Approaching Sustainability in Local Spatial Planning Processes: A Case Study in the Stockholm Region, Sweden

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Abstract: The quest for cogent responses to sustainability goals challenges local spatial planning practices across growing metropolitan regions to develop planning approaches that enable transformative capacity in increasingly complex settings. Based on a case study conducted in the Stockholm region, this paper explores the design and organization of local planning processes to provide a basis for a discussion of alternative approaches that may enhance sustainability in plan and project development. More specifically, it aims to analyze the conditions for embedding and consolidating sustainability issues in local planning processes. The results show that the municipalities need to create conditions for an effective interplay between the planning work carried out in individual projects and the organization of resources, knowledge, and skills on which the projects depend to handle sustainability issues. This study contributes to the understanding of the challenges associated with putting sustainability into practice at the local level by identifying and conceptualizing three important barriers. By acknowledging the temporal, locational, and procedural dimensions of knowledge in local planning processes, planning practices may become better at knowing when, and in what ways, different forms of knowledge can become created, introduced, and used in a synergistic manner to aid the realization of sustainability goals.

Keywords: sustainable urban development; local planning; process design; co-production

1. Introduction

Over the last 30 years, the understanding of the notion of sustainability has evolved, which since 2015 is manifested in the Sustainable Development Goals (SDGs) and Agenda 2030 providing a framework for transformative action [1]. Against a backdrop of extensive growth across metropolitan areas, it is important how spatial planning processes are utilized in local planning practices to contribute to the realization of established sustainability goals and objectives. Whilst spatial planning holds a promise for changing the trajectory of urban development, the quest for cogent responses to the SDGs leaves planners facing dilemmas in their practices trying to balance competing needs in increasingly complex planning contexts [2]. At the local level, sustainability emerges as a context-depending concept that needs to be translated and contextualized, and where local authorities respond and act differently [3]. For example, Gustafsson et al. [4] note the importance of understanding how sustainability objectives are translated and integrated into local steering documents, and highlight the need to organize communication across municipal departments through a combination of comprehensive administrative systems and emerging bottom-up initiatives. Savini et al. [5] conclude that innovation in planning practice could benefit from an enhanced understanding of the dilemmas of intervention, regulation, and investment, possibly rendering planning approaches that enable a better navigation
between the paradoxical need for both control and adaptability in planning and urban development.

Over the last decade, a growing body of research has focused on the role of spatial planning in urban governance (see, e.g., [6]), emphasizing how planning is intertwined and structured by wider economic, social and environmental forces. Salet and de Vries [7] offer a detailed account of how planning has become positioned between the two philosophies of legal steering and interactive governance, causing a spectrum of governance-related tensions in planning and urban development. Among other things, this has resulted in the emergence of soft spaces in planning, e.g., [8–10], which provides room for networked forms of governance outside the statutory planning system. As discussed by Mäntysalo et al. [11], the institutional development of moving away from the statutory planning process may prove challenging for the legitimacy of planning, especially since planning decisions and spatial imaginations risk becoming more distant, less visible, and less accountable to communities and society as a whole [12]. The shift towards governance arrangements that involve multiple actors has influenced the context-specific institutional setting for spatial planning processes. In this setting, local governments face the complex task of intermediating between (inter-)national and local visions and practices [13], a process which articulates the relations between existing governance arrangements and local action.

The transformative capacity of spatial planning and local governance arrangements are challenged by requirements to turn the SDGs and the New Urban Agenda [14] into actions. Across metropolitan areas, local governments face specific conditions and need to find planning approaches able to respond to demands for both sustainability and extensive urban development. Local planning processes draw upon procedures stipulated in legislated planning systems. Planning systems, which allow government bodies to control spatial transformations by allocating land use and spatial development rights, have been described as institutional technologies [15]. These technologies, including both strategic masterplanning and local-level land-use planning, vary between countries both in terms of “model” [16] and designated jurisdictions that establish formal planning mandates across levels of government [17]. Due to the increasing significance of non-statutory approaches, current planning practices are often hybrid approaches characterized by a mix of statutory and non-statutory processes. Local practices can lean towards the former or the latter. For example, the emerging strategic incrementalism of Lahti, Finland, constitutes an interesting example of a local planning approach with the potential to strategically use statutory planning instruments (including masterplanning) to guide urban development [18].

In Sweden, the overarching aim of the Planning and Building Act (PBL) is to promote sustainability for current and future generations, and the planning mandate of the local level is particularly strong [19]. Similarly to Norway and Denmark, the Swedish planning system is associated with the comprehensive-integrated model that emphasizes vertical and horizontal coordination across planning levels, although recent research has shown that the extent of coordination and comprehensiveness varies between countries, levels of government, and in terms of the role of spatial planning within sectoral policy fields (e.g., transport, environment, energy) [20]. The Swedish planning legislation leaves room for flexibility in terms of approach as a means to let the 290 municipalities cope with local conditions for development [21]. The PBL provides a framework for the preparation of spatial plans and includes a hierarchy of three main spatial planning instruments at the municipal level: strategic comprehensive planning, mid-level planning, and local-level detailed planning (see Figure A1 in Appendix A). Furthermore, in Sweden there is a substantial need for new housing [22], which has led to a policy debate regarding the efficiency of the existing planning legislation (see [23]). Here, following the development also in other Nordic countries (see [11]), private developers have come to play a more distinguished role in planning and urban development processes, and there are recent
examples of how local governments reconfigure their planning approach (e.g., [24]) to cope with the transition from a conformative- towards a neo-performative model [16].

Against this backdrop, analyses of how local governments organize their planning processes can create knowledge regarding opportunities and barriers to realize sustainability objectives as formulated in the SDGs and national goals through local planning. The overall aim of this paper is to explore the design and organization of local planning processes to provide a basis for a discussion of planning approaches that may enhance sustainability in plan and project development. More specifically, the study aims to analyze the conditions for embedding and consolidating sustainability issues in local planning processes. The following research questions are addressed:

- How do practitioners experience the conditions for responding to demands for sustainability in municipal planning practice?
- How is the municipal planning process organized under different contextual circumstances to enable the inclusion of sustainability issues in urban development planning?
- In what ways can local planning practices be developed to promote the inclusion of sustainability?

This study is part of the research program ISSUE (Integrating Sustainability Strategies in Urban Environments) that was launched in 2016 and that aimed to explore new trajectories for sustainable urban development.

2. Materials and Methods

This study used a qualitative research design to explore the design and organization of local planning processes. In accordance with Lang, et al. [25], the purpose of the research design was to orchestrate a research process aiming to co-produce knowledge regarding the conditions for embedding and consolidating sustainability issues in local planning processes. The research process was based on a case study approach in Nacka and Täby municipalities, Stockholm region, Sweden, and focused specifically on the planning of two main development areas in the selected municipalities. As described more in detail in Section 2.2., these municipalities were selected as they provide two actual and illustrative examples of how local authorities organize and manage an urban development process that responds to demands for both housing construction and sustainability.

2.1. The Research Process

In 2016, the research process was initiated by the formation of a cross-disciplinary “think tank”, which included representatives from the two municipalities (Nacka and Täby), consultancy firms, private developers, and academia. Over a period of three years, 14 research activities (including two workshops) were arranged in the think-tank, each lasting for three hours. From the municipalities, representatives and managers from different units (e.g., comprehensive, detailed development, and environmental planners) volunteered to partake in the research process. A core formation of 7–8 participants, representing key competencies in the municipal spatial planning process, continuously attended all research activities. All research activities were documented by participating researchers in the form of extensive notes. These notes provided the basis for the iterative process of analyzing the empirical findings, including materials from the workshops and relevant planning documents.

The research process was organized to respond to the research questions by designing research activities to facilitate the interplay between research and practice. Accordingly, the co-production of knowledge was based on an incremental and iterative approach, that included a sequence of activities (e.g., data collection and analysis) which guided the design of subsequent research activities to deepen the understanding of key issues related to the organization and design of the municipal planning process, see Figure 1. Hence, the results from the analysis of the empirical findings (e.g., conceptualizations) were continuously fed into the think-tank, and used to design subsequent research activities. This allowed for a
flexible and dynamic approach that facilitated the co-production process. In this way, the practitioners were, throughout the study, involved in critically analyzing and elaborating upon the results from previous research activities.

Figure 1. Schematic illustration showing the relations between research activities in the think-tank ($n = 14$), data collection, analysis and synthesis of preliminary results. The iterative research process enables adaptation of research activities throughout the three phases.

The research process, which consisted of three main phases, was designed to have activities contribute to progressive learning and an increased understanding among participants. In the first phase, the aim of the research process was to identify and explore existing challenges concerning the planning context and municipal spatial planning processes, and to establish a common understanding of the research object. Participating municipalities provided in-depth presentations of the development areas, i.e., Nacka Town and Täby Center. These activities ensured practical relevance, and became a point of departure for the iterative co-production of knowledge regarding the organization and design of local planning processes.

In the second phase, activities in the research process aimed to co-produce knowledge about the preconditions for responding to sustainability issues and challenges in municipal planning processes at different levels, i.e., from the strategic comprehensive planning to the detailed development planning and plan implementation. These activities resembled semi-structured focus group interviews, and were designed to foster cross-disciplinary reflection. In accordance with Bryman [26], research activities aimed to sample experiences and perspectives from both public and private actors, and to establish an understanding based on the interaction of the participants. Furthermore, the findings from previous research activities were continuously iterated and contextualized. Additionally, research activities were designed to allow practitioners to assess the external validity of the empirical findings based on their general understanding of municipal spatial planning processes formed by their participation in projects and planning processes other than the selected cases.

In the final phase, two workshops were arranged to further explore the conditions for, and the design of, the project-based local-level planning process. Three specific challenges acted as a basis for the workshops: (i) intra-municipal co-operation; (ii) forms for co-operation between the municipality and developers; and (iii) the relation between the local-level planning process and project implementation. Furthermore, in the final activities of the research process, the practitioners were involved in critically analyzing and validating
the results from the analysis of the empirical material. This allowed for a reiteration of important issues raised throughout the process and resulted in the identification of the main barriers related to the design and organization of the municipal spatial planning process, each influencing the conditions for realizing sustainability in local planning practices.

2.2. Case Studies: Nacka and Täby Municipalities

The municipalities of Nacka and Täby, classified as commuter municipalities close to a major city [27], are located in the Stockholm region, see Figure 2. Today, this region holds approximately 2.3 million people, and by 2050, the population is expected to reach 3.4 million—an increase of nearly 50% [28]. In 2016, there was an estimated shortage of 70,000 units of housing in the Stockholm region [29], and the lack of housing remains an explicit regional challenge to be addressed [28].

![Map of Sweden and land use map of Täby and Nacka municipalities.](image)

Figure 2. Map of Sweden and land use map of Täby and Nacka municipalities.

The selection of the cases was based on three main reasons. First, both cases have designated cores in the polycentric spatial development envisaged in the regional plan for the Stockholm region [28, 30]. The studied development areas constitute the designated regional cores and share similar spatial challenges, including, e.g., physical barriers (motorways and light rail) and nearness to sensitive green- and blue structures, e.g., the regional green wedges [28]. Second, both municipalities have participated in the state-led negotiations for housing and infrastructure development. These negotiations, i.e., the Stockholm negotiation (see [31]) and the more recent National Negotiation on Housing and Infrastructure (see [32]), were conducted between the national government, regional authorities and municipalities to address the housing shortage and the need for infrastructure investments. Whilst the former focused on the Stockholm region, the latter led to an agreement to construct approximately 285,000 housing units across Sweden. The municipalities’ commitments put additional pressure on local planning to ensure the development of the promised amount of housing. Third, in both municipalities, the development
areas are exceptional in terms of scope for spatial development, which alters existing local preconceptions and requirements of planning practices.

2.3. The Development Areas: Nacka Town and Täby Center

The population of Nacka is approximately 103,000 people [33]. By 2030, it is expected to reach 145,000, and the comprehensive plan includes four urban development strategies, e.g., to create dense and mixed-use urban development on Västra Sicklaön [34], i.e., the location of Nacka Town (see Figure 3). The comprehensive plan expresses the need to balance the ecological, social, and economic dimensions of sustainability and the plan includes both qualitative and quantitative goals [34]. The Stockholm negotiation resulted in an agreement on the anticipated extension of the Stockholm Metro to Nacka resulting in three new stations in the study area, while the municipality promised to plan for 13,500 new housing units and secure the construction of 800 new units of housing per year [31], which is about double as many as planned for in the municipality’s comprehensive plan of 2012.

The population of Täby is roughly 71,000 inhabitants [33] and is projected to reach 130,000 by 2050 [35]. The comprehensive plan focuses on creating conditions for a dense, mixed-use urban development and providing new public transport services [36]. Täby’s participation in the national negotiation resulted in a decision to extend the light rail system (Roslagsbanan), while the municipality promised to plan for 16,200 new housing units by 2035 [32], compared to 9000 housing units by 2030 according to the previous comprehensive plan of 2010. Täby Center is located in the southern part of the municipality (see Figure 4). The area is comprised of 15 subareas, among these Västra Roslags -Näsby and Täby Park, which are developments projects that have been objects for discussion in the research project. The detailed comprehensive plan for Täby Center, which the municipality started to prepare in 2015, builds upon three urban development objectives and nine corresponding strategies aiming to facilitate the transition towards a sustainable regional core [35]. In the adopted version, the SDGs act as a starting point for the plan’s strategies, to ensure that local actions contribute to global goals [35].
3. Results

The results are presented in three main sections. The Section 1 outlines the planning context and how the municipal planning organizations adapt to changing circumstances. The Section 2 concerns the role and approach of mid-level municipal planning processes. The Section 3 focuses on the organization of the local-level planning process.

3.1. The Planning Context and Organizational Adaptation

According to the municipal officials, one significant challenge related to the management of the urban development processes in Nacka Town and Täby Center is to propel a sustainability agenda whilst being responsive to the political, organizational and professional context. The municipal officials express that the preparation and adoption of strategic planning documents has been instrumental for establishing goals, promoting the consideration of sustainability in the municipal planning process, and to gain a wider understanding and acceptance across the municipal organization. For example, in Täby, the mandatory review of the comprehensive plan’s topicality unveiled deficiencies in handling sustainability issues, e.g., regarding sustainable mobility and energy provision [35]. Earlier, the municipality’s first ever environmental plan (see [37]) provided a basis for making arguments regarding the necessity of developing sustainable urban districts, which set off sustainability ambitions for the planning of Västra Roslags-Näsby and Täby Park. To contextualize sustainability issues locally is important because, as outlined by an environmental manager in Nacka, local politicians tend to prioritize local and regional objectives vis-à-vis national and global sustainability objectives, and are keen to emphasize issues in which their municipality can stand out and excel.

However, due to the ambitious plans for urban development, long-term sustainability objectives are pushed aside, and the organization of the municipal planning process is reconfigured to cope with established goals for development and urban growth:

“By 2030, we are to build so and so much, quality comes second; everything is subordinated to quantity”.

Figure 4. Land use map of Täby Center.
“The focus is on the amount of housing, then comes welfare, environment, business, social sustainability, and habitats”.

“Many issues in need of coordination are displaced by the demand for new housing”.

Three quotes from the workshops (our translation).

According to the officials, the planning of the proposed development areas poses new demands and challenges the organization of planning activities. For example, in Nacka, a unit for strategic planning was established which, as put by a planning manager, partly aimed to monitor the development process as politicians are keen to keep track of economic concerns. However, monitoring has to a great extent focused on quantitative parameters, i.e., development volume and growth objectives, and there is a lack of evaluation regarding other design-, or sustainability-related qualities related to individual projects.

In the planning processes, the consideration and consolidation of sustainability goals and objectives relies on the ambition to introduce different forms of knowledge and professional competencies. However, this ambition can be hampered by existing local project models that aim to streamline the planning process and increase efficiency. For example, Nacka municipality [38] has identified different typologies of planning projects, which guide the organization of the planning process, define the roles of the different municipal departments, e.g., environmental expertise, and configure the interaction of core responsibilities. In both Nacka and Täby, the planning and land development units collaborate throughout the planning process, but the economic significance of land development creates an asymmetric relation. Additionally, the municipal representatives state that the increasing pace impedes learning and capacity building, partly because the projectification of planning creates incentives for quickly moving on from one project to the next.

3.2. The Role and Approach of Mid-Level Planning Processes

Due to the scale and intensity of the proposed development, the decision to develop the large-scale areas of Nacka Town and Täby Center poses new challenges related to the organization and coordination of the urban development process. According to the municipal officials, the mid-level planning process serves two main purposes in both municipalities:

First, the mid-level planning allows the municipalities to coordinate spatial development and respond to the outcomes of their participation in the state-led negotiations regarding housing and infrastructure. According to the officials, the need for coordination was further accentuated by the fact that the outcome of the negotiations extended the scope of planning activities and required amendment of existing planning intents because the commitments that both municipalities agreed on involved a more extensive undertaking than what was anticipated in the municipalities’ adopted comprehensive plans.

Second, both municipalities identified a need to provide a context for ongoing and future lower-tier planning activities within the designated areas. For example, and similarly to Nacka, Täby municipality had already initiated local-level planning for two areas within Täby Center, a plan program for Täby Park (see [39]) and a detailed development plan for Västra Roslags-Näsby (see [40]), when the mid-level planning process started. According to a planning manager in Nacka, the participation in the negotiation sparked “a major chain reaction” of spatial development within the area, which further increased the need for coordination of planning activities. Hence, the mid-level plan is used to contextualize and coordinate already ongoing planning processes and, according to one planner, to avoid a trajectory where planning activities form “spatial islands”.

However, despite a similar role, the two investigated municipalities utilize different mid-level planning approaches. Täby adopts a statutory approach, i.e., the mid-level planning process is intended to result in a detailed comprehensive plan, in accordance with legislation. To contribute to a creative process and as part of the development of the statutory plan, Täby conducts a sustainability assessment based on the indicative, consultative version of the plan. Nacka, on the other hand, uses a non-statutory approach called structural planning since the statutory instrument is assessed as being time-consuming and
too rigid and inert. Furthermore, the municipality realized that the mid-level plan needed to be continuously revised due to changes within different local-level projects. Accordingly, the structural plan has been updated twice and exists in three editions (see [41–43]), which has provided a degree of flexibility considered to facilitate the coordination process within the organization as well as with external actors. According to a comprehensive planner in Nacka, and similarly to Täby, a multi-disciplinary team was hand-picked to conduct the structural planning process which covered different thematic areas, e.g., infrastructure and sustainability. However, unlike Täby, the structural planning process was not accompanied by a sustainability assessment. Instead, the team developed a sustainability program that was later cancelled by top-level management.

3.3. Organizing Local-level Planning Processes

Based on the case studies, the investigated municipalities experience similar conditions and challenges related to the local-level planning process. According to the practitioners’ accounts, the planning process is considered to consist of three interconnected main phases: (i) the early non-statutory phase where projects are initiated, (ii) the early statutory phase where projects are contextualized, and (iii), the later statutory phase where planning intents are becoming increasingly concrete and formalized.

3.3.1. Mobilization and Initiation of Local-Level Planning Projects

According to the municipal officials, the initiation of the local-level planning process is influenced by the configuration of the municipal-developer interface, i.e., how the municipality channels and responds to developers’ initiatives. This interface is often characterized by informal contacts between stakeholders, e.g., land owners, politicians, and/or different municipal departments.

Land ownership has a profound influence on how planning initiatives emerge and the orchestration of subsequent phases of the local level process. The municipal officials express that it is easier to steer and control the process if the municipality owns the land and thereby can define sustainability requirements. In Västra Roslags-Näsby, one area within Täby Center, the municipality owns most of the undeveloped land [35]. Here, the municipality invited developers that agreed to comply with the municipal requirements at the prospect of obtaining a land allocation—a process guided by a sustainability program and aided by the attractive location. Contrarily, in Täby Park, another development site within Täby Center, the land is owned by four developers. Here, a sustainability program was prepared in collaboration with Täby municipality, yet the municipality has limited opportunities to enforce the implementation of the proposed sustainability measures that lack legal support.

Nacka municipality previously relied primarily on developments on privately owned land, but has recently begun to initiate urban development on municipally-owned land. However, the most common case in both municipalities is that developers initiate the process and, consequently, their planning initiatives set the agenda for subsequent phases of the process. In this situation, according to an environmental planner in Nacka, there is a risk that the process of consolidating planning intents has come too far already in the early, non-statutory phase, resulting in a predestined project trajectory and a limited leeway for exploring site-specific development options. Under such circumstances, it is crucial for the municipality to create conditions for responding to a central challenge related to the local-level process: to have developers align their initiatives with municipal objectives and work towards established sustainability goals.

In both municipalities, existing policy, strategies, and plans (e.g., environmental plans, the municipal comprehensive plan, the local accessibility strategy, and the national environmental quality norms) are considered to enable a proactive stance in the fuzzy front-end of urban development processes and help to shape the municipality’s agenda. To govern development and safeguard the consideration of sustainability issues in the planning process, it is crucial to coordinate and circulate information between planning levels since existing municipal policies, strategies, and plans constitute a basis for the local-
level planning process and are used to settle important preconditions for subsequent phases of individual projects. However, according to one environmental planner, the relevance of existing policy and strategies is assessed in terms of concreteness and applicability in the planning projects. An example is the sustainability program (see [44]) linked to the detailed development plan in Västra Roslags-Näsby that provided guidance for discussions between the municipality and developers on various measures to enhance social and environmental sustainability.

3.3.2. Contextualization and the Consideration of Sustainability Issues

According to the municipal officials, it is essential to ensure that sustainability issues are noticed, understood, and considered as early as possible in the process. However, the process of aligning private initiatives with municipal objectives works differently depending on land ownership. In the case of privately-owned land, a planner from Täby highlights the role of the municipal planning monopoly, and making proper use of the assessment tied to the preliminary response (Sw: planbesked). This response is the first formal contact between the municipality and the landowner and is used to give a quick and clear message about whether the municipality intends to initiate a detailed development plan or not. When the municipality owns the land, intra-municipal cooperation and the circulation of information is emphasized, as the demands in land allocations build upon existing strategies, programs, and plans. Irrespective of land ownership, both municipal officials and developers highlight the importance of creating a common vision for the project. This undertaking demands trust among participating actors, in order to balance different agendas and overcome different conceptions of sustainability.

Both municipalities have developed measures for aiding the process of contextualizing planning projects, support the municipal-developer dialogue, and facilitate the integration of sustainability issues into detailed development planning processes (see [45,46]). These measures target the task of scoping and include both substantive and procedural guidelines. For example, in Nacka, the substantive guidelines include 12 focus areas with measures and indicators from which the developer is to choose at least three. Yet, despite existing measures, representatives from both municipalities express that certain issues are not considered by default, and that some issues take precedence over others. One reason for this is that the presence of municipal competencies in individual projects varies in different phases of the planning process. For example, an environmental planner explains that he has to distribute his time among approximately 30 parallel planning projects whilst, e.g., the land development engineers typically work with 3–5 projects.

Furthermore, municipalities lack legal support to define requirements in the detailed development plan that specify technical solutions, e.g., related to energy provision, waste management, building materials, and greenery in courtyards. Due to this, the practitioners explain that it is essential for the planning process to know how to translate a vision into concrete requirements that ensure to-be-implemented solutions. The municipalities are keen to find ways to translate needs and requirements into formalized demands that ensure the sought-for function once the project is completed. As put by a developer, there is a need for a more developed understanding of how specific demands (e.g., for parking or bicycle stands) are actually put into practice during implementation.

3.3.3. Concretization, Formalization, and Plan Implementation

According to the municipal officials, the character and pace of the early phases can vary quite a bit. For example, as stated in 3.3.1, there are variations in terms of how far an initiative has been developed when it enters the formal phase. Despite such variations, the municipalities share a need to find ways to use the process to not have projects deviate from the formulated vision, whilst maintaining a flexible approach that allows for adaptation and further elaboration.

In the workshops, the practitioners outline three aspects that influence the prospects for maintaining the vision for the project. First, the planning process often spans several
years, and is subject to changing external conditions (e.g., altered building regulations, new technologies, or new perceptions of sustainability). Altered conditions may require a re-consideration of earlier decisions regarding the project. Second, according to both municipal officials and developers, there are challenges with discontinuous participation, ranging from individuals to organizations. Third, knowledge and understanding get lost throughout the process when transitioning from one phase to another, and specifically in terms of why certain choices are made. According to the practitioners, sustainability planning is in a vulnerable state when it depends on the engagement and competency of individuals only, instead of being grounded in an established process. Both developers and municipal officials claim that, in particular, non-technical issues place high demands on the planning process, e.g., an urban design to foster livability and attractiveness.

Throughout the planning process, different documents (e.g., technical investigations, the map of plan, the plan description etc.) are prepared. As some documents are legally binding (e.g., the map of plan) and others are not, the municipal officials are concerned about the “reach” of formalization—when the opportunities for making legally binding demands are weakened or lost, all that is left is a reliance on trust. One developer points out that the documents’ content and specific wording matters, as actors learn how to interpret the documents and, at times, identify gaps and find ways to circumvent formalized demands. Furthermore, based on the practitioners’ accounts, participating actors (developers, representatives from different municipal departments) have different expectations regarding the necessity of formalization, and the character of utilized demands. For example, environmental planners highlight the virtues of being able to make legally binding demands.

According to the municipal officials, it is important to be able to identify, gain access to, and have a say in certain processes of formalization throughout the planning process in order to influence the demands that stipulate conditions for the project. Based on the results from the workshops, at least three forms of participation in the processes of formalization can be identified: personal representation, i.e., when individual competencies are to act as carriers of knowledge, oral, and/or written consultation, and indirect participation through formalized intentions (i.e., policies, strategies, plans). To gain influence through either of these forms of participation, the municipal officials emphasize the importance of formal leadership in the planning process, forms of participation for different competencies and, especially in the case of individual representation, procedural timing.

Finally, both municipalities struggle with the gap between the planning process and subsequent plan implementation. What is of concern, as explained by one planner from Täby, is ensuring that the projects fulfill the purpose of the plan. Since the planning department is not involved after plan adoption, there is room for interpretations of the demands and a risk for unintended deviations from the agreed development. Therefore, intra-municipal cooperation is needed involving planners, land development engineers, and building permit officials to address the gap between the local-level planning process, the process of assessing an application for a building permit, and subsequent implementation.

4. Analysis of the Results

In both municipalities, there is an explicit will to steer urban development towards sustainability goals and objectives. Simultaneously, municipal planning is characterized by a project-based approach where project ideas, at large, are looking for places and plans, rather than the other way around. Steering towards sustainable urban development, therefore, requires that the municipalities can create conditions for an effective interplay between the planning work carried out in individual projects and the organization of resources, knowledge, and skills on which the projects depend to handle sustainability issues. Our analysis of the results points to a set of knowledge-related and practical barriers that can be traced to the design and organization of the planning process. The analysis is presented in two sections. In the Section 1, the barriers related to the design of municipal
planning processes are outlined. In the Section 2, the organization of the municipal spatial planning process is analyzed.

4.1. Designing Municipal Planning Processes

Our analysis distinguishes three key design-related barriers for enhancing sustainability in municipal planning processes. These barriers influence the conditions for creating, introducing, and using knowledge, and for weaving project initiatives and sustainability issues into plans and projects that propel urban development processes. Based on our analysis, these conditions are related to the role of acting space, forms for participation, and proactivity and collaboration.

4.1.1. Knowing When: The Role of Acting Space

The results show that the process needs to be designed to allow for sustainability issues being noticed, understood, and considered early on in the planning process. The main reason for this is that acting space remains, offering leeway for exploring site-specific conditions and for influencing the scope of the project. As the process moves forward, more and more resources are invested to make decisions that gradually concretize the initiative, increasing the level of detail and limiting the scope of the planning process. In other words, as the process is conveyed towards closure and plan adoption, the room for maneuver declines, although the extent and pace of declination can vary between different projects depending on how far the projects have been developed in relation to the different phases.

Consequently, there are episodes in the process, perhaps best understood as tipping points, when it suddenly becomes too late to reframe the project and/or to include new perspectives or considerations (see also [47]), making it progressively difficult, or even impossible, for e.g., municipal experts to push for sustainability-related measures. For (non-)participating actors, these episodes can be difficult to anticipate as it may be hard to know in advance when they occur. Similar to the process of developing burnout, it is difficult to tell precisely when the transition will occur. The new, altered state becomes obvious once and because the line is crossed. Moreover, there is a risk that potential long-term benefits from taking a step back, i.e., opening up for reconsideration, are counterbalanced or ousted by short-term economic (running over budget), intellectual (admitting something is missing/wrong), and political (potentially de-legitimizing what initially seemed to be an appropriate idea) costs and considerations.

In short, due to the existence and decline of acting space, the introduction of knowledge in the planning process has a strong temporal dimension, which may explain the practical need to ensure the consideration of sustainability issues early on.

4.1.2. Knowing in What Way: The Role of Participation and Presence

Aside from the temporal dimension, the results show that the process design needs to acknowledge that knowledge is created, introduced, and used through different forms of participation. As mentioned in Section 3.3.3, there are at least three forms of participation in the planning process: individual representation, consultation, and through existing formalized guidance (e.g., policies, strategies, and plans). The process design thus conditions not only when, but also in what ways actors, knowledge, and competencies become involved in the planning process. According to the results, management hierarchies, project models, and the designation of formal roles give rise to a gradient of presence ranging from the core of the process to its periphery throughout different phases. In local-level planning, echoing the findings of Zakhour and Metzger [24], the results point to the reproduction of a project-based, development-led approach to planning, in which representatives from the department of land development are close to the core of both individual projects and overall project governance.

In accordance with Tennøy, Hansson, Lissandrello and Naess [47], the results indicate that individual representation is a key mechanism for introducing expert knowledge in
the plan-making process as this form of participation offers more extensive opportunities to influence the outcome of the planning process. One reason for this is that individual representation opens up for participating in embedded processes of translation and formalization (see [48]), two processes that constitute key mechanisms for aligning individual projects with overall strategy in local-level planning. Hence, through designing process participation in ways that ensure the presence of sustainability-related competencies at the core of the process, conditions are created to make better use of formalized guidance since the possibilities to engage with processes of translation and formalization are extended.

Furthermore, the results indicate that the relevance of higher-tier policies, strategies and plans is assessed in terms of concreteness and applicability in local-level planning. This resembles how Rydin et al. [49] discuss the need for usable knowledge in practice, and highlights the connection between the level of detail of policy and its role in shaping agency “at a distance” (see [50]). Moreover, as outlined by Högström et al. [51], the relevance of higher-tier plans is tied to their role, format and content; three aspects that influence the cross-level interplay between, e.g., mid-level and local-level planning, as well as the prospects for consolidating cross-cutting sustainability issues in municipal spatial planning processes.

In essence, due to the existence of different forms for participation, the introduction and use of knowledge in the planning process has a strong locational dimension, which could explain the practical need to design participation in a way that allows sustainability issues to enter and permeate core activities (e.g., the creation of site-specific demands) throughout the planning process.

4.1.3. Knowing Synergistically: The Role of Proactivity and Collaboration

Based on the results, the practitioners cluster activities around distinct phases. However, because it is difficult to define, e.g., when the early statutory phase ends and the later begins, the main benefit from an intelligible and coherent process design is less about establishing tasks in distinguishable, separated, phases, and more about creating a communal framework for how to manage the relations and transitions between one set of activities (e.g., formulating a vision) and another (e.g., formalizing demands).

Thus, the results show that the process design needs to acknowledge the interconnected and networked nature of creating, introducing and using knowledge as distinct activities throughout the planning process are fed by preceding activities, and simultaneously direct subsequent ones. Consequently, the process design shapes patterns of collaboration (or conflict) related to the roles and relative influence of participating actors throughout different phases. These patterns, which may become increasingly solidified through established project models and thus continuously reproduced, generate a deep structure for the circulation of information and capacity building.

Taking into account the temporal and locational dimensions of knowledge, the process design can aid a more proactive role for knowledge domains related to sustainability. However, the shift towards a more proactive design is likely to encounter substantial barriers precisely because different competencies needed in sustainability planning are usually reactive due to their temporal and locational positioning. Hence, the main problem is perhaps less about a lack of knowledge per se, and more about a lack of understanding regarding how knowledge is to be used in order to contribute to tasks performed during the early phases. A proactive role, and the potential merits of becoming involved early on, is not achieved by simply moving competencies usually participating in a later phase upstream. Rather, proactivity is achieved by learning how to create, introduce, and use knowledge in ways that contribute to key activities in the early phases, which can guide the scope and outcomes of the planning process. In other words, ensuring new patterns of collaboration early on will only take sustainability planning just as far; what is critical is to ensure that practitioners are able to build capacity (i.e., learn how to participate, e.g., through individual representation or by translating existing policy) and advance a communal understanding of how established patterns of collaboration can contribute to
resolving sustainability challenges in a synergistic manner throughout municipal planning processes.

As a means to establish a grounded process for sustainability planning which can aid a synergistic approach, it is necessary to focus on how different actors and competencies can join forces to explore site-specific conditions, convey the planning process, and ensure the realization of planning intents. To Forester [52], this involves advancing the understanding of what matters here, what is known and is yet to learn, and what actually can be done in the particular case at hand. To respond to these three interwoven objectives and enhance sustainability in municipal planning processes, it is of the essence that applied process designs are continuously evaluated and act as a basis for a continuous reflection upon how the process can be designed appropriately, including, e.g., the resulting patterns of collaborations and how far one should have come throughout different phases.

To summarize, due to the variegated forms of knowledge and the networked nature of different activities in the planning process, the creation, introduction and use of knowledge has a strong procedural dimension, which could explain the practical need to design the planning process in a way that enables different competencies to use knowledge proactively to contribute to the understanding of how to identify, characterize, and resolve sustainability challenges in the particular, unique, case at hand.

4.2. Organizing the Municipal Spatial Planning Process

In both investigated cases, the results show a clear link between the design of municipal planning processes and the organizing level. For example, applied project models establish formal roles in the planning processes and thereby structure patterns of collaborations and conflict, both within the municipalities and between the municipality and developers. In accordance with previous studies, e.g., [11, 53], the results show that the organizational approach corresponds to specific organizing principles: process efficiency, project delivery and rapid urban growth. However, within the municipalities, the results also indicate an increasing tension between those who do planning work and how their work is organized. As discussed also by, e.g., Filion et al. [54], the inertia resulting from institutionalism, the political economy, and path dependency gives rise to situations where planners’ practical knowledge and capacity is just not enough to cater to sustainability issues. This may explain the growing unrest with the lack of opportunities for making better use of the planning process to contribute to the realization of sustainability principles. Therefore, based on our analysis, the organizing level faces two significant challenges:

First, because of the multifaceted yet integrative nature of sustainability issues, it is necessary to reap the benefits of an organizational structure which, although offering great potential (due to the existence of cultivated knowledge domains) to make use of distributed intelligence, seems less inclined to do so. Contrarily to long-lasting ideas (see, e.g., [35]) about how to go on with planning and policy making when faced with ambiguous, or even “wicked”, concepts like sustainability, the investigated municipalities seem to further distance themselves from argumentative models which emphasize the virtues of generating better, substantive, ideas about how to resolve problems based on the participation of a wide array of competencies. Hence, despite the need to build capacity and facilitate cross-level and cross-disciplinary collaboration, the municipal management seems inclined to develop administrative procedures and project models which trade effectiveness for efficiency, further diminishing the possibilities to advance the capacities needed to address sustainability issues in municipal planning.

Second, and tied closely to the first, individual actors play a key role in planning processes, but may not be able to alter the institutional or organizational conditions for individual processes. Thus, to further develop the governing and organization of the municipal spatial planning process, as well as the design of individual processes, it seems necessary to complement the existing project-based approach with a continuous learning process in which practitioners at different levels across the planning hierarchy can exchange experiences and expectations regarding to what extent, and how well, the organization
and design of the process allow for sustainability issues to become effectively resolved in their practice (and projects). Despite its focus on collaborative governance, i.e., how public agencies can engage non-state actors in collective decision-making processes, Ansell and Gash’s [56] model of a collaborative process may act as a point of departure for developing the organization and design of the municipal spatial planning process. By acknowledging power-resource-knowledge asymmetries and the prehistory of co-operation/conflict between involved competencies, the collaborative learning process can render a shared understanding of the conditions for weaving project initiatives and sustainability issues into plans and projects that propel urban development processes.

5. Concluding Discussion

This study sets out to analyze the design and organization of local planning processes to provide a basis for a discussion of planning approaches that may enhance sustainability in plan and project development. Given the urgency to respond to sustainability challenges and objectives, this study contributes to the understanding of how the design and organization of planning processes influence the conditions for embedding and consolidating sustainability issues in local planning practices. Furthermore, this study offers the following main lessons regarding how local planning can aid the realization of sustainability goals and objectives:

First, based on the results and the investigated cases, there is a strong practical need to address how actors and knowledge are to form appropriate patterns of collaboration in the fuzzy front-end of planning and urban governance processes. In both mid- and local-level planning processes, the management of sustainability issues benefits from a process design which (i) allows for early consideration, and (ii) designates proactive roles for actors able to aid the process of contextualizing planning projects and aligning initiatives to sustainability goals and objectives. However, a shift towards a more proactive role in the planning process implies engaging with new tasks and making use of knowledge in new ways. Hence, based on our analysis, novel patterns of collaboration in the early phases require altered conditions for those who are to act in the process. The pro-activation of knowledge, i.e., allowing “reactive” forms of knowledge to become accustomed to early involvement, appears as a critical challenge for local planning practices, particularly since it is reasonable to believe that the diversity of issues which planning needs to attend to is only to increase. To address this challenge, there is a need to turn the gaze to the process design, a conceptual notion that allows for further analyses of how procedural and substantive forms of knowledge are created, introduced, and used not only in the early phases, but also throughout spatial planning processes at different levels.

Second, local planning practices need to increase their knowledge of how particular planning approaches (e.g., adaptations of the organization to the planning context, the role and approach of mid-level planning, and the organization of local-level planning) are influencing the conditions for addressing sustainability issues. In other words, learning to govern a specific approach to municipal spatial planning means acknowledging and analyzing how patterns of collaboration needed to address the context-specific dynamics encountered in individual projects are intertwined with broader patterns of interactions within the municipal organization, e.g., between different municipal units as well as between municipal officials and politicians. Hence, by reorganizing (e.g., through adjusting existing project models) the patterns of interactions that characterize the municipal spatial planning process (i.e., “how we do things here”), one can alter the conditions for redesigning patterns of collaboration within individual planning processes (i.e., what we need to do and how we need to work in this specific case). Thus, based on the results and our analysis, local planning practices face an intriguing dilemma regarding their planning approach: How can the planning process be organized and governed to achieve the structured flexibility needed to efficiently deliver planning projects through spatial planning processes designed to effectively respond to sustainability challenges?
Third, to realize established sustainability goals and objectives, e.g., the SDGs, there is a need to continuously reflect upon how utilized planning approaches can contribute to, and create conditions for, sought-for transformations. This study contributes to the understanding of the challenges associated with putting sustainability into practice at the local level by identifying and conceptualizing three important barriers related to how planning work is currently organized. By acknowledging the temporal, locational, and procedural dimensions of knowledge in the planning process, local planning practices may become better at knowing when, and in what ways, different forms of knowledge can become created, introduced, and used in a synergistic manner. Thus, notwithstanding the influence of wider institutional processes and shifts in urban governance, there are reasons to have a closer look at how planning approaches at the local level can be refined and adapted to strengthen the conditions for handling sustainability issues, particularly because local planning practices contribute to realizing sustainability agendas by translating objectives and goals to local contexts. Thus, based on the results of this study, further research into how the organization and design of the spatial planning processes that local planning practices use to approach sustainability challenges may reveal important insights about how cities and societies can build capacity to address our common challenges ahead before it, all of a sudden, becomes too late . . .

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Appendix A

Figure A1. The hierarchy of planning instruments in the Swedish Planning System. Based on and adapted from Hedström and Lundström [21] and Högström, Balfors and Hammer [51].

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