), research design and approach (5.2), case studies (5.3), and the methods used to collect (5.4) and analyse (5.5) empirical materials. The chapter ends with a discussion on the quality of the research and reflections on ethical considerations in section 5.6.

5.1 Methodology and philosophical underpinnings

Research methodology refers to a philosophically informed system of beliefs and assumptions used to carry out research to develop knowledge (Saunders et al., 2019; Smyth and Morris, 2007). Research philosophies are important to make explicit as they guide researchers when structuring and defining their aims, research questions, and research designs. A research philosophy comprises a set of ontological, epistemological and axiological assumptions. In simple terms, ontology concerns the nature of reality, epistemology concerns the nature of human knowledge, and axiology concerns the influence of values and ethics from the researcher (Saunders et al., 2019). The ontological, epistemological, and axiological assumptions in the dissertation are based on the research philosophy of critical realism.

Critical realism belongs to the realist paradigm (Saunders et al., 2019) and constitutes an approach to research that is used to provide strong explanations of social phenomenon and the social world (Fletcher, 2017; Bhaskar, 2008a; Smyth and Morris, 2007; Danermark et al., 2001). This research philosophy is based on the ontological assumption that there is an objective reality that exists independent of the mind, while making the relativist epistemological claim that knowledge of that reality is socially constructed (Saunders et al., 2019; Bhaskar, 2008b). Thus, I believe that the objective reality is subjectively perceived and understood through different lenses, which are ever evolving theories. The meaning that is prescribed to the objective world is negotiated through complex social and political processes embedded in complex and evolving institutions and systems. Inversely, that objective reality ultimately determines the construction of the social world. In urban planning there is also the question of imagining and realising a future based on the current urban morphology.

The research in the dissertation has been driven by an interest in exploring and understanding how things work in a particular context and why, paying particular attention to the perspectives of different actors to understand their sensemaking and subsequent decision-making. Adopting a critical realism stance is suitable for subjective research (Saunders et al., 2019) grappling with complex contextual conditions and causality (Smyth and Morris, 2007). Although the research has not

gone so far as to search for underlying universal causal mechanisms, there has been theorising of a more explanatory nature to find contextual generative mechanisms leading to the occurrence of observable events (Fletcher, 2017; Bhaskar, 2008a; Danermark et al., 2001). Generative mechanisms are the conditions, such as the social systems and structures, causing a phenomenon to emerge (Bhaskar, 2008a).

While the contributions of the cover essay are directed towards the public land development literature, chosen as the primary audience, the research that is contained in the dissertation is interdisciplinary. Interdisciplinary research seeks to find links between disciplines by transferring and/or integrating methods and/or theories, while still contributing to the framework of disciplinary research, as opposed to transcending it which is the goal of transdisciplinary research (Nicolescu, 2014; Choi and Pak. 2006). In the appended papers, I have sought to contribute to and find links between closely related research fields with different traditions and empirical and theoretical foci, namely land use planning and construction management. These are both hybrid disciplines, meaning they are somewhat multidisciplinary in and of themselves. Interdisciplinary research is considered suitable for addressing complex problems related to sustainable development (Brandt et al., 2013).

While there are many opportunities for contributions to be found in the intersection of different research fields, there are also several challenges associated with interdisciplinary research which became evident to me during the research process. For example, there is some sacrifice of depth for a broader understanding. This is particularly true when reviewing previous literature. Writing the literature review/overview for a paper or dissertation is time consuming, thus trying to grasp several research fields will naturally extend this process further. Another challenge is translating aspects from one field to another to ensure the work is properly understood and relevant for the intended audience. For this reason, I deem it necessary to still define one primary audience, even if the research draws on different research fields. For the dissertation this is the public land development literature, however this is not the primary audience for all of the appended papers.

In accordance with critical realism, I have followed the axiological assumption that science is value-laden meaning the personal values of researchers should be acknowledged and questioned since they will influence their research (Saunders et al., 2019; Smyth and Morris, 2007). Thus, in the spirit of transparency and reflexivity (Alvesson and Sköldberg, 2018), I will conclude this section with a brief description of relevant parts of my background and character, as well as a reflection of how they have influenced the research process. Firstly, before embarking on my journey as a PhD student, I acquired degrees within a variety of applied social science fields: a bachelor's degree in human-computer interaction, a bachelor's degree in business

administration, and a masters in sustainable urban management. I have also moved around a lot, both growing up and as an adult, and have lived in countries with very different cultures (Sweden, Turkey, Vietnam, Kenya, and Scotland). This background makes me particularly adept for, and interested in, interdisciplinary qualitative research that explores different perspectives and seeks to find connections and links.

I have found that it can be difficult to be objective when the object of study is based on the perceptions and behaviours of people. For me, this was especially the case when using data collection methods that entail interacting face-to-face with those people. During the study I found myself empathising with each individual that I interviewed and instinctively put myself in their shoes to understand their interests and struggles. Recognising this as a foundational character/personality trait, I decided it would be better to develop the design of the study with this in mind rather than working against myself. To counterbalance this tendency and ensure that the research was not biased or completely one-sided, I decided that it would be important for me to study different and preferably also somewhat conflicting perspectives. This way I eventually formed a more balanced and holistic understanding of issues and their complexities. It also provided me with different actors' critique of each other which I would have struggled to identify and consider myself.

5.2 Research design and approach

The research design is grounded in the research philosophy described above and comprises the research approach and methods employed to achieve the purpose (Creswell, 2009). Special care was taken to ensure that these aspects are all congruent with each other. The research was qualitative in order to explore the socially constructed element of phenomenon, specifically actors' experiences, actor-to-actor interactions and processes in a social context (Creswell, 2009). Qualitative empirical research also enables theory building from practice (Bryman, 2016). The research initially followed a more explorative and empirically driven approach to identify worthwhile points of inquiry before searching for appropriate theoretical perspectives and frameworks to help explain phenomenon. The overall research approach was however abductive. Abduction, which is sometimes also referred to as retroduction, is a form of inference that aligns with critical realism (Saunders et al., 2019; Bhaskar, 2008a; Danermark et al., 2001). The research comprises an in-depth single case study and a multiple case study.

An abductive research approach means the processes of collecting material, analysing that material and consulting theory is done iteratively and sometimes in parallel (Dubois and Gadde, 2002b). I believe it is not possible to have a purely

deductive or inductive approach, meaning all research is found somewhere on a scale between the two, technically making all research more or less abductive. An abductive approach is considered suitable when the objective is to create new knowledge rather than confirm existing theories (Van Maanen et al., 2007; Eisenhardt, 1989b). It allows researchers to remain flexible in order to pursue new and more promising lines of inquiry as they emerge and abandon aspects that turn out to be less promising (Edmondson and McManus, 2007).

Developing the different parts of the research project, resulting in the four appended papers, was also done iterative and at times simultaneously. The papers do however build on each other and thereby follow a discernible order, the same order in which they were finished. In the dissertation, they are presented and appended in that chronological order. In the same vein, this dissertation builds on the work presented in my licentiate dissertation (Candel, 2020), which I successfully defended on the 10th of June 2020, as well as the feedback received during and after the defence from the opponent Sara Brorström and other peers. The licentiate dissertation resulted in appended papers 1 and 2.

At the outset, the objective was to explore how housing developers are working with sustainability-related questions during the front-end of their projects in sustainability-profiled district developments. This was explored using a single case study of one stage in a sustainability-profiled district (the Stockholm Royal Seaport case described further in the following section). Case studies are empirical explorations of cases, which are bounded and integrated systems like projects or programmes, in specific contexts (Stake, 1995). They can be used for exploratory, descriptive and explanatory purposes (Yin, 2017). Throughout the research process, the use of case studies has slowly progressed from exploratory to descriptive to explanatory purposes.

The initial exploratory single case study revealed that housing developers' work with sustainability-related issues during the front-end of their projects is strongly dictated by municipal governance, specifically municipal sustainability requirements in land allocation agreements. This form of municipal sustainability governance is central to understanding housing developers' work in these types of Swedish sustainability-profiled districts but is nearly nascent in the literature on developers from the construction management field. This research gap, combined with my initial lack of knowledge on municipal land allocations and curiosity to uncover why they were so central in the developers' work, was what led me to investigate municipalities' public land development practices in sustainability-profiled districts further.

Initially using an exploratory approach by following emerging themes and issues is suitable for topics where theory is nascent (Edmondson and McManus, 2007). Starting the research with a single case study also enabled the development of in-depth and context-dependent knowledge of the dynamics between property developers and municipalities during land allocation in sustainability-profiled district developments (Dyer and Wilkins, 1991; Flyvbjerg, 2006). After amassing some knowledge and understanding of the relationship between these actors in these types of developments, the value co-creation perspective was identified and adopted. My approach then became more abductive, which is suitable for single case studies (Dubois and Gadde, 2002b). I wanted to understand how the municipal sustainability requirements were developed for implementation in the housing development projects and found that the process resembled a value co-creation process between the housing developers and municipalities. It also became evident that the practitioners were themselves actively aspiring to achieve co-creation processes (often expressed using different terminology) in order to define and create various value outcomes.

Value co-creation theory emphasises the relational and collaborative elements of exchange (Vargo and Lusch, 2008). Since case studies are suitable for demonstrating how theoretical constructs operate in social contexts (Dyer and Wilkins, 1991), they are especially appropriate and commonly used for empirical studies that apply value co-creation theory (see e.g. Leino and Puumala, 2021; Bentzen et al., 2020; Fuentes et al., 2019; Fuentes, 2019; Liu et al., 2019; Puerari et al., 2018; Smyth et al., 2018; Mills and Razmdoost, 2016; Näsholm and Blomquist, 2015; Liu et al., 2014; Chang et al., 2013; Echeverri and Skålén, 2011; Mele, 2011). For this reason, the case study research design was also considered suitable for demonstrating and developing the theory. Although the overall approach is abductive, I chose to apply this theory in a more deductive fashion to evaluate how well practitioners were, or were not, achieving value co-creation during the municipal land allocation process. Value co-creation is thus applied as an ideal process and outcome practitioners should aspire to, as well as a conceptual explanatory framework. Therefore, the research is not focused on questioning, critiquing, and problematizing the value co-creation theory. The intention is rather to use the theory to explain, question, critique and problematize what practitioners are and are not doing.

Applying value co-creation theory to the Stockholm Royal Seaport case resulted in the development of paper 1, which revealed the importance of resolving conflicts between the housing developers and municipalities for the developers to be able to implement municipal sustainability requirements. This led to a deeper investigation into the types of barriers the housing developers in the Stockholm Royal Seaport case perceived in relation to implementing the municipal sustainability requirements. Discussing my tentative findings with Niklas Törnå revealed that similar patterns

had been observed in a sustainability-profiled district he was collecting empirical material from. As a result, we decided to compare our cases and wrote paper 2.

To learn more about municipalities' use of land that they own, the public land development literature was investigated next, revealing a lack of previous research exploring its utilisation in sustainability-profiled district developments. To investigate the municipal perspective and build on the case study of Stockholm Royal Seaport, four more sustainability-profiled district developments were investigated. A multiple case study of five sustainability-profiled districts is thereby used to answer the research questions presented in the dissertation. This research design enabled comparisons to be made between cases to identify meaningful differences and similarities in municipalities' utilisation of public land development as an approach to generating innovation through collaborative public-private exchange (Eisenhardt, 1989b). Comparisons were thus made between the cases with the primary purpose of identifying common practices in order to derive an abstraction of the public land development approach in these types of district developments. An abductive approach was used throughout this latter part of the research, as it is considered equally fruitful for multiple case studies (ibid).

To elaborate on the municipal perspective, I began by investigating in-depth their desired public value outcomes in the cases, which had only been addressed briefly in paper 1. This resulted in paper 3. The results from papers 1-3 all contributed to then developing the last paper, which investigates public value co-creation from the municipalities' perspective (see Figure 6).

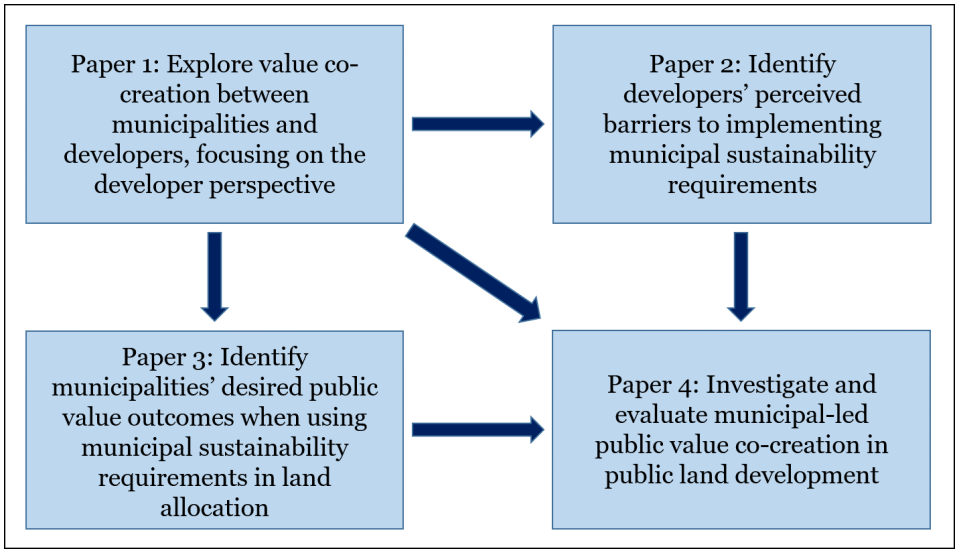

Figure 6. *Research process in relation to the papers*

5.3 Case selection and descriptions

The cases consist of five ongoing sustainability-profiled district developments in different Swedish municipalities. They include Stockholm Royal Seaport (Norra Djurgårdsstaden) in Stockholm, Älvstaden in Gothenburg (Göteborg), Västerport in Varberg, Hyllie in Malmö, and Barkarbystaden in Järfälla (see Figure 7). The Stockholm Royal Seaport case was initially identified through recommendations from fellow researchers at KTH. It was selected based on Stockholm Municipality's high ambitions regarding sustainable development and innovation, and because access to interview the housing developers had already been granted to my research group. The following four cases were selected based on similar ambitions from the municipalities, as well as their specific use of municipal sustainability requirements in connection to public land development and the symbolic value of the districts as flagship projects.

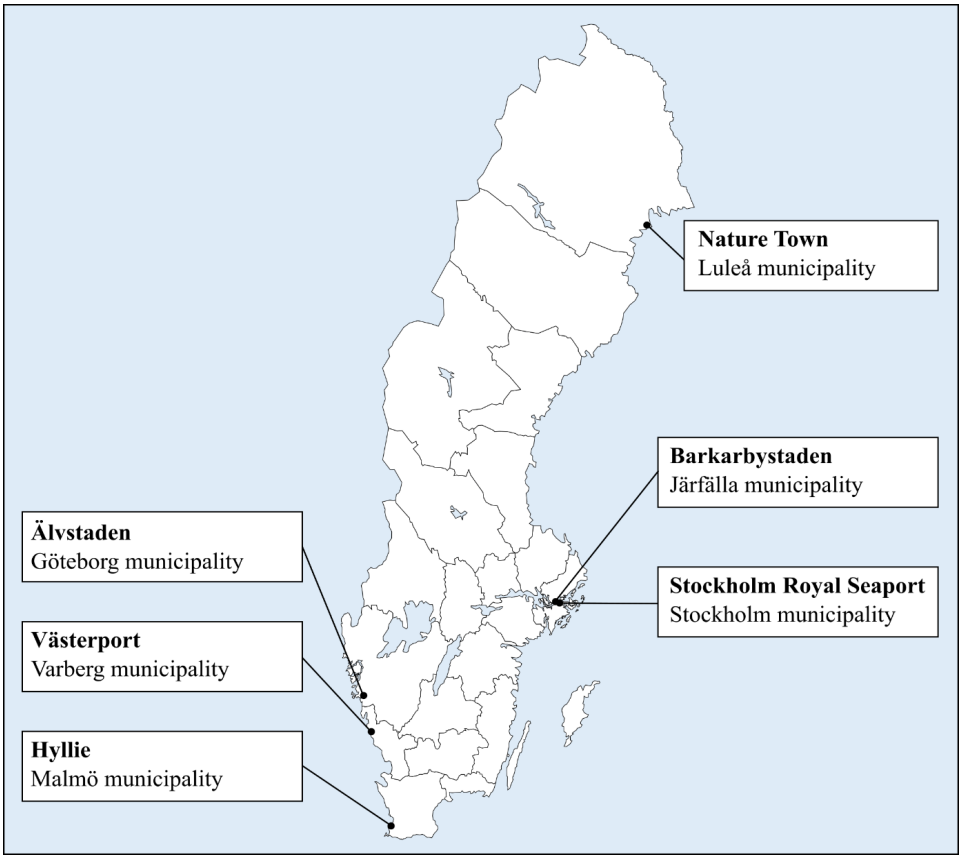

Figure 7. *Location of cases (the Nature Town case study was carried out by Niklas Törnå)*

The inquiry in the first case can be described as intrinsic while the latter cases were much more instrumental (see Stake, 1995). The four latter cases were all identified directly or indirectly through the Swedish government's network for new city districts which have published a list of current urban development projects "with especially high ambitions concerning sustainability and innovation" in Sweden (Samordning för Bostadsbyggande, 2020; 9). In May of 2018, I attended a seminar held by the Swedish government where they presented and discussed their new investigation and network *Samordning för Bostadsbygande,* and where municipalities began reporting their relevant districts and interest in participating. Representatives from all the municipalities with districts investigated herein were present at the seminar, as well as several property developers and other relevant actors. This was a valuable opportunity to observe interactions between public and private actors and get an early introduction to the important actors that were currently involved in developing sustainability-profiled districts in Sweden.

In addition to the five cases presented in this section, a sustainability-profiled district in Luleå named Nature Town (see Figure 7) was also compared to Stockholm Royal Seaport in paper 2. The collection of empirical material in this case was carried out by Niklas Törnå and analysed by both authors. Since the case was primarily studied by Törnå it is not presented in the dissertation. For more information about this specific case, see appended paper 2.

The sustainability-profiled districts are somewhat extreme and unusual cases if compared to most district developments in Sweden. Extreme cases tend to generate more information than typical cases by activating "more actors and more basic mechanisms" (Flyvbjerg, 2006; 13), making them suitable for finding deep-rooted sources of problems. Another benefit from investigating unusual cases is that they can reveal aspects that might be overlooked in more usual cases (Stake, 1995). The main aspect that makes these districts unusual is the effort to drive and lead sustainable development through innovation. What makes them extreme is the great extent of new sustainable solutions and practices that are being developed and implemented. Municipalities also put more resources into their planning and development since these districts are expected to create more long-term public value in the form of new sustainable practices and solutions that can be adopted in future developments. Municipalities also only have one or very few sustainability-profiled district developments at a time. Sustainability-profiled districts are therefore typically considered unique by the practitioners developing them, and this is also a point that is stressed by municipalities when marketing their districts. However, how unique they are when viewed nationally and internationally is more questionable.

In Sweden, integrating sustainability measures in urban development has become quite mainstream. In most Swedish development projects today, there is some

incorporation of sustainability considerations as this has become an important buzzword for developers' marketing. How extreme and special sustainability-profiled district developments are in terms of simply working with sustainability is therefore less arguable. The number of sustainability-profiled districts in Sweden has also grown substantially over the last decade (see e.g., Samordning för Bostadsbyggande, 2020), and many examples are also found from the rest of the developed world, meaning the extent to which they are unusual cases could also be questioned.

Although the objective was to investigate and compare similar types of sustainability-profiled district developments, there should ideally also be some variety between them to ensure meaningful differences can be identified. With regards to differences, a few aspects were considered. Firstly, the cases were selected from municipalities spread out geographically in different parts of Sweden (see Figure 7). They include both waterfront and inland developments, as well as brownfield and greenfield developments. The municipalities vary considerably in their total land area, and all of them, apart from Varberg, own quite substantial portions of this land (see Table 3). Regarding population, three of the cases are from the largest Swedish municipalities (Stockholm, Gothenburg, and Malmö) and two are from smaller municipalities (Varberg and Järfälla) (see Table 3). Francart et al. (2019) previously found that municipalities of all sizes are equally willing to implement sustainability measures, but those with larger populations generally have more policies and engage more with sustainable development considerations because they have more resources at their disposal. Therefore, the size of the municipalities was expected to influence their governance of the sustainability-profiled district developments.

Table 3. Population, total land area and municipally owned land[1] (not including other state-owned land) in the municipalities

Municipality	Inhabitants	Total land (ha)	Municipal land (ha)
Stockholm	975 551	18 716	10 851
Gothenburg	580 000	44 788	24 263
Malmö	344 166	15 660	7 621
Varberg	65 397	86 862	3 681
Järfälla	79 990	5 379	3 078

[1] The data is from the most recent national survey on land ownership carried out in 2015 by Statistics Sweden and includes land owned by municipalities, county councils, and municipal housing companies. Total land area is taken from the same year.

The cases were also selected to include sustainability-profiled district developments at varying stages of completion, ranging from planning the first stage in Västerport to having 5 completed stages in Stockholm Royal Seaport. From the municipalities' perspective, the district developments are all programmes consisting of several stages that resemble individual projects. These different stages are carried out sequentially and sometimes simultaneously. In each district stage there are several (typically around a dozen) neighbouring housing development projects being carried out by different housing developers. The housing developers carry out the planning for their projects simultaneously during the land allocation process. The construction of buildings, on the other hand, typically follows some specific order dictated by logistics considerations and ensuring all new dwellings are not released on the market at the same time.

What stage the district is in matters for several reasons. Firstly, knowledge from completed stages can be applied in latter stages. For instance, each stage typically has a different set of municipal sustainability requirements which are often developed based on experience from previous stages within the district. Similarly, housing developers that participate in several stages within the same district can apply their knowledge of working with that municipality and their processes from one project to the next. The housing developers have different contracts for projects in different stages. However, successfully delivering projects in one stage can influence their chances of winning future contracts within the same district and may even land them direct land allocations wherein they save many of the resources that go into participating in concept competitions.

In each case I focused on the land allocation process, which was a sampling limitation intended to help achieve the research purpose. This allowed for more in-depth knowledge of the actual process in question. However, consequently it did also mean that I was unable to get the full picture of the district developments as value creation processes. I did not see whether they were successful in achieving their primary intended purpose, namely, to lead sustainable urban development by disseminating new knowledge that changes mainstream practices (Eneqvist, 2022; Eneqvist and Karvonen, 2021; Kågström, 2020; Hagbert and Femenías, 2016; Storbjörk and Hjerpe, 2014). That said, this essential knowledge transfer post completion is not the only part of the development process that can go wrong and thereby determine the success of the district. If the municipalities and developers are not able to work together in a manner that is conducive for innovation to occur, there will likely not be as much new knowledge for the actors to then communicate and share. The land allocation process is thus to be interpreted as an essential part of the land and building development processes with important implications for the creation of value-in-use post completion. However, it is not the only part of the process that is important.

5.3.1 Stockholm Royal Seaport

Stockholm Royal Seaport was the first sustainability-profiled district development that was investigated. It is located in Stockholm near the city centre by the water. The 236 hectares of land were previously used for industrial purposes, meaning it is a redevelopment project. The district is also located right next to an international seaport that will continue with its operations. This is a very attractive location with high land prices, although the tight inner city building conditions and the port operations add substantially to the complexity of the development. It is one of the largest ongoing urban developments in Europe, with approximately 12 000 new dwellings planned (Stockholms Stad, 2017). Planning for the district started around 2000 and construction is estimated to be finished by 2030. At the time of data collection, 5 residential stages had been completed, 2 were in the process of being planned and developed, and approximately 7 more stages were in very early planning phases.

The district is being developed by the City Planning Office and Development Administration in Stockholm Municipality, which has previous experience developing sustainability-profiled districts. The forerunner to Stockholm Royal Seaport was Hammarby Sjöstad, which gave rise to the high sustainability-related ambitions seen in Stockholm today (see e.g., Stockholms Stad, 2017). The sustainability profile of Stockholm Royal Seaport, as well as the vision, objectives and governance approach, is directly based on lessons from Hammarby Sjöstad (Stockholms Stad, 2014). Stockholm Municipality is pursuing an active land use policy to improve sustainability in the built environment, and currently owns approximately 70% of the land within the municipality (Stockholms Stad, 2018).

5.3.2 Älvstaden

Älvstaden in Gothenburg is very similar to Stockholm Royal Seaport. For instance, it is one of the largest ongoing urban developments in Europe being built in the city centre by the water. It is also a redevelopment project of old industrial land located by an international seaport. 400 hectares of land is being used for the new district where approximately 25 000 new dwellings are planned. Planning for the district began around 2012 and construction is estimated to be finished by 2035. At the time of data collection, 1 residential stage had been completed, 6 were being planned and developed, and approximately 6 more residential stages were in very early planning phases.

Stockholm and Gothenburg Municipality are comparable in several ways. They are the two largest municipalities in Sweden by population. Like Stockholm, Gothenburg Municipality also owns much of the land (approximately 50%) and is pursuing an

active land use policy to improve sustainability in their built environment (Göteborgs Stad, 2021). There is however one aspect that makes Älvstaden different from all the other four sustainability-profiled district developments that were investigated, and this is the part of the municipality that is developing it. This district is being developed by Älvstranden Utveckling AB, which is a municipally owned real estate company, as opposed to the development department within the municipal organisation. This does not appear to have considerable implications for how the land development processes in the district are governed. It does however distance the work in Älvstaden somewhat from the municipal planning and development departments. While this enabled them to challenge and work outside of the traditional functional silo organization (c.f. Adolfsson and Brorström, 2020), there were consequent challenges regarding learning and knowledge transfer. However, this problem was not unique to the Älstaden case.

5.3.3 Västerport

Västerport is also located in the city centre of Varberg by the water and is being built on 50 hectares of old industrial land by a seaport. Approximately 2 500 new dwellings are to be built in this new city district. Planning began in 2016 and the first stage is currently being developed with more stages planned. Construction is estimated to continue until 2030. At the time of data collection, no stages had been completed, one residential stage was being developed, and more stages were being planned.

In comparison to Stockholm and Gothenburg, Varberg Municipality differs on several accounts. Firstly, both Varberg Municipality as a whole and the city centre are much smaller in terms of population. Varberg also owns a much smaller percentage of the land in their municipality. Consequently, the municipality is not as focused on pursuing an active land use policy, although they did recently produce a land allocation policy document (Varbergs kommun, 2020). Their land allocation policy does not mention sustainability, although they have in recent years began working more actively to promote sustainable development in the municipality (see e.g., Varbergs kommun, 2010; 2017). The interviews revealed that they had no experience working with sustainability criteria in land allocation concept competitions. Furthermore, Varberg Municipality does not have previous experience developing sustainability-profiled districts and Västerport is the largest district they have developed thus far. For this reason, Varberg is seen as a very important and especially newsworthy project by the inhabitants of the city.

5.3.4 Hyllie

Hyllie in Malmö Municipality is an inland development located on the periphery of the city centre, making it different from the three previous district developments. It has good connections to both Malmö city centre and Copenhagen in Denmark, making it easy for people to commute to and from for work. In Hyllie, the municipality has decided to combine sustainable and smart urban development, denoting an ambition to develop innovative technological infrastructure. The district is being built on 200 hectares of land previously used for agriculture making it a greenfield development, which is another aspect that differentiates it from the previous districts. Approximately 12 000 new dwellings are to be built in Hyllie. Planning for the district began around 2011 and construction is estimated to be finished by 2040. At the time of data collection, no residential stages had been completed, although two stages had finished apartment buildings where people had already moved in, and a total of 7 residential stages were being planned and developed.

Malmö Municipality has the third largest population in Sweden and has previous experience developing sustainability-profiled districts, making it comparable to Stockholm and Gothenburg. Their forerunner to Hyllie is Nyhamnen, which is near completion and resembles Stockholm Royal Seaport, Älvstaden and Västerport in terms of being a waterfront, brownfield development in the city centre. Like Stockholm and Gothenburg, Malmö Municipality is pursuing an active land use policy to achieve their public objectives, of which sustainable development is a central part (Malmö Stad, 2018; 2019b). Malmö Municipality is currently the largest landowner in the municipality (Malmö Stad, 2022).

5.3.5 Barkarbystaden

Barkarbystaden is located in Järfälla Municipality, which is in the Stockholm region. The district is thus in the urban periphery of Stockholm city centre. Barkarbystaden was initiated in response to a planned extension of the blue subway line from Stockholm central, which started being constructed in 2018 and is estimated to be finished and in operation by 2026 (Järfälla kommun, 2022a). Barkarbystaden is being built on 400 hectares of land, much of which used to be an old airfield, largely making this a greenfield development like Hyllie. Approximately 14 000 new dwellings are planned. Planning for the district began around 2006 and construction is estimated to be finished by 2030. At the time of data collection, 1 stage had been completed and 3 were in the process of being planned and developed. Like Varberg, Järfälla Municipality does not have previous experience with this type of district development. They are however engaged in land banking to enable a more active

land use policy for promoting sustainable development (Järfälla kommun, 2022b; 2014).

5.4 Collection of empirical material

The empirical material mainly consists of semi-structured interviews and documents from each case. By combining these two data collection methods the validity of the results could be improved through data triangulations (Eisenhardt, 1989b). For example, regarding the municipalities' perspective, triangulation was accomplished by comparing interviewees' statements about the public sustainability objectives they were pursuing with those that were outlined in their various sustainability programmes. Several documents, such as the land allocation agreements, were reviewed as a direct result of being discussed extensively in interviews. For example, the municipal planners and developers' project managers talked a lot about their interpretations and the consequences of specific municipal sustainability requirements from land allocation agreements, and sometimes their statements were contradictory to each other, making a review of the actual wording of requirements illuminating and helpful for identifying root causes of conflicts. In addition to data triangulation, the documents made it possible to fill in gaps from the interviews, and vice versa.

Throughout the collection of empirical material, the primary objective has been to develop a rich and in-depth understanding of municipal land allocation processes in each case (Stake, 1995). To do this and improve the validity of the results, I gathered as much available material as possible (Stake, 2006; Eisenhardt, 1989b). This did result in some variation between the cases regarding the amount of empirical material gathered, meaning limitations concerning comparability in terms of depth and width had to be carefully considered during the analysis process.

5.4.1 Semi-structured interviews

Interviews were used to investigate the municipalities' and housing developers' perspectives on their work and collaboration with other actors in all five cases (see Table 3). The interviews were all semi-structured to enable some flexibility to pursue emerging lines of inquiry while ensuring selected themes were sufficiently covered. Two interview guides were developed; one for interviews with the housing developers' project managers and one for interviews with the municipalities' project managers (see Appendix A). The themes covered in the interviews with developers included: what their goals are; how they implement the municipal sustainability requirements both individually and collectively while defining their individual projects; perceived barriers to implementing the municipal sustainability requirements; how, when and why they work with other actors; and how

disagreements and disputes between actors are handled. The themes covered in the interviews with municipalities were similar. They included: their objectives regarding public value creation in individual stages and more generally for the whole district; their use of sustainability criteria and requirements in connection to land allocation to achieve their objectives; perceived challenges; and how they work with other actors and why. As a result of the abductive research approach (Dubois and Gadde, 2002b), the interview guides were developed and refined iteratively alongside consultation of theory and previous research, meaning the progression of the different parts of the research were informed by each other.

Interviews were mainly carried out with project managers from the housing developers (see Table 4) and planning project managers from the municipalities (see Table 5). The professional titles of the municipal project managers did however vary between the cases. The number of interviews carried out with municipal project managers also varied between the cases due to differences in how Swedish municipalities organise their planning processes (SOU 2015:109), resulting in variations in the division of roles and responsibilities. All interviews were carried out during the land allocation process, after specific housing developers had been selected and before final development agreements had been signed. This is when the municipalities and developers work together to coordinate land use planning with building development. Conducting the interviews during this part of the land development process meant that the municipal project managers were able to reflect on the land allocation process as it was occurring, as well as on the land assembly process retrospectively.

Table 4. Interviews with housing developers from the Stockholm Royal Seaport case

Interviewee No.	Professional title	Organisation
1	Project manager	Housing developer A
2	Project manager	Housing developer B
3	Project manager	Housing developer C
4	Project manager	Housing developer D
5	Project manager	Housing developer E
6	Project manager	Housing developer F
7	Project manager	Housing developer G
8	Project manager	Housing developer H
9	Project manager	Housing developer I
10	Project manager	Housing developer J
11	Project manager	Housing developer K
12	Project manager	Commercial building developer

13	Project manager (planning shared facilities between two housing developers)	Construction consultant

Table 5. Interviews with municipalities from all five cases

Case	Interviewee No.	Professional title	Organisation
Stockholm Royal Seaport	14 (interviewed twice)	Project manager	City Planning Office
	15	Sustainability strategist	Development Administration
	16	Municipal consultant	Development Administration
	17 (interviewed twice)	Project manager	City Planning Office
	18	Contract lawyer	Development Administration
	19	Project manager	City Planning Office
Älvstaden	20	Sustainability process leader	Älvstranden Utveckling AB
	21	Sustainability process leader	Älvstranden Utveckling AB
	22	Sustainability process leader	Älvstranden Utveckling AB
Hyllie	23	Planning project manager (responsible for dialogues with the developers)	Real Estate and Street Office, Development Department
Barkarbystaden	24	Planning project manager	Development Department
Västerport	25	Planning project manager	Development Office, Department of Development Projects
	26	Sustainability manager	Development Office, Department of Development Projects
	27	Communications manager	Development Office, Department of Development Projects

Interviews were carried out between March 2018 and September 2019 in the Stockholm Royal Seaport case, and between November 2020 and March 2021 for the other four cases. The interviews were all 1-2 hours in duration with a minimum of 1 hour per interviewee. Four interviews were carried out with pairs of interviewees; 7 with 8, 15 with 16, 14 with 17, and 25 with 26. Conducting some of the interviews with

multiple interviewees allowed for discussion to also take place between them. This further enriched the material by illuminating aspects that practitioners working together did not agree on or perceived differently, as well as aspects that they did agree on. The interviews for the Stockholm Royal Seaport case were all carried out face-to-face while all interviews in the other cases were carried out over zoom due to the Covid-19 pandemic restrictions that were in place at the time. All interviews were recorded, either as an audio file if the interview was carried out face-to-face, or as a video if the interview was carried out over zoom.

5.4.2 Documents

The primary data collected from interviews was complemented with various secondary archival data. Combining the analysis of documents with other methods is a common approach in social sciences used for the triangulation of data sources and to support theory building (Bowen, 2009; Shah and Corley, 2006). Using documents also has several other advantages. Firstly, it is less time-consuming as documents are selected rather than collected. Public documents are typically also readily available online. Furthermore, documents are unaffected by the researcher, although a researcher's bias might still influence the selection and analysis process. Finally, they can provide broad coverage and exact details like names and dates (ibid).

Most documents selected and investigated from the cases are public documents available in the municipalities' public records (see Table 6). The number of documents municipalities produce for sustainability-profiled districts is much more extensive than for typical urban developments. Having access to a wide array of documents was a huge benefit and vastly expanded the amount of relevant material for the research. I selected documents based on their relevance for my research questions (Bowen, 2009).

Table 6. Summary of documents per case

Case	Documents
Stockholm Royal Seaport	5 sustainability programs with requirements for land allocation competitions and agreements for different stages
	Mobility index with additional sustainability requirements related to transportation
	4 invitations for land allocation competitions for different stages
	Draft for land allocation agreements
	Sustainability program for all of SRS
	9 sustainability reports
	Sustainability requirements for all construction on municipal land in Stockholm

	Stockholm Municipality's land allocation policy
	Stockholm Municipality's comprehensive plan
	2 formal letters from individual housing developers to the municipality outlining their concerns over sustainability requirements in the land allocation agreements.
	3 formal letters from multiple housing developers to the municipality outlining their concerns over sustainability requirements in the land allocation agreements.
	2 formal letters from the municipality to the developers responding to their concerns over sustainability requirements in the land allocation agreements.
Älvstaden	3 sustainability programs with land allocation requirements for different stages
	2 invitations for land allocation competitions for different stages
	Vision document for all of Älvstaden
	2 sustainability reports
	Gothenburg Municipality's land allocation policy
Hyllie	A climate contract for all of Hyllie
	Environmental program for all of Hyllie with land allocation requirements
	Invitation for land allocation competition
	Land allocation evaluation
	Land allocation program
	9 housing projects summaries (including a breakdown of specific measures implemented from the environmental program)
	4 detailed development plans
	Malmö Municipality's land allocation policy
	Malmö Municipality's comprehensive plan
Barkarbystaden	Program for all of Barkarbystaden
	Invitation and program for a land allocation competition
	4 quality programs with land allocation requirements for different stages (attachments in detailed plans)
	Järfälla Municipality's land allocation policy
	Järfälla Municipality's comprehensive plan
Västerport	Vision document for all of Västerport
	Sustainability program for all of Västerport
	Invitation and program for a land allocation competition in the first stage
	Varberg Municipality's land allocation policy
	Varberg Municipality's comprehensive plan and the City Council's most recent follow up on actualising the comprehensive plan

The main documents investigated for each case include vision documents/sustainability programmes for the districts, sustainability/quality

programmes for individual district stages, and invitations for land allocation competitions for individual stages. None of these documents are legally bindings but lay the foundation for much of the work that is carried out by the municipalities and developers during the land allocation process. The vision documents/sustainability programmes for the districts were investigated to identify the municipalities' overall public values they are attempting to achieve. These documents are central to governing sustainability in these types of district developments (Pandis Iverot and Brandt, 2011). The sustainability/quality programmes for individual stages were then investigated to identify more specific public value creation objectives. These documents are included as attachments to land allocation agreements since they also include the more specific municipal sustainability requirements. Finally, the invitations for land allocation competitions contain the sustainability criteria used by the municipalities when selecting developers.

In addition to the aforementioned documents, a variety of other documents were used to gain a better understanding of the context and history of each case, including the municipalities overall, which was useful during the interviews. For example, sustainability reports provided some indication of the progress in relation to sustainable development. Detailed development plans, which are legally binding, were also investigated to gain an understanding of the geographical layout of new buildings and plan for the district overall. The detailed development plans also illustrated the extent of Swedish municipalities' possibilities for governing sustainability as local planning authorities. Comprehensive plans, land allocation policies, and strategic sustainability documents provided general knowledge of the municipalities and their land use policies.

Municipalities and developers work actively with some of the documents that were selected and reviewed. For example, all interviewees in the initial Stockholm Royal Seaport case brought up the sustainability programme attached to the land allocation agreements in their responses to nearly every question that I posed. Recognising that this document was central to both actors' work, I reviewed it carefully and began exploring municipal land allocations more generally in policy and legal documents, as well as in previous literature. The documents that were selected are however skewed since they are almost all produced by the municipalities. In the Stockholm Royal Seaport case, the only documents produced by the developers that I have access to are five formal letters written and sent to the municipality outlining the developers' concerns with specific municipal sustainability requirements from the land allocation agreements. This was the only case where I explored the developers' roles and perspectives in-depth, which was combined with empirical material gathered by Niklas Törnå from the Nature Town case to conduct the study for paper 2. The documents from the other cases were primarily used to generate knowledge of the municipalities' work and perspective.

5.4.3 Observations

Non-participant observations were conducted in the Stockholm Royal Seaport case to gain first-hand accounts of discussions between municipalities and developers. Notes were gathered from 9 hours of observations from one general meeting, one sustainability competence seminar, and one sustainability forum. However, I decided to focus solely on conducting interviews and reviewing documents in the following cases. For this reason, observations only contribute to the findings in the first paper and do not encompass a very considerable part of the research.

5.5 Analysis

To structure the process of interpreting the material, the thematic analysis method was used. A new such analysis was conducted for each of the appended papers. The thematic analysis is a classic method for analysing empirical material in qualitative research (Braun and Clarke, 2006). It is used to organise material in order to identify and describe detailed patterns by highlighting differences and similarities. The analysis process for the different parts of the research all began by familiarising (or re-familiarising) myself with the material. This entailed transcribing interviews, re-reading interview transcriptions and documents, re-listening to audio and video recordings, and noting ideas and reflections throughout the process.

The textual material was then coded into themes considered relevant for answering specified research questions for the different papers, with some data extracts being coded into multiple themes. Data was selected through what might be considered a qualitative content analysis, appropriate for combining with thematic analysis and analysing both primary data, such as the interviews, and secondary data, like the documents (Bowen, 2009). Bowen (2009; 32) defines content analysis as a "*process of organising information into categories related to the central questions of the research*" to identify the relevant and meaningful parts of the material. Selected data was both highlighted within the original documents, to not lose track of the context, and organised in separate databases to enable comparisons in order to identify similarities and differences in the data, provide a better overview, and aid the formation of themes.

Combining content analysis and thematic analysis was useful for identifying and categorising: municipalities' and housing developers' desired value outcomes for papers 1 and 3; conflict handling styles for paper 1; the housing developers' perceived barriers to implementing municipal sustainability requirements for paper 2; and different parts and types of processes for papers 1 and 4. A process perspective, inspired by Chia (2002), was adopted when interpreting the processual aspect of managing conflicts in paper 1 and co-creating value in papers 1 and 4.

Themes were refined using an iterative and abductive approach to coding and category building, comprising inductively making codes, finding patters through comparisons, and comparing coding results to theory (c.f. Locke et al., 2020). Overall, my primary focus was on explaining how sustainability requirements are developed and implemented in relation to complex social contexts rather than passing judgement on it (Pawson et al., 2005). In order to find the best explanations, the refinement process entailed oscillation between inductive categorisation of phenomenon and deductive categorisation using theory (c.f. Bhaskar, 2008a). Thus, the process was one of abductive reasoning as it was both empirically and theoretically driven (Van Maanen et al., 2007). The analysis for paper 4 did, on the other hand, entailed evaluating current municipal practices using co-creation theory, thus passing some judgement to identify suggestions for improvement.

As the different parts of the research developed, different aspects of the value co-creation theory and related theoretical concepts were identified and applied as lenses to interpret the empirical material. This resulted in the use of slightly different theoretical concepts, and different forms of theory building and contributions in the papers which are brought together here in the cover essay. The scope of analysis in the cases was however generally on actor-to-actor interactions in individual stages of sustainability-profiled districts, primarily during the land allocation process, which could be considered a micro level analysis. There is generally a need for more micro-level research on public land development and its application in individual developments since most of the previous research focuses on the institutional level (Valtonen, 2019). The dissertation therefore contributes to the public land development literature with this methodological application of a micro-level analysis of actor-to-actor interactions.

5.6 Research quality and ethical considerations

Both single and multiple case study research designs are extremely popular and widely adopted within the social sciences, meaning their utility and limitations are well documented and understood by continually being put to the test. Using a limited number of case studies enabled me to investigate each case in-depth in order to provide a rich, detailed and contextualised understanding of actors' experiences. This is typically the goal of qualitative studies (Polit and Beck, 2010), and particularly case study research (Flyvbjerg, 2006). More in-depth and contextual knowledge in case study research however comes at the expense of traditionally conceived generalisability. The findings are, on the other hand, generalised through abstraction to a theory (Polit and Beck, 2010), and it is arguably possible to generalise in this way based on a single or very few case studies (Flyvbjerg, 2006; Stake, 1995).

The quality of research is traditionally assessed using internal validity, external validity, and reliability as criteria (Shah and Corley, 2006). For qualitative research, comparable but slightly different terms are used. Internal validity is instead referred to as credibility, external validity as transferability, and reliability as dependability, trustworthiness and rigor (Shah and Corley, 2006; Golafshani, 2003). How these aspects of research quality were addressed in the research is discussed in this section, while limitations are discussed in the last section of the dissertation.

The material that was collected was used to provide rich descriptions of the context and phenomenon. Providing rich descriptions makes it possible to write better stories and improves the transferability of results (Dyer and Wilkins, 1991; Guba, 1981). They do this by helping other researchers understand the empirical context of the study, recognise dynamics they have seen in other contexts, and judge how the findings can be transferred to other contexts (ibid). In the appended papers, rich descriptions were also supported by illustrative quotes to exemplify how the empirical material had been interpreted.

The credibility of findings was improved by using different methods to gather empirical material (Eisenhardt, 1989b; Guba, 1981). Triangulation of sources, which is common in case study research, helped me identify any inconsistencies and differences between sources and assess the consistency of emerging patterns. Differences and inconsistencies that were identified were investigated further to find possible explanations for them and gain a better understanding of them (Guba, 1981). The empirical material was also carefully documented to improve dependability. Interviews were all recorded, either as audio or video files, and transcribed. The process of analysing the material was also carefully documented.

The credibility and transferability of the findings is improved by making comparisons between cases (Eisenhardt, 1989b). The research is however limited to the Swedish context. Focusing on one national context made it possible for me to gain a more in-depth knowledge of the regulatory system, of which I knew little when I started the research. In order to make the results more internationally relevant, I compare them, in the discussion, to results from published research conducted in other countries.

All research contains some bias from the researcher conducting it. However, it is especially important for researchers to be reflexive when conducting qualitative research which is more subjective in nature (Alvesson and Sköldberg, 2018). I have made a conscious effort to maintain awareness of my background, views and interests, and continuously reflect over how they influence the research process, and in particular my interpretations of the empirical material. In addition to this, the credibility of the findings has been improved by engaging in what might be

considered a form of member-checking (Yanow, 2014) with my co-authors when analysing materials. This mostly took the form of discussions over potential interpretations of the empirical material.

The findings have also been developed and validated throughout the research process by being presented and discussed at various Swedish and international events, seminars and conferences, where I have received valuable feedback and critique from both practitioners and other researchers. As previously mentioned, I also developed and successfully defended a Licentiate Dissertation (see Candel 2020), which resulted in appended papers 1 and 2 and provided guidance for carrying out the second half of the research project. The work leading up to the Licentiate Dissertation was conducted at the Division of Construction and Facilities Management, while the latter half of the research project was conducted at the Division of Real Estate Planning and Land Law. Working at two different divisions, which are both within the Department of Real Estate and Construction Management at KTH, further aided me in receiving relevant and well-informed feedback and support from my colleagues in the two different fields of study. Three of the four appended papers have also gone through a double-blind peer-review process and been published (see Candel et al., 2021; Candel and Törnå, 2021; Candel, 2022), improving the credibility of those results. The conference paper that led to paper 1 also went through a double-blind peer-review process before being published as conference proceedings (Candel et al., 2019).

Although much of the work was carried out in collaboration with co-authors and with guidance from my supervisors, I took the lead role in all parts of the research process and worked independently on identifying research problems and developing research questions. For all the appended papers, I led the process of generating the overall concept and research design, collecting empirical material, and analysing it. I was also responsible for writing up all the papers. For papers 1 and 4, my co-authors Tina Karrbom Gustavsson, Per-Erik Eriksson and Jenny Paulsson contributed with advice, expertise, suggestions, comments and critique on drafts, and alternative interpretations of the empirical material. For paper 2, my co-author Niklas Törnå also collected empirical material from one of the two cases that were analysed.

During my licentiate I was also working as a part of a small research group investigating procurement and sustainability from different angles in Stockholm Royal Seaport. This provided me with access to interview practitioners from this case and a very loosely defined topic when initiating the research project. Neither the research group nor the practitioners from Stockholm Royal Seaport hindered my identification of research problems or development of research questions in any way, but simply provided support when requested and feedback on results.

The main ethical consideration made during the research process was to take special care when ensuring the anonymity of interviewees, in accordance with the Swedish Research Council (Vetenskapsrådet, 2017). Since the findings are based on case studies that consist of relatively few involved actors, a concern from some interviewees was that other actors from the cases might be able to deduce who said what, which could have negative implications for those interviewees. In order to keep the identity of the interviewees anonymous, some specific details and examples that contribute to the overall findings could not be presented in the papers. This was not a major problem as I simply chose to present other examples to support the findings.

Special care was taken to ensure that data was collected and stored in accordance with the General Data Protection Regulation (GDPR). All raw data was stored in a folder on the KTH server which could only be accessed through my university account. This data included names of the interviewees. Data that was shared with co-authors, for the purpose of analysing it, was censored to not include any personal data like the names of interviewees. Interviewees were informed of and consented to how the data would be used and shared. They were also informed that they could retrospectively withdraw data after it was collected and demand to have it erased. Furthermore, they were given the option to review and retract any interview quotes presented in the papers before publication upon request. The censored raw data is available from the author upon reasonable request.

6. Summary of papers

This chapter briefly summarises the objectives, theoretical framework, method, findings and contributions of the research papers that the dissertation is based on. All the papers investigate the use of public land development in Swedish sustainability-profiled districts and its influence on collaboration between municipalities and housing developers, but from different perspectives. Papers 1 and 2 focus on the perspective of housing developers, while papers 3 and 4 focus on the municipalities' perspectives. The summaries in this chapter provide the basis for the discussion and theoretical and practical implications of the results in the last two chapters. The full papers are appended after the cover essay.

6.1 Paper 1: Front-end value co-creation in housing development projects

This paper contributes to answering RQ1 in the cover essay by presenting an exploration of value co-creation between housing developers and municipalities during municipal land allocation processes. The focus is specifically on implications for housing developers and their perspective in sustainability-profiled district developments. Drawing on and contributing to value co-creation literature in the project management and construction management fields, the collaborative process of developing and translating municipal sustainability requirements into procurement requirements is interpreted as a process of co-creating value propositions. The overall purpose of the paper is to explore how housing developers' value propositions are co-created with municipalities during the front-end of housing development projects, when overlapping with municipal land allocation processes, and how this affects developers' ability to drive change and innovation. In addition to this, the theoretical connection between value co-creation and constructive conflict resolution, as well as value co-destruction and destructive conflict resolution, are explored.

The findings are based on a single case study of one stage in the Stockholm Royal Seaport district development. The stage is conceptualised as a programme managed by the municipality, consisting of multiple housing development projects managed by the housing developers. The material consists of interviews, documents and observations, which was analysed as a sequence of events using value co-creation and Rahim's (1983) conflict handling styles as a theoretical conceptual framework. The unit of analysis was actor-to-actor interactions between the eleven housing developers and the municipality.

The paper provides descriptive and process-oriented insights into value co-creation between housing developers and municipalities. The findings illustrate how emerging conflicts over municipal sustainability requirements act as catalysts for value co-creation processes between housing developers and municipalities. These conflicts emerge as housing developers are translating municipal sustainability requirements into requirements for procurement of contractors. It is thus concluded that value co-creation and conflict resolution are closely entwined in this empirical context. This co-creation process is especially important for housing developers as it determines the scope of private project value they can create by completing their projects and ultimately limits their ability to drive change and innovation.

The paper contributes to the value co-creation literature by further investigating and strengthening the connection to conflict management theory and providing empirical insight of front-end value proposition co-creation. Contributions are also made to the construction management field by illustrating that housing developers engage in co-creation with downstream suppliers. Finally, contributions are made to the literature on construction clients by showing the effect of value co-creation with municipalities on their ability to govern their own projects.

6.2 Paper 2: Housing developers' perceived barriers to implementing municipal sustainability requirements in Swedish sustainability-profiled districts

The second paper explores in depth housing developers' perceived barriers to implementing municipal sustainability requirements in their projects. These barriers are what lead to the conflicts which act as catalysts for the front-end value co-creation processes between housing developers and municipalities explored in paper 1. Since housing developers' ability to implement municipal sustainability requirements constrains the potential creation of municipalities' desired public value outcomes, the paper contributes to answering RQ2 in the cover essay. In the paper, I do not engage directly with value co-creation or public value creation theory, as in the other papers, but instead elaborate on the contractual relationship between municipalities and housing developers during municipal land allocation processes in sustainability-profiled districts using principal-agent theory.

Previous literature from the construction management field has identified developers' perceived barriers to considering sustainable construction solutions and practices. It was however not clear how these previously identified barriers apply to the case of implementing municipal sustainability requirements, where the decision to implement certain sustainable construction solutions and practices has already been made for them. The purpose of the paper is therefore to explore how housing developers' perceived barriers to sustainable construction influence their

implementation of municipal sustainability requirements in sustainability-profiled districts. The implementation of the municipal sustainability requirements should be contextualised within the relationship between the housing developers and municipalities, which is analysed using principal-agent theory.

The findings are based on a comparative multiple case study of two sustainability-profiled districts, Stockholm Royal Seaport and Nature Town, as opposed to a single case study as in paper 1. The material mainly consists of interviews with housing developers' project managers, although interviews with representatives from the municipalities and various documents are also used. In the Nature Town case, focus groups with representatives from the municipality were also conducted and transcribed. I collected the material from the Stockholm Royal Seaport case and my co-author Niklas Törnå collected the material from the Nature Town case. The analysis consisted of identifying patterns, generating thematic categories, as well as comparing the cases to identify relevant similarities and differences and interpreting the relationship between the municipalities and developers using principal-agent theory. While the municipal land allocation process is important for the context and the study was concerned with the developers' implementation of municipal sustainability requirements, a process perspective was not adopted for the analysis in this paper as it was for paper 1. The analysis rather consisted of collating barriers perceived throughout the land allocation process to form categories.

The analysis of the relationship between housing developers and municipalities reveals that this is a contractual and hierarchical buyer-supplier relationship that can to some extent be described as a principal-agent relationship. For instance, the municipalities act as principals by setting requirements using outcome-based contracts and relying on the developers, acting as agents, to realise their sustainability objectives. However, this is not a typical principal-agent relationship as the municipalities are technically also suppliers of serviced building plots for the housing developers, meaning the inverse can also be argued.

In the context of this relationship, two main categories of barriers were identified, which are supported by the previous literature on developers' perceived barriers to sustainable construction. Firstly, developers perceive increased financial risk due to the high costs of implementing municipal sustainability requirements as a major barrier when they are forced to adapt to unforeseen changes that constrain their project budgets. Such unforeseen changes are typically the result of unexpected technical issues, changes caused directly or indirectly by the municipality, and changes in market conditions. The second barrier is conflicting interests between interdependent actors, which result in conflicting objectives and requirements. The influence of these barriers and how they are handled is strongly influenced by the relationship between the municipalities and housing developers.

Paper two contributes to discussions concerning the perspective and role of property developers in sustainability-oriented urban development. Municipal sustainability requirements are used by municipalities to frame the public value they want to be created in housing development projects. These requirements are central for their sustainability governance in sustainability-profiled district developments. The housing developers are the actors that are responsible for interpreting and implementing these municipal sustainability requirements. To be able to implement the municipal sustainability requirements they need to align their own value propositions with them and find design solutions that meet them. Here I identify the major barriers they perceive when implementing the municipal sustainability requirements. Overcoming and/or counteracting these barriers would arguably improve the housing developers' ability to implement municipal sustainability requirements and create both public and private value.

6.3 Paper 3: Using Sustainability-Oriented Developer Obligations and Public Land Development to Create Public Value

In paper three, municipal sustainability requirements are conceptualised as sustainability-oriented NDOs. The paper investigates how municipalities use these NDOs together with public land development, which are both public value capture instruments, to create public value in sustainability-profiled district developments. In addition to this, the aim is to identify what specific public value outcomes Swedish municipalities are currently pursuing using these two public value capture instruments in sustainability-profiled districts, contributing to answering RQ2 in the cover essay. In the paper I engage with public value creation and public value capture theory. As opposed to papers 1 and 2, the focus in this paper is solely on the municipal perspective, and the public value capture instruments they use to create public value in Swedish sustainability-profiled district developments.

The findings are based on a multiple case study of all five cases: Stockholm Royal Seaport, Älvstaden, Hyllie, Barkarbystaden, and Västerport. They are mainly based on a review of municipal sustainability objectives in sustainability programmes, sustainability criteria used in land allocation competitions, and sustainability requirements in municipal land allocation agreements. The municipal sustainability objectives, criteria and requirements are categorised using Benington's (2011) dimensions of public value as a typology. This is supported by interviews with municipal planning project managers to describe how they are using these public value capture instruments in practice to create the various dimensions of public value. This is however the only paper in which documents are used more than the material gathered from the interviews. Although the subject matter includes

processes (*id est* land allocations), a process perspective is not adopted for the analysis in this paper, as in paper 2.

The analysis revealed that Swedish municipalities are currently using these two public value capture instruments to create ecological, social and cultural, political, and economic dimensions of public value. However, there is less emphasis on creating economic public value, in comparison to the other dimensions. The utility of using these two instruments to create political public value is also questionable. Main differences in public value creation objectives are found between waterfront, brownfield, city-centre developments, and inland, greenfield developments in the urban periphery.

The paper builds on and contributes to the public value capture literature by drawing on public value creation theory to expand the discussion on value and what it entails. Contributions are also made to literature on NDOs and public land development as public value capture instruments, by illustrating how they are used together in sustainability-profiled districts to not just capture value but also create public value. The paper is concluded by calling for more research investigating different forms of value creation in relation to the use of value capture instruments.

6.4 Paper 4: Enhancing Public Value in Public Land Development through Co-Creation: The role of municipalities in sustainable districts

Paper 4 is the most expansive, fully addressing both research questions in the cover essay. It presents an investigation of Swedish municipalities' use of public land development in sustainability-profiled districts to co-create the desired public value outcomes identified in paper 3. As in paper 3, the focus was primarily on the municipal perspective. While the primary objective in paper 3 was to identify the desired public value outcomes, the main concern in this paper is the co-creation process. The focus is specifically on investigating the role of municipalities in public value co-creation processes occurring both alongside and as a part of the public land development process, with an emphasis on the land allocation process. A tertiary objective is to provide theoretically and empirically derived suggestions for enhancing public value co-creation in sustainability-profiled districts, as suggested by the paper's title. In this paper, I engage with public value co-creation theory.

As in paper 3, the findings are based on a multiple case study of all five cases: Stockholm Royal Seaport, Älvstaden, Hyllie, Barkarbystaden, and Västerport. However, the findings are primarily based on the empirical material gathered from the interviews and supported by the documents. The material was analysed by organising it sequentially to identify actors and their practices engaged during

different stages of the public land development process. The public land development process is broken down into land assembly or readjustment, land allocation (typically carried out alongside detailed planning), and the servicing of building plots.

The findings reveal that the co-design of public value creation objectives occurs alongside land assembly/readjustment, while the back end of the co-design process is an integral part of the actual land allocation process. Co-design during land allocation involves municipalities and property developers collaboratively translating municipal sustainability requirements and it is largely conflict-led. It is specifically inter-actor value conflicts that are found at the heart of this co-design process. Co-implementation is then carried out during the servicing of building plots as the buildings are being constructed. The municipalities lead co-creation throughout all stages of the public land development process. This is a role with some inherent tensions as the municipalities are not neutral third parties. They are also engaging as one of the actors co-creating public value and have their own political interests and objectives. As a result, municipalities were found to have a difficult time balancing under and over steering the co-creation process.

Several contributions are made to the public land development literature. Firstly, we provide a study of its use in sustainability-profiled district developments, which are different from mainstream urban development. We also introduce and apply a public-value co-creation perspective. Lastly, the paper contributes with an empirical study of public land development at the district level in the Swedish context, which there has been a lack of considering the widespread use of this instrument in Sweden. In addition to this, the paper contributes to public value co-creation theory by presenting empirical cases from a land development context. Finally, several suggestions for enhancing public value co-creation in sustainability-profiled districts are presented, which are founded in both the best practice observed during the study and on the theory.

Table 7. Summary of appended papers

Paper	Objective	Theory	Method	Key findings and contributions
1	To explore how value propositions are co-created during the front-end of housing development projects and how this affects housing developers' ability to drive change and innovation.	Value co-creation in projects, conflict handling styles	Single case study	Illustrate that construction clients engage in conflict-led co-creation with downstream suppliers during the front-end, and that this constrains their scope for potential value.
2	To explore how housing developers' perceived barriers to sustainable construction influence their implementation of municipal sustainability requirements in the context of the contractual relationship.	Principal-agent theory	Multiple case study (2 cases)	Identify two main categories of barriers housing developers perceive when implementing municipal sustainability requirements and provide an in-depth investigation of the developers 'perspective.
3	To investigate how Swedish municipalities use sustainability-oriented NDOs to create public value, and identify what public value outcomes they are pursuing.	Public value creation, public value capture	Multiple case study (5 cases)	Illustrate the use of NDOs to create ecological, social and cultural, political, and economic public value, broadening the concept of value in relation to value capture instruments.
4	To investigate how municipalities are using public land development in sustainability-profiled districts from a public value co-creation perspective and analyse the role of the municipalities.	Public value co-creation	Multiple case study (5 cases)	Illustrate innovative use of public land development in sustainability-profiled districts, introduce new theoretical perspective to the field, and provide an empirical study from a less researched national context.

7. Discussion

This chapter answers the research questions and discusses the findings in relation to the previous literature and theory.

7.1 Municipal land allocations as value co-creation processes

The first research question (RQ1) is answered in the following section of the discussion, which is primarily based on papers 1, 3, and 4. In this section, municipal land allocations in sustainability-profiled districts are interpreted as public-private value co-creation processes to describe and explain how collaborative exchange between municipalities and housing developers is structured.

7.1.1 Municipal-led public value co-creation in public land development

Public value co-creation processes in Swedish sustainability-profiled district developments are closely entwined with parts of the public land development process. The study confirmed that the Swedish public land development process is divided into land assembly/readjustment, land allocation, and servicing building plots. This makes the Swedish approach comparable to the Netherlands and Finland where public land development processes follow the same structure (c.f. Valtonen, 2019; Valtonen et al., 2017; Needham, 1997). In sustainability-profiled districts, the public value co-creation process occurring alongside this public land development process mainly entails co-design and co-implementation (c.f. Voorberg et al., 2015). Figure 8 illustrates how these two processes overlap and which actors are involved during the different stages.

Early phases of the co-design process occur alongside the land assembly/readjustment process, while the back-end of the co-design process is an integral part of the actual land allocation process. Servicing building plots and building development then need to be coordinated with each other and thereby overlap, meaning there is an element of co-implementation. Thus, land allocation in sustainability-profiled districts can be described as a public value co-creation process, while the other parts of public land development are somewhat entwined or carried out alongside prominent public value co-creation processes.

The public value co-creation process in Swedish sustainability-profiled districts can be divided into five parts, as illustrated in Figure 8. The process begins with municipalities establishing the overall public values to be achieved in the district. These are typically procedural and substantive public values (c.f. de Graaf and Paanakker, 2015; de Bruijn and Dicke, 2006), outlined in vision documents like those reviewed from the cases (also c.f. Adolfsson and Brorström, 2020). Examples

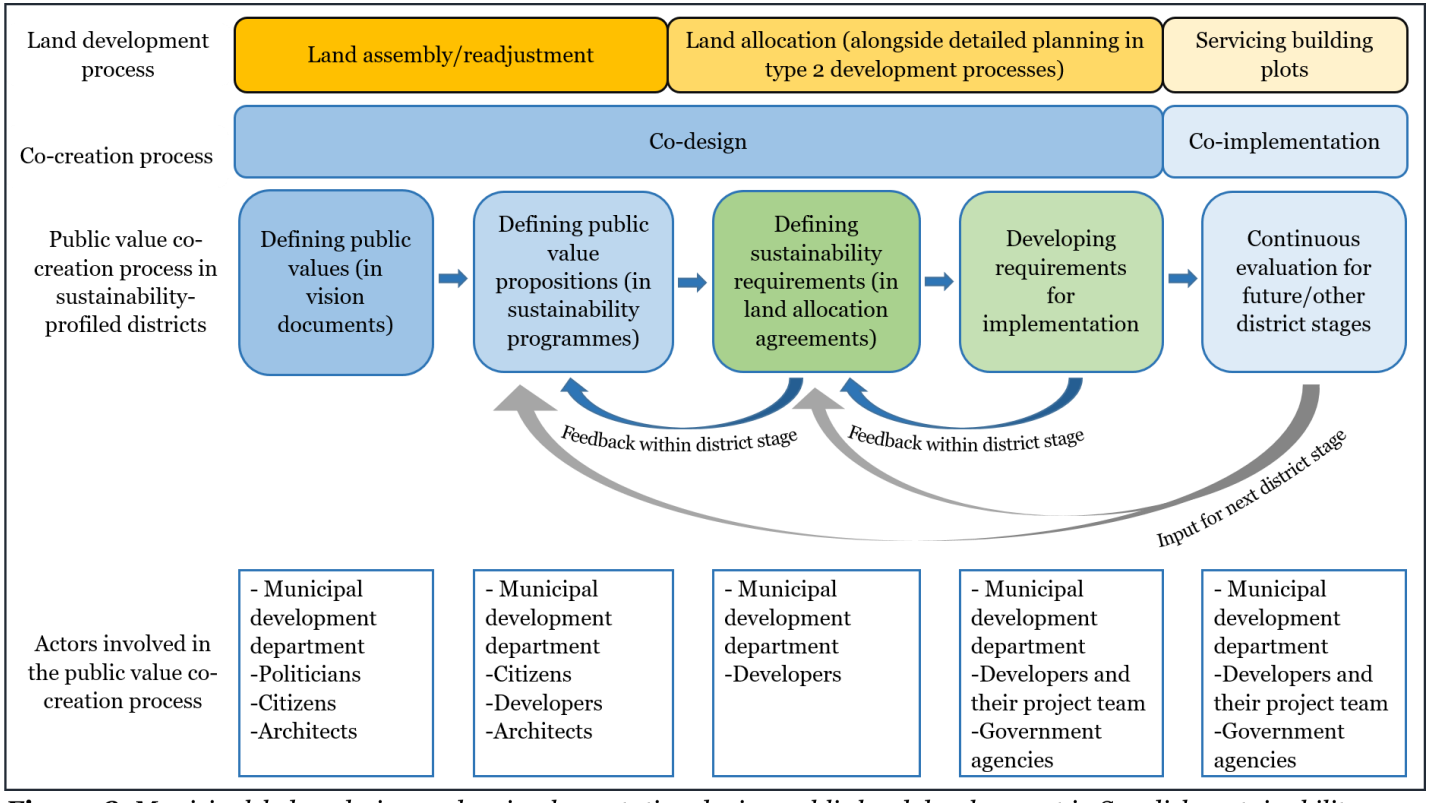

Figure 8. *Municipal-led co-design and co-implementation during public land development in Swedish sustainability-profiled districts (based on figure in paper 4).*

of public values found in all the cases include citizen involvement and sustainability, which have been central public values in Scandinavian countries for well over a decade (Jørgensen and Bozeman, 2007).

The public values defined in the first part of the public value co-creation process provide a basis for producing sustainability programmes for each stage of the district development, constituting the second part of the process. These sustainability programmes are documents outlining more specific public value creation objectives. I propose referring to these defined desired public value outcomes for public sector co-creation as public value propositions to make the connection to the co-creation literature clearer and more consistent (c.f. Grönroos, 2017; Vargo and Lusch, 2008). Interviews with municipalities indicated that the public value propositions are sometimes also based on input from previous district stages, as illustrated by the longer grey arrow in Figure 8. However, this is not the case when the district development is within its first stage, as in the Västerport case. This means there is some knowledge transfer through the municipalities within the district developments creating opportunities for value-in-use from completed stages to inform public value co-creation in future stages.

Public value propositions for individual district stages are translated into sustainability criteria used when selecting developers to allocate land to and municipal sustainability requirements included in land allocation agreements (often in separate documents that are attached to, or referenced in, the agreements), which are designed to challenge property developers to innovate. This constitutes the third part of the public value co-creation process, which is entwined with the land allocation process, as indicated by the green squares in Figure 8. Translating sustainability objectives into requirements during planning is thus linking individual development projects to municipalities' strategies, as Högström et al. (2019) have previously advocated for. Municipal sustainability requirements are typically different in each stage of the district, and are developed based on input from previous stages, as illustrated by the shorter grey arrow in Figure 8. Therefore, the number of completed stages in a district also influences the development of municipal sustainability requirements.

After developers have been selected through a competition or direct allocation and land allocation agreements have been signed, the municipalities and developers work together to develop the municipal sustainability requirements further for implementation (c.f. Caesar, 2016). They do this through a constructive exchange of knowledge and ideas, which are based on their different competences and resources, in order to solve emerging implementation-related problems and to improve solutions (c.f. Torfing et al., 2019). This constitutes the fourth part of the public value co-creation process illustrated in Figure 8, which is the final part of the land

allocation and co-design process. By collaboratively developing municipal sustainability requirements, which frame public value propositions, they are co-designing the delivery of services that will add value to the public sphere (c.f. Ansell and Torfing, 2021a; Hartley et al., 2017; Voorberg et al., 2015; Benington, 2011; Moore, 1995). This is typically an iterative process (depicted by the smaller blue arrows between stages in Figure 8) as new insights can result in changes and alterations to both the municipal sustainability requirements and public value propositions. Since these requirements often entail various forms of innovation, regarding new technologies, practices, and ways of implementing them, co-designing the requirements is a collaborative innovation process.

The land allocation process in Sweden is often carried out alongside detailed planning in type 4 development processes (c.f. Kalbro and Lindgren, 2018), as illustrated by three of the cases (Stockholm Royal Seaport, Älvstaden, Västerport, and Hyllie). Detailed planning can also be carried out before the land allocation process, as in Nature Town (paper 2) and Barkarbystaden (paper 4). While this latter option would typically be considered a type 3 development process, in the Barkarbystaden case developers are contributing to the production of detailed development plans before land allocation, indicating a kind of hybrid development process. Thus, the classification suggested by Kalbro and Lindgren (2018) should be expanded for cases where municipalities own the land to distinguish between developers participating or not participating in the detailed planning process and whether the detailed planning process occurs before or during land allocation.

Municipal sustainability requirements in Swedish sustainability-profiled district developments can be interpreted as sustainability-oriented developer contributions, and as NDOs when negotiated alongside land use regulations during detailed planning (c.f. Muñoz Gielen and van der Krabben, 2019) (Paper 3). Based on Muñoz Gielen and van der Krabbens' (2019) interpretation of comparable practices in the Netherlands, the Swedish practice of merging negotiations over developer contributions as a part of the land allocation process, with negotiations over land-use regulations as a part of the detailed planning process, can technically result in NDOs. It is however evident that in the Swedish context the distinction between developer contributions levied for the sale of municipal land and developer obligations levied for planning decisions is unclear in practice. This further supports the international consensus that motivating rationales for indirect instruments are in practice much less explicit and at times concealed or obscured by other motivating rationales (c.f. Muñoz Gielen and van der Krabben, 2019; Muñoz Gielen and Lenferink, 2018; Valtonen et al., 2018; Alterman, 2012).

The use of NDOs in Swedish sustainability-profiled district developments also illustrates a new motivating rationale for this indirect instrument not previously

recognised in this literature, namely having developers internalise costs and responsibilities for sustainability-related innovation (c.f. Muñoz Gielen and van der Krabben, 2019; Muñoz Gielen and Lenferink, 2018; Alterman, 2012). Municipal sustainability requirements entail implementing sustainable innovation, in the form of new sustainable technologies and practices, within a private property, and are therefore not typical developer contributions and obligations (c.f. Muñoz Gielen and van der Krabben, 2019). While public land development and NDOs are two different kinds of value capture instruments (Alterman, 2012), Swedish municipalities are combining their use in sustainability-profiled districts to also create other forms of public value. It is recognised that different value capture instruments are sometimes prescribed within the same projects (c.f. Alterman, 2012), although this could be interpreted as a new and innovative application of these public value capture instruments. It also demonstrates that using public value capture instruments can entail more forms of value creation than simply capturing public value in the form of public revenue (c.f. Heeres et al., 2016).

7.1.2 Front-end value co-creation for housing developers

For housing developers, co-creation in Swedish sustainability-profiled districts occurs with municipalities and neighbouring developers during the front-end of their projects. In this context, the front-end of the housing developers' projects entails conducting pre-studies and planning for their procurement of contractors and implementation, which is carried out during the land allocation process (see Figure 9). These front-end value co-creation processes with municipalities determine and thereby constrain the scope for value that can be realised by the housing developers finishing their projects (c.f. Fuentes et al., 2019; Martinsuo et al., 2019; Smyth et al., 2018). They therefore undermine the authority typically associated with the housing developers' role of governing housing development projects through their design and prescription of procurement requirements (c.f. Havenvid et al. 2016; Hartmann et al. 2008).

Introducing new types of requirements for procurement is one of the main ways housing developers will usually work with sustainability in their projects. However, this active and central role they typically play in relation to driving innovation and change (c.f. Lindblad and Karrbom Gustavsson 2020; Adam and Lindahl 2017; Havenvid et al. 2016; Vennström and Eriksson 2010) is transferred to the municipalities in Swedish sustainability-profiled district developments. The developers adopt more of an intermediary role reminiscent of an agent, whereby they focus on implementing imposed municipal sustainability requirements in outcome-based contracts (c.f. Eisenhardt, 1989a; Turner and Müller, 2004) (papers 1 and 2). This should not be interpreted as a lack of interest in actively contributing to improving sustainability in the construction industry. The findings rather indicate

that housing developers' initial decision to participate in Swedish sustainability-profiled districts involves a fair share of moral reasoning, which translates into an actual desire to improve sustainability that does rival their other value creation objectives.

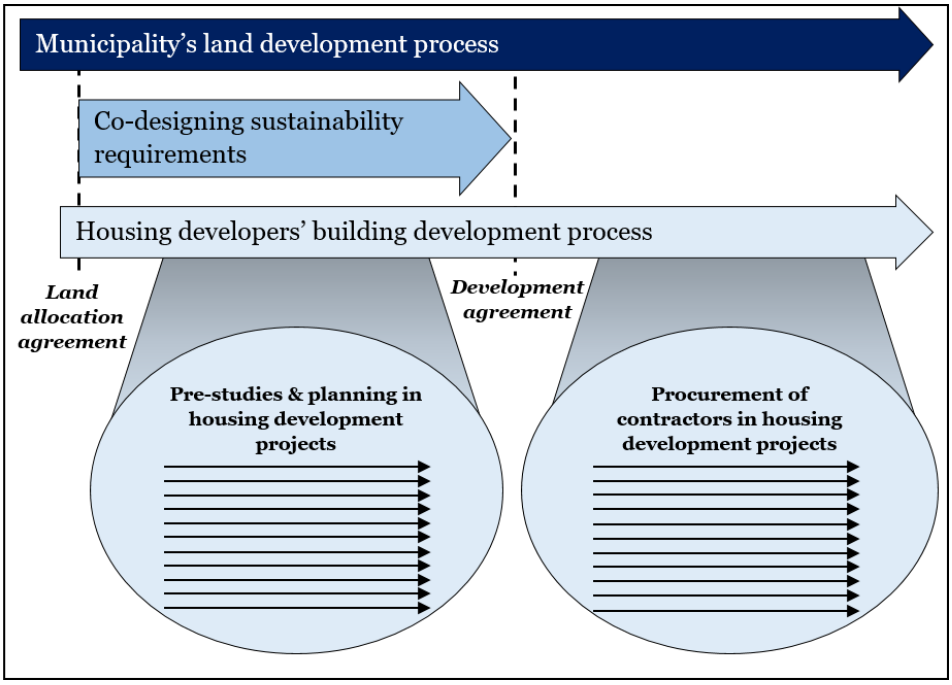

Figure 9. *Housing developers' front-end value co-creation with municipalities in Swedish sustainability-profiled district development stages (based on figure in paper 1).*

Municipal sustainability requirements are co-designed by the municipalities and developers in order to turn them into implementable requirements for procurement. Co-design activities are typically initiated because the developers perceive some major barrier to implementing one or several of the municipal sustainability requirements from the land allocation agreements, which are negotiable until a final development right is produced (c.f. Caesar, 2016; SOU 2015:109). The sustainability requirements they are co-designing can be interpreted as value propositions for developers that indicate the intended value to be realised after project completion (c.f. Smyth et al., 2018; Liu et al., 2014).

The findings in papers 1 and 2 illustrate that housing developers consider short-term profits and marketing, which is related to long-term profits, to be their most important value outcomes. In other words, they prioritise value for themselves as

suppliers, achieved through value propositions for their customers resulting in value-in-use (c.f. Liu et al., 2014). Profitability and customer orientation have previously been identified as two central values for private sector actors in general (de Graaf and van der Wal, 2008), and most housing developers in Sweden are private sector actors (Caesar, 2016). Most of the housing developers in the cases investigated herein were building tenant-ownership apartments intended to be sold after project completion, meaning their objectives to create value for themselves in terms of profits were for the most part relatively short-term. However, this was not the case for developers building rental apartments, office buildings, and hotels that they intended to operate after construction, because value for suppliers is then extended alongside the creation of value-in-use post project completion, rather than cashing out immediately.

Housing developers building in Swedish sustainability-profiled districts are greatly concerned with marketing towards the housing market and suppliers. They use their projects to develop and demonstrate their capabilities for working with sustainable technologies and practices. They also use their projects to market themselves towards municipalities, which are considered important suppliers of buildable land (c.f. Caesar, 2016). Successfully delivering challenging and costly projects in sustainability-profiled districts can gain developers favour with those municipalities which may result in more desirable land allocations in the future (papers 1 and 2). This is sometimes referred to as trust capital (*förtroendekapital*). This can also be seen operating within the same district development in later stages. Developers that have completed projects in earlier stages can apply their experience working with the municipality and their processes in the district to their new projects, although they will have new contracts with different municipal sustainability requirements. In several cases, competing for municipal land allocations in one stage could also result in direct allocations in the same district in future stages.

7.1.3 A public-private value co-creation process

The findings illustrate that municipalities' and housing developers' value creation objectives differ in scale, time, and content, as well as having different intended beneficiaries. Furthermore, the process of defining them differs considerably. Some of these differences are reflected in the two streams of literature in value co-creation theory drawn on herein, namely project value co-creation and public value co-creation. Municipalities are pursuing the creation of public value at the district and city-level for their citizenry over several decades to come. Defining specific public value creation objectives in sustainability-profiled district developments is a contested democratic process with citizenry and other relevant and affected stakeholders (Hartley et al., 2017; Benington, 2015), which can also be interpreted as an effort to achieve input-legitimacy (c.f. Eneqvist et al., 2022; Eneqvist, 2022;

Hartmann and Spit, 2015). The municipalities actively try to include the public in the process of defining their public value propositions (paper 4).

Housing developers, on the other hand, are first and foremost concerned with creating financial value for themselves, *id est* value for suppliers (c.f. Liu et al., 2019). This includes value at the project-level in the form of profits from selling finished apartments, and potential value from more long-term marketing to the housing market and suppliers, such as the municipality. For housing developers, project value is, as has previously been found, a subjective, dynamic and a relative quotient of benefits and costs (Laursen and Svejvig, 2016; Chang et al., 2013). They are also concerned with creating value for their end-users, which are the new residents buying their apartments. However, the housing developers investigated herein do not co-create their value propositions with their end-users, viewing them more as consumers of a finished product, a tendency also observed in previous research (c.f. Fuentes, 2019; van Bueren and Primeus, 2002).

Differences in value creation objectives were found to frequently result in inter-actor value conflicts, as is typically the case when there is value pluralism (Aschhoff and Vogel, 2018; de Graaf and Paanakker, 2015; van Gestel et al., 2008). In Swedish sustainability-profiled district developments, they are often rooted in conflicts between economic interests and environmental protection, which previous research has identified in other types of land use conflicts as well (Tudor et al., 2014; Wittmer et al., 2006). However, they can also be found between economic interests and other public value dimensions, notably social and cultural public value (Paper 3). Many of these value conflicts first become evident during the land allocation process. For instance, the economic viability of solutions for environmental sustainability may not be clear until developers have properly investigated what would technically be required to implement them. Resolving emerging inter-actor value conflicts entails collaborative problem solving, or co-creation, to ensure value creation for all actors involved and avoid potential value co-destruction.

Public-private value co-creation between municipalities and developers during land allocation in Swedish sustainability-profiled districts entails merging and potentially aligning disparate value creation objectives in one service delivery design. They do this through dialogue in various arenas, which is seen in all co-creation process (c.f. Ansell and Torfing, 2021a; Torfing et al., 2019). Arenas in Swedish sustainability-profiled districts include a variety of meetings, seminars, forums, and workshops, which were moved to online platforms in 2020 due to the Covid-19 pandemic. These arenas, and supporting platforms, are formed by the municipalities, as is generally considered to be the role of public authorities in public-sector led co-creation (e.g., Ansell and Torfing, 2021a; Cordella and Paletti, 2019; Torfing et al., 2019; Bryson et al., 2017). However, they were sometimes co-initiated with developers or formed by

municipalities on their behest as a result of receiving requests or suggestions from the developers. How well the different arenas supported generative public-private collaboration through dialogue also varied considerably depending on their format. For instance, too much one-way communication was a common tendency in arenas centred on presentations, which several developers complained about, and many municipal planners were aware of and actively tried to remedy.

Aligning value creation objectives during the land allocation process largely revolves around municipalities and developers co-designing requirements. They do this in an interdependency-based relationship (c.f. Caesar, 2016), which is considered conductive for co-creation (Ansell and Torfing, 2021a). The municipalities depend on the housing developers to build new houses, and the developers depend on the municipalities to supply them with building plots, producing the detailed development plans and granting building permits. In sustainability-profiled districts the municipalities also depend on the housing developers to realise many of their sustainability-related public value propositions, while the developers benefit from added marketing potential as a consequence of the sustainability profiles created and promoted by the municipalities. Recognising these interdependencies helps facilitate value co-creation between municipalities and housing developers during the land allocation process (c.f. Ansell and Torfing, 2021a). Although neighbouring developers are also interdependent in several ways, co-creation between them during the land allocation process is more challenging as they are also competitors. Competition between developers is not only found during the municipal land allocation competitions. Their relationships during the processes that follow are both cooperative, largely as a result of planning the construction of shared facilities, and competitive, which could be described as horizontal coopetition (c.f. e.g., Ekeskär et al., 2022).

In the public value co-creation literature, it is typically suggested that the public actor leading the process is responsible for tackling power imbalances (e.g., Ansell and Torfing, 2021a). However, the research herein brings to light that this can be an issue when that same public actor holds more influence over the other actors, is leading the co-creation process, and is engaging in it to achieve their own objectives. Since developers are essential for new practices and solutions to be developed and adopted, it is not conducive for municipalities to over-steer. However, it seems as though municipalities have a tendency of over-steering in sustainability-profiled district developments as a result of their role as both local planning authorities and landowners. This does not support previous neoliberal planning research arguing that collaborative planning in Sweden has shifted power to private actors which has made it more difficult for spatial planners to address sustainability as a result of increased complexity (see e.g., Koglin and Pettersson, 2017). Municipal land allocation agreements also function as outcome-based contracts to form what

resembles a principal-agent relationship between the municipalities and housing developers (paper 2). Despite municipal sustainability requirements being negotiable (Caesar, 2016; SOU 2015:109), the extent to which land allocation processes are conductive for public-private value co-creation is thereby questionable.

7.2 Municipalities' possibilities and constraints for co-creating public value

The second research question (RQ2) is answered in the following sections, which are primarily based on papers 2, 3, and 4. They will present the possibilities and limitations that determine the public value creation objectives municipalities can achieve in sustainability-profiled districts through collaborative exchange with housing developers during municipal land allocations. This will also be discussed in relation to previous literature and theory.

7.2.1 Possibilities when using municipal sustainability requirements

Municipal sustainability requirements are being used by Swedish municipalities to create public value outcomes that contribute to sustainable development. Out of Benington's (2011) four dimensions of public value outcomes, these requirements are currently most suitable for creating ecological, and social and cultural public value, in that order (Paper 3). This conclusion is based on the high frequency of such requirements from the cases, which could also be an indication of what local authorities in Sweden currently consider to be most important. Municipal sustainability requirements were also found to have some utility for creating economic public value, although this is much less prominent in the cases. Finally, their utility for creating political public value is questionable. The argument could however be made that political public value is created inversely using municipal sustainability requirements, as they help realise public value outcomes defined through dialogues with various citizen representative groups.

The findings in paper 3 illustrate that variation in the sustainability objectives that Swedish municipalities currently choose to prioritise is not very substantial. There were some identifiable differences between waterfront, brownfield, city-centre developments, and inland, greenfield developments in the urban periphery. For example, all municipalities considered forming connections important for creating social and cultural public value. However, municipalities developing districts in the urban periphery of larger cities only emphasise the importance of developing physical connections (roads and public transport) to larger city centres. In cases where districts neighbour existing parts of inner cities, on the other hand, there is an

equally large concern with forming meaningful cultural connections in terms of aesthetics.

Municipal land allocations enable Swedish municipalities to mobilise developers' resources for urban experimentation aimed at creating public value. Mobilising resources from other actors is one of the primary benefits of using public sector co-creation as a core principle for governance (c.f. Ansell and Torfing, 2021a; Leclercq et al., 2020; Neumann et al., 2019; van Melik and van der Krabben, 2016). The findings from papers 3 and 4 revealed that in sustainability-profiled districts municipalities can do this by, among other things, informally leveraging their branding of the districts. However, it was also evident that Swedish municipalities are not very explicit about this practice. A lack of transparency regarding what is being leveraged for what creates confusion for both developers and the municipalities. For instance, the municipalities were not sufficiently cognisant of what they could expect from the developers in terms of resources. This illustrates the importance of transparency and making interdependencies between actors engaging in co-creation explicit (c.f. Ansell and Torfing, 2021a; Torfing et al., 2019).

7.2.2 Housing developers as the determining factor

As the leader of co-creation in sustainability-profiled districts, Swedish municipalities have many possibilities for realising their public value creation objectives. However, to answer the second research question, their ability to achieve public value creation objectives using public land development is primarily determined by the housing developers' ability to implement municipal sustainability requirements. Possibilities for creating public value are ultimately constrained by the housing developers' need to create private value from their projects. This aligns with previous observations of municipalities' possibilities for achieve public objectives using public land development in other countries being highly dependent on the market, although the risk is typically associated directly with the potential decline in land prices as opposed to developers' abilities and needs (c.f. O'Brien et al., 2020; Muñoz Gielen and Lenferink, 2018; Valtonen et al., 2017). Conversely, housing developers' potential value that can be created by finishing their projects in Swedish sustainability-profiled districts are constrained by the municipal sustainability requirements (Paper 1 and 2). This is because they must be worked into their value propositions or be renegotiated during the front-end, thus determining potential project value (c.f. Fuentes et al., 2019; Martinsuo et al., 2019; Smyth et al., 2018).

Paper 3 illustrates that Swedish municipalities' public objectives are expanding, but it is not certain that developers' possibilities in terms of their budgets are expanding to match them. Housing developers' need to create private value as market actors can result in several perceived barriers to implementing municipal sustainability

requirements (Paper 2). The two main barriers they perceive are increased financial risk and conflicting interests and objectives, which are also main barriers developers perceive to sustainability considerations more generally (c.f. Shen et al., 2017; Opoku & Ahmed, 2014; Zainul Abidin et al., 2013; Häkkinen & Belloni, 2011; Osmani & O'Reilly, 2009; Circo, 2008; Williams & Dair, 2007; van Bueren & Primeus, 2002).

Increased financial risk, as a result of implementing many costly municipal sustainability requirements, becomes problematic for developers when they need to adapt to unforeseen changes that constrain their budgets. Increased risk due to outcome uncertainty is generally considered an issue for agents in exchange relationships shaped by outcome-based contracts (Shapiro, 2005). Unforeseen changes for developers building in Swedish sustainability-profiled districts include project-level changes caused by unexpected technical issues, district stage-level changes caused directly or indirectly by the municipality, and macro-level changes caused by fluctuations in the housing market. This raises the question of who should bear the risk for innovation in these types of district developments, and whether finding other ways to distribute risk between actors could help improve co-creation. Unfavourable risk distribution for developers has long been recognised as an important issue hindering the general adoption of green building practices (c.f. e.g., Isaksson and Linderoth, 2018; Deng and Wu, 2014; Circo, 2008; van Bueren, 2002), which the findings confirm. According to Ansell and Torfing (2021a) and Torfing et al. (2019), the responsibility of managing the risks inherent in innovation should fall on the public-sector actors leading co-creation processes, although this was not the case in the sustainability-profiled district developments presented in the dissertation. One potential option for reducing risk for developers is to allocate land after the detailed planning process, as seen in the Nature Town case, although this has the drawback of making the land allocation process less flexible, hindering co-creation (paper 2).

Conflicting interests become problematic for developers when they result in conflicting requirements. In Swedish sustainability-profiled districts, conflicting interests are externalised as they are found between interdependent actors, meaning they must be resolved collaboratively. This can temporarily direct attention away from conflicting interests already present within housing developers' (c.f. e.g., Williams and Dair, 2007) and municipalities' own organisations (c.f. e.g., Eneqvist et al., 2022). The findings in paper 2 illustrate how conflicts between municipalities and developers are largely rooted in long-term versus short-term interests and value creation objectives. Applying principal-agent theory to the analysis of this issue made it apparent that the municipality in Nature Town was adopting a role reminiscent of a principal by actively working to align these interests and objectives (c.f. Eisenhardt, 1989a; Hart and Holmström, 1987; Waterman and Meier, 1998). By permitting the housing developers to change from building tenant-ownership

apartments (*bostadsrätter*) to rental apartments during a recession, their interests and objectives were prolonged and thereby aligned better with the municipality in terms of timescale. Following the same logic, during recessions there are fewer conflicting objectives between municipalities and developers building, for example, office buildings and hotels which they will be operating long-term. Tenant-ownership apartments were the most common form of housing being built in the sustainability-profiled district developments investigated herein, perhaps because they seemed to provide favourable results when the housing market was going up. However, they appeared to be the most problematic developments during the downturn that hit the Swedish housing market early in the research project.

Engaging housing developers in the public land development process creates opportunities for co-creating both public and private value, although it can also have negative consequences. For instance, housing developers' interests and concerns sometimes take precedence over other important actors and stakeholders, such as citizens (c.f. e.g., Solly, 2021; Olsson, 2018; Mäntysalo and Saglie, 2010). Engaging housing developers early in the land use planning process also tends to result in much longer planning processes, which can consequently reduce potential value creation as costs increase. While the literature on value co-creation has been criticised for focusing too much on the positive aspects of collaboration between public and private actors (Razmdoost, 2016), previous land use planning literature has instead been much more critical of the collaborative and market-oriented turn in planning (see e.g. Solly, 2021; Mäntysalo and Bäcklund, 2018; Olsson, 2018; Koglin and Pettersson, 2017; Fox-Rogers and Murphy, 2015; Palmås and von Busch, 2015; Parker et al., 2015; Watson, 2014; Alford and O'Flynn, 2009). I advocate for a balanced recognition of both the positive opportunities and the potential destructive aspects of private involvement in planning that need to be recognised and managed appropriately (c.f. Leclercq et al., 2020).

An important distinction to make, is between housing developers' influence in the detailed planning process and negotiating contributions in development agreements. The big issue with private influence in planning is specifically when developers' interests dominate planning decisions, such as those made to produce legally binding detailed development plans. It is important to remember that sustainable development and innovation resulting from the use of municipal sustainability requirements in land allocation agreements would on the other hand not be possible without the housing developers agreeing to go above and beyond what can legally be expected of them given Sweden's current building regulations. These requirements are not legally allowed to be prescribed in detailed development plans, meaning their implementation should be considered as an extra public benefit that can be negotiated with developers, rather than something that could or should be expected of them. Developers in Sweden are technically only obligated to fulfil

regulations prescribed through legally binding planning instruments like the detailed development plans, which should thus be able to adequately promote public objectives in individual developments on their own. However, an issue arises when these negotiations overlap and become difficult to distinguish between in practice.

7.2.3 Utilising value conflicts to enhance public-private value co-creation

Municipalities' ability to facilitate and engage in constructive conflict resolution and collaborative problem solving with housing developers will determine whether they are able to co-create their public value propositions. Value is co-created by finding innovative solutions that make the requirements that the housing developers perceive as problematic more implementable and marketable. If they are not able to constructively resolve inter-actor value conflicts, they risk potential value co-destruction. In Swedish sustainability-profiled district developments, there are problems defined prior to the land allocation process which are a part of the main public value creation objectives, as is generally the case in co-creation processes (Ansell and Torfing, 2021a; Bryson et al., 2017). Then there are unexpected problems that emerge during the co-creation process, sometimes as a result of gaining knowledge of the originally defined problems and issues related to implementing new practices and solutions. While previous literature focuses on co-creation for tackling the former types of problems (see e.g., Torfing et al., 2019; Torfing and Sørensen, 2019; Bryson et al., 2017), the findings illustrate that implementation problems also provide good opportunities for co-creation, and often work as catalysts.

The co-design process during land allocation in Swedish sustainability-profiled districts is collaborative and involves solving emerging problems often grounded in inter-actor value conflicts. These value conflicts consequently result in conflicting objectives and requirements. It has previously been recognised that value conflicts are present in land development processes (see e.g., Tudor et al., 2014; Wittmer et al., 2006). Less recognised in the land development research is the potential of such value conflicts for collaborative exchange and innovation (c.f. Teder, 2019; Mills and Razmdoost, 2016; Vaaland and Håkansson, 2003), as has been illustrated (see Papers 1 and 4).

It is evident that land allocation processes are not a zero-sum game, which is primarily due to the strong interdependencies between actors that are involved (c.f. Ansell and Torfing, 2021a; Torfing et al., 2019). Actors involved in the land allocation process value different things, because different actors generally do not perceive value the same (Chang et al., 2013), and value pluralism typically means some values will be in conflict with each other (c.f. Aschhoff and Vogel, 2018; de Graaf and Paanakker, 2015; van Gestel et al., 2008). Thus, to enhance value for all actors

involved, rather than for one actor at the expense of others, or reducing value for everyone through compromises, there is a need for co-creation. The purpose of these co-creation processes should be to find creative solutions that better satisfy multiple actors' value creation objectives, which would involve adopting integrating conflict management styles, and move away from the deceptively destructive nature of compromising (c.f. Loosemore et al., 2000; Rahim, 1983).

Managing conflicts constructively is no easy task (c.f. Teder, 2019), and sometimes results in value co-destruction instead (c.f. Fuentes et al., 2019; Fuentes, 2019; Smyth et al., 2018; Mills and Razmdoost, 2016; Echeverri and Skålén, 2011; Mele, 2011). The findings reveal that mistrust and suspicion of other actors' intentions is common and has negative consequences for municipalities' and housing developers' ability to collaboratively resolve conflicts together. Mistrust of housing developers is typically grounded in the suspicion that they are purposefully acting deceitfully to pursue their own interests at the expense of other actors' interests. Mistrust of municipalities is, on the other hand, typically grounded in the suspicion that they will unintentionally act against other actors' best interest as a result of incompetence, as opposed to malintent. This is perhaps connected to the less constructive conflict handling styles (Rahim, 1983) these two actors tend to adopt. While both actors are using integrating conflict management styles when successfully engaging in value co-creation, the housing developers otherwise primarily engage in dominating or avoiding styles, while municipalities tend to engage in compromising and dominating styles (see Paper 1).

Urban development projects are almost always carried out in collaboration between different public and private actors, all with their own perspectives, objectives, and interests. Exploring how these actors work together to overcome various challenges and manage conflicting objectives is an important part of understanding sustainable development efforts in the urban context. By finding innovative ways to merge public value creation with private project value creation, the potential of the private sector voluntarily choosing to create public value in the future increases.

8. Conclusions

This chapter outlines the theoretical contributions of the dissertation (8.1) and discusses their implications for policy and practitioners (8.2), including both municipal and developer project managers. The chapter ends with a discussion of potential avenues for future research in section 8.3.

8.1 Theoretical contributions

For public land development research, the dissertation contributes with an investigation of municipal land allocation processes in Swedish sustainability-profiled districts from a public-private value co-creation perspective. These are distinct types of districts with their own set of opportunities and challenges for public and private actors involved. In the dissertation, municipal land allocation, as a part of public land development, is presented as a distinct and current approach to developing sustainability-profiled districts that has utility for framing public-private value co-creation. By adopting a relational and collaborative perspective on exchange, I argue that public land development is more than a public value capture instrument, as it is oftentimes depicted in the international literature (e.g., Dunning et al., 2021; Valtonen et al., 2018, 2017; van der Krabben and Jacobs, 2013; Walters, 2013; Alterman, 2012; Zhao et al., 2012; Louw, 2008; van der Krabben and Needham, 2008; Passow, 1970). It can also be used as an instrument for public value co-creation, as illustrated by the Swedish cases. Municipal sustainability requirements connected to municipal land allocation are used for framing public value propositions, which are desired public value outcomes, in Swedish sustainability-profiled district developments. The land allocation process is then used to co-design the implementation of those requirements. This is an innovative use of an established instrument.

Introducing value co-creation theory to describe, explain and evaluate collaborative aspects of public-private exchange in public land development processes is another notable theoretical contribution made to this field. Furthermore, the dissertation contributes with an empirical micro-level analysis of the public land development approach, specifically municipal land allocations, at the district-level, which has been scarce as most previous research focuses on the institutional level (Valtonen, 2019). Case studies, where material consists of interview transcripts and various documents, have previously been used within the public land development literature, although the unit of analysis is typically a municipality (e.g., Woestenburg et al., 2019; Priemus and Louw, 2003), as opposed to district developments. Much of the previous research has also come from The Netherlands, making empirical

investigations from other countries important for improving the knowledge and understanding of different public land development practices.

Contributions are also made to value co-creation theory. By engaging with and adopting different branches of this theory in the different parts of the research, resulting in the papers, links and differences within value co-creation theory literature could be explored in the cover essay. For example, differences in terminology for similar phenomenon, such as value propositions versus desired public value outcomes, are made evident. In addition to this, the connection between public value co-creation, public value creation and public value capture are explored. Furthermore, the link between value co-creation and constructive conflict management is investigated and strengthened (Mele, 2011). The dissertation also contributes to the value co-creation literature by providing empirical research from a land development context, demonstrating how it can be applied in different empirical contexts for descriptive, explanatory, and evaluative means. Finally, whereas previous research posits that contracts hinder value co-creation (e.g., Ansell and Torfing, 2021a), the dissertation illustrates how public authorities use negotiable requirements in agreements to help frame value co-creation with private actors.

In addition to the contributions specifically made to the public land development literature, *contributions are made to the construction management field*. Throughout the course of the study, it became evident that there is potential for these fields to learn more from each other. This is especially true with regards to the empirical context that is presented. Therefore, I chose to explore the gaps of knowledge where these two neighbouring fields overlap in the hopes of identifying possibilities and paving the way for further interdisciplinary research endeavours in the future. Part of this endeavour included writing papers exploring overlapping knowledge for both fields.

8.2 Implications for policy and practice

Improving public-private collaboration for sustainable urban development

Innovative efforts to improve sustainability in urban development may be initiated and led by various actors involved in urban planning and construction, although they are typically collaborative in nature. The dissertation illustrates how these efforts must operate within the frame of land use planning processes and legal planning systems, as well as the business of the construction industry. Yet, these are not solely restrictive since the findings also illustrate how land use planning instruments, such as municipal land allocations, can be used innovatively to support public-private collaborative exchange for sustainable urban development. Municipalities'

possibilities and limitations for creating public value using municipal land allocations are outlined and discussed in the dissertation. Engaging various actors, such as private developers, more in public land development processes in order to drive sustainable development and innovation creates opportunities, but also tends to make dilemmas more complex. This is because the public and private actors that are involved have differing perspectives, interests, and value creation objectives. Despite the inherent challenges, the complex configurations of public and private actors in urban development projects provide ample opportunities for collaborative innovation.

Engaging in co-creation processes has implications for the skills practitioners need to cultivate (c.f. Ansell and Torfing, 2021a; Torfing et al., 2019) and the overall capacities the organisations need to develop (c.f. Eneqvist, 2022). Firstly, constructive value conflict resolution is crucial for collaboration between municipalities and developers during land allocation processes to result in value co-creation, as opposed to co-destruction. This is because project value and public value are inherently different in scope and content and are thus frequently in conflict with each other. Value co-creation in sustainability-profiled district developments hinges on finding innovative ways to enhance both private project value and public value through the same solutions and practices. It is therefore important for project managers from both the municipalities and developers to be prepared for and to be competent in collaborative problem solving and constructive conflict resolution.

To improve the chances of resolving value conflicts constructively, municipalities and developers should begin by making their interdependencies explicit. This forces actors to recognise that they cannot achieve their objectives on their own but must work with the other actors. This increases actors' concern for others, which leads to more constructive conflict resolution if combined with a high concern for oneself. This should also discourage actors from acting in their own self-interest at the expense of other actors, which the housing developers have a higher tendency of doing. To improve value co-creation, municipalities should also try to avoid making compromises and instead focus on finding innovative solutions that increase potential value creation for all involved actors. They also need to improve their negotiation skills to ensure that their sustainability requirements are implemented by the developers. This calls for a good understanding of the developers' perspectives combined with efforts to listen to and consider their perceived challenges.

As a consequence of taking on the role of a principal, municipalities should look for ways to align the housing developers' interests and objectives with their own in order to reduce value conflicts. For example, it might make sense to have developers build more rental apartments, offices, and hotels so that they have long-term interests and value creation objectives that align better with the municipalities'. New practices and

solutions developed in these projects could then be adopted in the construction of new condominiums as well, instead of doing the reverse as is the current trend in Sweden. This is important to consider during recessions when developers struggle to form viable budgets for the construction of new condominiums with many high municipal sustainability requirements that entail various costly innovations. A more extensive list of suggestions for municipalities to improve public value co-creation in sustainability-profiled district developments is provided in paper 4.

The importance of learning and knowledge transfer

Sustainability-profiled districts are intended to generate new knowledge for transitioning mainstream urban development practices, but whether they have this desired effect in practice is not certain (see e.g., Eneqvist, 2022; Growe and Freytag, 2019; Fitzgerald and Lenhart, 2016; Femenías, 2004). The findings presented in the dissertation reveal many of the complexities and challenges involved in generating such knowledge, and indicate that the process of ensuring that knowledge influences future developments is equally difficult to accomplish. For these findings to be meaningful and relevant for society, municipalities must develop their capacity to follow up and implement lessons into their organisations and find ways to improve the knowledge transfer process that should be taking place throughout the development and post completion. This should include both knowledge of new sustainable solutions and practices, as well as knowledge of the public-private value co-creation processes that generate them. Otherwise, what happens in a sustainability-profiled district development does not matter much for society at large.

There was some evidence of the sustainability-profiled district developments investigated herein influencing mainstream urban development in Sweden, although this should be investigated further in future research. There was, on the other hand, more evidence of learning occurring between sustainability-profiled districts through the municipalities in Sweden. For example, Stockholm Municipality applied much of what they had previously learned from developing Hammarby-Sjöstad to their current development of Stockholm Royal Seaport. Then there are also several networks forming between municipalities to help them share knowledge of their work in sustainability-profiled districts with each other. However, one negative result of this is a notable element of mimicry occurring between municipalities, meaning sustainability-profiled district developments risk becoming too similar and therefore less adapted to the local context.

Policymaking and legal ambiguities

Sustainability-profiled district developments are intended to help shape future policymaking (Smyth, 2005). They enable municipalities to test and develop new

policies that can provide a basis for future building regulations. Regulations for sustainable development typically reflect societal needs and not consumer needs (Toppinen et al., 2018). Co-creation between municipalities and housing developers in sustainability-profiled district developments could therefore help improve future regulations to also reflect consumer needs, which are in this context homeowners or renters that make up a considerable part of the public.

For municipalities to achieve their objectives to develop new policies using these types of district developments they need to have enough legal flexibility to test innovative solutions. Whether or not it is a good idea to give municipalities the legal flexibility they need to achieve their public sustainability objectives in this way is however still up for debate. Legal ambiguity is not an uncommon issue concerning different types of NDOs and developer contributions as there may be numerous varying motivations for using them (c.f. Hendricks et al., 2021; Alterman, 2012), which the findings confirm. When using NDOs it is therefore important to reduce ambiguities and potential legal concerns by making motivating rationales explicit.

Legal ambiguities currently undermine the legitimacy of Swedish municipalities' governance practices when using public land development for sustainability-profiled districts. Since they are not legally permitted to prescribe special requirements on buildings' technical properties, there needs to be more clarification concerning their possibilities and limitations for negotiating such requirements with developers in connection to the transfer of municipally owned land. This also has implications for their ability to follow up on the actual implementation of municipal sustainability requirements after project completion. Francart et al. (2019) have previously noted these issues as well. It should either be clarified that this is not a legally permitted practice, or there should be regulations surrounding municipalities' possibilities to still negotiate special requirements with developers.

8.3 Suggestions for future research

This dissertation contributes to knowledge of public land development with new perspectives and insights on municipal land allocation processes in sustainability-profiled districts, revealing potential avenues and lines of inquiry for future research. There is still much about the public land development approach in these types of districts that remains to be explored. Below I present suggestions for future research based on the findings and limitations of the dissertation.

Methodological limitations

All research methods have their strengths and weaknesses. Future research should therefore explore public land development in sustainability-profiled districts using different methodological approaches, both to challenge the results and to fill in gaps.

Firstly, case studies provide rich, in-depth, and context-dependent knowledge, as well as being good sources of insights for future research. However, they do not provide a basis for generalisations of wider populations, and they are difficult to replicate. There were between one and five sustainability-profiled district developments analysed in each of the papers, which makes it difficult to be sure whether this small sample is representative of these types of districts more generally. Future research should investigate aspects of the findings presented herein using, for example, quantitative research methods to analyse larger data sets. Data could, for instance, include relevant government statistics or be collected using surveys to reach a larger number of respondents in Sweden and internationally. Another option could be to conduct an interview study, which would allow for the collection of similar material to that presented in the dissertation, but from a slightly larger sample size.

The research focused on investigating both the municipal and developer perspectives, and the overall number of interviews conducted with each type of actor is comparable (14 versus 13). However, the developers' perspective was only investigated in one of the cases presented herein, as well as the case where materials were gathered by Niklas Törnå, my co-author for paper 2. In each case there were between one and three relevant municipal urban planners, while each district stage consisted of around a dozen housing developers, meaning potential interviewees for the actors in each case was skewed. For this reason, I decided not to address both perspectives in every case for all the papers, opting to focus more on one perspective in each paper and combining these results in the cover essay. Furthermore, I had access to very few documents produced by the housing developers in comparison to the large number of publicly available documents from the municipalities, further skewing the material that was collected. Future research should attempt to rectify these issues by investigating both perspectives simultaneously in more cases and try to provide a more balanced analysis of them. Although it might not be possible to provide a completely balanced analysis of these perspectives, since the real world rarely provides perfect conditions for non-experimental research, combining results produced by different research designs could help identify inconsistencies.

Sampling choices also limited the types of comparisons that could be made. For instance, the research herein is focused on the Swedish context and its regulatory framework, and comparisons are only made between sustainability-profiled districts based on characteristics of the municipalities that initiate and govern their development. To further test the transferability and international relevance of the results, future research could explore similar practices in other countries and compare the use of public land development to achieve sustainability-related public objectives in different national contexts. Future research should also compare public and private land development in sustainability-profiled districts to fully grasp the

implications of landownership for collaborative exchange between municipalities and developers.

The research herein also focuses on micro-level processes, which should be complemented with macro-level research. The research does not allow for comparisons to be made to the more extensive research on public land development that focuses on the institutional level, but instead complements this literature with knowledge on its implementation in sustainability-profiled districts. Future research could perhaps work towards merging this knowledge to form a more holistic understanding of the phenomenon.

Advancing knowledge of actors

In the dissertation, the municipality is treated as one actor, but this is quite a gross simplification of reality. Swedish municipalities are complex organisations made up of many departments that all have their own function, objectives and interests. However, delving into the complexities of how municipalities are organised and the influence this has on value co-creation in sustainability-profiled district developments could, and should perhaps, be a dissertation in and of itself (see e.g., Eneqvist, 2022). The findings did reveal that there were important value conflicts within municipal organisations that could be explored further.

In relation to housing developers, the findings illustrate that differences in size and previous experience are indicative of how they contribute to co-creation processes during municipal land allocation. Considering the importance of their role, it would be fruitful to investigate further how different types of developers' competencies, and combinations of different types of developers in district stages, influence co-creation processes during land allocation.

Herein, the focus has been on municipalities and developers as two central actors for value co-creation during land allocation in sustainability-profiled district developments. Findings do however reveal that there are several other actors involved in these co-creation processes. These other actors and their roles could be investigated further.

Advancing knowledge of other parts of public land development and sustainability-profiled district development processes

The dissertation is primarily concerned with the co-design of sustainability requirements during municipal land allocation processes. Future research should explore further co-creation in other parts of public land development processes. For instance, the land assembly/readjustment processes were only investigated briefly and retrospectively. Future research should investigate further potential connections

between these earlier public land development processes and public value co-creation.

The implementation process is also only given moderate consideration. Future research should investigate the implementation process of sustainability-oriented developer contributions. Furthermore, the dissertation did not address the process of assessing actual value creation after project completion from these actors' perspectives, meaning there was no investigation of actual value-in-use. Future research could explore further the process of following up, which several municipal planning project managers that participated in the study explicitly call for as well. How the process of evaluating and assessing the creation of public value and project value differ could, for example, be investigated.

Another important question when considering different types of sustainability-profiled districts is the dissemination of new knowledge. As Eneqvist (2022) argues, just because these districts have good results does not mean new solutions and practices will be scaled up. There needs to be more research on learning and knowledge transfer within the district development between the different stages, which the findings indicate does occur; learning from one district development to the next; learning within the municipal organisation to influence mainstream developments; and learning between municipalities. For instance, Eneqvist (2022) found that urban experimentation in Stockholm Municipality happens in silos, which the results herein indicate is primarily an issue in very large municipalities. In smaller municipalities, sustainability-profiled districts appear to draw the attention of the entire municipal organisation, which is not as big. This difference in learning within the municipal organisation between large and small municipalities should be investigated further.

Advancing knowledge of property rights and public value capture

Acting as both public authorities, with a monopoly on planning, and as landowners, Swedish municipalities' utilisation of land allocations to drive sustainable urban development has implications for questions pertaining to property rights which require further consideration. In this dissertation, I explore opportunities for public and private value co-creation in the context of these public land development practices, as well as related challenges and problems perceived by municipalities and housing developers during planning. However, consequent questions and issues pertaining to property rights have not been investigated fully. For instance, questions concerning municipalities' limitations of utilising developer contributions combined with public land development are important to consider in relation to equitable public value capture.

Regarding public value capture, future research should also investigate further the financial aspect of using sustainability-oriented developer contributions and NDOs. The municipalities are using public value capture instruments to mobilise developers and their resources for public value creation. How experimentation for public value creation is financed is a question that should be explored further, especially considering how profitability is an important question for developers.

Advancing co-creation theory

The case of utilising public land development to develop sustainability-profiled urban districts is explored from a value co-creation perspective. This theory is applied deductively, meaning it is not questioned and critiqued. Future research could investigate this empirical context with the purpose of critiquing and building up the value co-creation theory. For instance, an undisputed underlying assumption of the co-creation literature is that co-destruction is an undesirable outcome, but I am not convinced that this is the case. It is common wisdom that there is an element of destruction necessary for any creative endeavour. Might it be possible that some form of co-destruction is then also necessary for successful co-creation? More research on co-destruction is needed. Future research could, for example, explore if there are different types of co-destruction and whether all forms of co-destruction are undesirable to test this underlying assumption.

Applying other theories and perspectives

Value co-creation is a very normative theory that is close to practice observed in sustainability-profiled district developments as both are highly concerned with fostering collaborative innovation. Applying value co-creation theory to this specific empirical phenomenon may therefore mean that many other interesting aspects were glanced over and missed due to becoming too narrow sighted. I did complement the value co-creation theory with some other theories, such as conflict management, principal-agent theory, and public value capture, to understand different aspects, but this should be explored further in future research.

There are several other theoretical perspectives that might be fruitful to apply to the empirical phenomenon explored in this dissertation. These other theories could illuminate important aspects that were not identified. For example, network theories could be applied to gain a better understanding of the actors involved in co-creation during land allocation and their ties to each other. Meanwhile, to generate more knowledge on the development of public land development practices in Swedish municipalities for co-creation and sustainable development, a practice theory or institutional theory (see e.g., Bisschops and Beunen, 2019) approach might be enlightening.

Negotiation theories would also be useful for future research to apply to this empirical phenomenon and context. I have contributed with a programme and project level analysis that illustrates how municipalities are structuring their collaboration with developers using instruments connected to land allocation. In terms of their actual interaction with each other, I also investigated and analysed their approach to conflict resolution. However, there is, as I can see it, a need for more research on the micro level interactions between individuals to understand how dialogue and negotiation is carried out in various arenas. Identifying behaviour that is conducive for dialogue and negotiation in this context and rooting out things that are hindering it could be helpful for practitioners to improve these processes. For this kind of research, more observations of interactions would be useful.

The research illustrates the importance of solving problems rooted in value conflicts as a part of translating values during co-design processes. Instances of overcoming such challenges became central to the evolving story being told about each district. Adopting some form of narrative approach (Creswell, 2009) might be fruitful for generating further insights into how value conflicts contribute to the creation of meaning in sustainability-profiled districts. Narrative analysis has previously proven suitable for co-creation research (see e.g. Wåhlin et al., 2016), and might be worthwhile to apply to the empirical context that has been the focus of this dissertation.

Improving practice

Several recommendations for enhancing public and private value creation are presented. A logical next step for tackling the real-world problems that have been identified and investigated could be to engage in participatory action research (c.f. e.g., Brandt et al., 2013) and use some form of design experiment method to see how well different interventions work in practice. The dissertation illustrates that the space between collaborating public and private actors houses chaos in that there is great potential for both creation and destruction, which I would argue are two equally necessary forces for progress. Land ownership plays an important part in shaping this space and framing co-creation. To tackle the wicked problems that face planners today, future research should support them in finding better ways to form, navigate and exploit these chaotic spaces. As Alfred North Whitehead (1929; 399) famously said:

"The art of progress is to preserve order amid change and to preserve change amid order".

9. References

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10. Appendix

10.1. Appendix A, Interview guide

The order and formulation of questions and follow up questions varied between interviews.

Introductions:

- Presentation of myself and my research project
- GDPR and anonymity

Background information:

- Date, time, location and name of interviewee
- Interviewee's title, relevant previous work experience and role in the project/programme
- Their organisation and project/programme history

Examples of guiding questions for housing developers:

- How would you describe this project and how does it compare to other projects? Is there anything about this project that stands out?
- How is the project progressing? What is happening now and who is involved?
- How do you perceive the conditions for delivering this project?
- What are currently the biggest challenges and uncertainties for you and why?
- How would you describe your goals and interests in this project?
- Do your interests align or differ from the municipality's? How?
    - If there are conflicting interests how are they addressed?
- How would you describe the relationship between the municipality and developers in this programme?
- How do you view the use of land allocation agreements in the programme?
- How would you describe the municipality's role in the developers' projects?
- What are your thoughts on the municipality's sustainability requirements?
- How do the municipality's sustainability requirements affect your project?
- Have the municipality's sustainability requirements changed or developed?
- Which requirements do you find the most challenging to implement and why?
- How do you collaborate with the other developers?
- How are you planning for procurement?
- Have I missed something important you want to address?

Examples of guiding questions for municipalities:

- How would you describe [name of district] and how does it compare to other district developments? Is it a regular urban development project or are there aspects that stands out?
- Could you describe the municipality's work process? Where in this process are you and what is happening now?
- What societal value would you say the municipality is wanting to create in this district?
    - How were those specific ambitions decided upon?
    - How do you work with these goals in the detailed planning process?
    - Do the municipal land allocations contribute to achieving these value creation goals? If so, how?
    - Have your ambitions developed or changed during the process? If so, how and why? Examples?
    - How do you follow up?
- What actors are involved in the detailed planning and land allocation process?
    - Why are they involved, what is their role and what are they contributing?
    - Do they influence or contribute to your value creation goals in any way? Positive or negative?
    - How do you think their ambitions and desired value creation compares to yours? Do they align or differ? How?
- How do you collaborate with other involved actors?
    - Communication?
    - Where, when and how do you meet?
    - How has the covid-19 pandemic influenced this? Have you adapted? If so, how?
- Have the developers in this stage communicated any difficulties to implementing the municipal sustainability requirements? Examples?
    - Do you help the developers deal with challenges in any way?
    - Do solutions change or develop when developers are brought in? Are they improved or do things fall away? Examples?
    - If you or the builders do not succeed in finding solutions that suit everyone, how do you handle those situations? Examples?
- The Planning and Building Act states that building owners can negotiate the planned land use for a certain period of time after land allocation. Are there negotiations and if so, what do they look like and what are they about?
    - How does the negotiation process work? Guidelines, standard practice or is it completely different between projects?

- In addition to what we have already discussed, has covid-19 affected your work in any other way?
- Have I missed something important you want to address?