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# Securing public objectives in large-scale urban development: Comparison of public and private land development

Eero Valtonen <sup>a b</sup>, Heidi Falkenbach <sup>a</sup>, Kauko Viitanen <sup>a</sup>

a Aalto University School of Engineering, Department of Built Environment, PO Box 14100, FI-00076 AALTO, FINLAND

b Corresponding author, email [eero.valtonen@aalto.fi](mailto:eero.valtonen@aalto.fi)

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## Abstract

Public authorities have a wide range of objectives related to urban development. Usually, they strive to achieve the objectives via land use planning but their involvement in land development can be significant as well. In this paper, we compare how, and to what extent, local authorities can safeguard public objectives through the use of public and private land development by analysing four illustrative cases of land development in two Nordic countries, Finland and Sweden. Our results suggest that public land development appears to bring significant added value for public authorities in respect of achieving both qualitative and economic objectives. On the other hand, to guarantee fair treatment of landowners, it appears important that public authorities have consistent long-term land policies concerning the use of public land development. However, within democratic societies such long-term policies may be infeasible due to short electoral terms.

Keywords: land development; public objectives; cost recovery; value capturing; Finland; Sweden

## 1. Introduction

Due to the agglomeration benefits (Melo et al., 2009), public authorities seeking the common good have a strong incentive to encourage urban development and growth. However, it is commonly agreed that this development should not occur at the expense of environmental and social sustainability (Næss, 2001).

Urban development processes can generally be divided into land and building development stages (Needham and Verhage, 1998). Land development refers to acquiring the land to be developed, planning the structure of the development (according to the rules of the planning framework), subdividing the land into developable building plots and providing the public infrastructures serving the buildings to be developed. Building development refers to constructing the buildings on the serviced building plots produced in land development.

In market economies, building development is usually conducted by private developers. Land development, on the other hand, is arranged via a wider bundle of approaches with different levels of public and private involvement (van der Krabben and Jacobs, 2013). The ultimate form of public involvement is public land development, where a public authority, usually the local municipality, conducts the whole land development process, becoming a supplier of serviced developable building plots to the property markets (Needham, 1992, 1997; Needham and Verhage, 1998; Buitelaar, 2010). Public land development can be regarded as a significant market intervention that should also provide significant additional value to the society compared to the wide range of alternative more private-oriented approaches (referred to in this paper as private land development). Otherwise, such a public intervention can be difficult to rationalize.

Despite the large body of research dedicated to the advantages and disadvantages of public land development, systematic empirical comparisons of public land development in relation to other land development approaches are quite scarce. Existing comparisons have been mostly limited either to case studies of actual land development projects in one institutional framework (e.g. van der Krabben and Needham, 2008) or to more general comparisons of the approaches in different institutional frameworks (e.g. Hartmann and Spit, 2015). Furthermore, research on public land development has been heavily focused on the Dutch institutional framework, with other countries employing this globally rare approach receiving less attention.

In this paper we address this gap by comparing public and private land development in two countries. We study four actual case projects located in Finland and Sweden, where public land development is used relatively often by the municipalities. The studied cases represent illustrative case projects of public and private land development in these countries. The paper contributes to the discussion on the most efficient land development approach, and the findings of the study can

be applied by public authorities to the decisions concerning planning and development institutions as well as land policies.

After this introduction section, the paper is structured in four parts. First, we review the public objectives related to urban development and discuss how public land development can promote their achievement compared to private land development approaches. Based on the review, we construct a framework of public objectives through which the cases are studied. This is followed by a brief introduction of the studied projects. Thereafter, the case study findings are presented and discussed. Finally, we close the paper by presenting our key conclusions from the results.

## 2. Public objectives in urban development

The dilemma of public authorities in urban development is how to promote economic growth, environmental sustainability and social justice at the same time (Campbell, 1996). Public intervention is required because many environmental and social benefits and costs of development are external to property owners (Webster, 1998; Webster and Lai, 2003), and because land and property markets have some significant inefficiencies (Evans, 2004; Alexander, 2014). In addition, since urban agglomeration provides significant economic benefits for the whole society (Melo et al., 2009), the development of a particular area may be more desirable for the whole society than to the individual property owners. At the same time, however, public infrastructure spending per capita may increase when a city becomes more populated (Holcombe and Williams, 2008), making the financing of infrastructure an important issue, as well (Brueckner, 1997).

The usual method by which public authorities intervene in the markets is some sort of land-use planning system that restricts the allowed uses of land. A planning system may be plan-led with legally binding zoning plans, or development-led with the case-by-case judgement of individual

property development proposals (Muñoz Gielen and Tasan-kok, 2010). Planning can be, and frequently is, conducted in a development-led manner also in plan-led planning systems (Buitelaar and Sorel, 2010; Buitelaar et al., 2011; Valtonen et al., 2017b).

Basically, development control via a land use planning system should be sufficient for public authorities to guarantee the environmental and social sustainability of the realized developments. After all, other kinds of developments can be rejected. However, planning decisions can only set restrictions on land use – but not force plan implementation. Fragmented land ownership is in itself often a problem since the property structure may not support an optimal layout for a functional living environment. Land readjustment can be an effective measure to treat the development hindrances caused by the property structure (Larsson, 1997; Viitanen, 2000; Home, 2007; De Souza et al., 2018), depending on how *“developable and marketable for development”* the readjusted building sites are (Lin, 2005). Furthermore, some landowners may decide not to sell their sites for development. They may, for example, withhold their land from the development, hoping to receive a higher price later (Adams et al., 2001, 2002; Miceli and Sirmans, 2007). This may endanger environmentally sustainable, coordinated and compact development, often labelled with the term smart growth (Downs, 2005).

In public land development, the public authority addresses plan implementation challenges by internalizing landowners’ decisions (Louw et al., 2003; Priemus and Louw, 2003; Louw, 2008). By acquiring the land to be developed, the public authority can freely adjust the property structure to meet the needs of a functional living environment. However, the public authority is still dependent on the private actors in building development (unless the public authority decides to become a building developer as well). If space demand in the property markets is sufficient and there is demand for building plots, the public authority can use its position as a building plot supplier to

promote coordinated development, e.g. by demanding contractual time limits for building development activities and by sequencing the release of the building plots into the markets.

Besides these more practical factors, public land development also affects more abstract issues. In democratic societies, it is generally accepted that public authorities should treat citizens equitably when using their authority. Existence of development control usually means that equitable treatment of all landowners is practically impossible – some landowners get better development opportunities than others (Moroni, 2007). Usually, this is accepted as long as planning decisions are based only on the reasons related to spatial quality. If the decisions are combined with negotiable contributions from the landowner to public infrastructure provision – in money or in kind – the legitimacy of the decisions can be questioned (Mäntysalo and Saglie, 2010). This can lead to a situation where the public authority appears to be selling the planning decisions in exchange for the contributions offered in those non-public negotiations (Crow, 1998; Campbell and Marshall, 2000; Fox-Rogers and Murphy, 2015). On the other hand, it can also be argued that such negotiable contributions allow landowners to compensate for the externalities caused by their developments (Webster, 1998). However, the negotiations induce significant transaction costs since they are complex processes (Samsura et al., 2010).

The landowner contributions relate to the wider debate of unearned land value increments. A value increment is usually regarded as unearned when it is caused by a public planning decision or the provision of such public infrastructures that are not paid by the landowner. The term *public value capturing* comprises a wide range of methods that public authorities can use to capture part of the land value increment from landowners (van der Krabben and Needham, 2008; Muñoz Gielen and Tasan-kok, 2010; Muñoz Gielen, 2014; Havel, 2017). These tools may have a direct emphasis on value capturing or they may provide indirect value capturing as a side product of recovering the public infrastructure costs (Alterman, 2012). Regardless of the method used, public

value capturing in a completely equitable manner is very challenging since accurate division of the total value increment in respect of the different stages of planning and development is difficult to achieve (Christensen, 2014).

Public land development offers a potential solution to solve the equitability problems. The equitable treatment of landowners in planning decisions becomes irrelevant if the undeveloped land is acquired to the public authority.<sup>1</sup> Therefore, concerns towards the landowners are limited to the questions of the price of land and other conditions by which the land is acquired. When the landowners are treated equitably in the acquisitions, they are treated equitably (even if not nicely) also from a public value capturing perspective.

However, in public land development, another equitability issue arises - equitability of the building plot sales by the public authority. After all, the public authority decides which building developers will receive the development opportunities, similar to the planning decisions in private land development. The transparency of these decisions can be quite limited, even in the societies where transparency generally is at a high level (Caesar, 2016) making it difficult for the public to judge if equitability is reached. This creates conditions for potential corruption which is difficult to tackle - even public auctions may not be a remedy that is sufficiently effective (Cai et al., 2013).

It is often argued that without public intervention, the development industry can easily become oligopolistic (Ball, 2003; Coiacetto, 2009). Through intervention by public land development, public authorities can promote competition in building development. Then public land development would emerge as a sort of indirect measure to impose competition regulation.

Taking into account the transparency problems and the fact that the development industry can

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<sup>1</sup> This is unless the public authority is regarded as just one landowner among the others in the property markets. If that is the case, then favourable treatment of public land in the planning decisions can also be regarded unequitable (van Dijk & van der Vilst 2015).



also deconcentrate without such interventions (Buzzelli, 2001), it is debatable if this kind of competition regulation can be regarded as recommendable.

It can be concluded that public land development has clear potential in treating many uncertainties related to the public objectives in urban development. However, if a public authority decides to use public land development, it also takes the economic risk related to land development of which management can be problematic (Valtonen et al., 2017a). The economic risk is mainly related to the uncertainty of recovering the public infrastructure provision costs with the building plot sales incomes. On the other hand, there are often some infrastructures of which provision costs cannot be recovered in private land development with the tools available in the institutional framework. Therefore, public land development may provide added value for cost recovery by circumventing the institutional limitations. Thus, the potential added value of public land development from a public cost recovery perspective is to some extent unique in each institutional framework. As already mentioned, public cost recovery tools can also be regarded as indirect value capturing. Hence, the added value of public land development from a public value capturing perspective depends also on the institutional arrangements of public cost recovery.

The economic profits available in public land development are often regarded as one of the key incentives to use it (Louw et al., 2003; Priemus and Louw, 2003; van der Krabben and Jacobs, 2013). These profits may become an important source of income for a public authority. (Korthals Altes, 2008). However, the losses can also be significant, especially if the property market conditions change unexpectedly (Deloitte, 2011).

The economic profit motives of the public authorities using public land development may also cause wider market-level problems. A public authority may become tempted to restrict the supply of building plots in order to secure the land development profits (Evans, 2004). If one or several

public authorities are dominant building plot suppliers in an area, their supply restrictions can create an undersupply of new properties to the markets, causing prices to inflate. This would hinder the growth of the area and the related agglomeration benefits. Thus, in this case, the public authority would trade off some long-term economic gains for higher short term profits. The danger of this kind of behaviour is probably increased in democratic societies where politicians are typically competing for the votes of the electorate every few years. In addition to the socially insufficient supply of building plots, economic profit seeking may also be in conflict with the spatial qualitative planning objectives (van Rij and Korthals Altes, 2010). This places the public authorities using public land development in a difficult position where they must balance their spatial planning and land development objectives (Needham, 2007).

### 3. Case studies

In our empirical study, we investigated four cases of which two were public and two private land development. Both the public and private land development projects included one project from Finland and one from Sweden.

To analyse the cases, a framework describing the typical public objectives was derived from the literature presented in Section 2. The framework (see Figure 1) is founded on the idea that, from the perspective of the society, the primary objective of urban development is to achieve the agglomeration benefits which are dependent on the realization of urban development. The main problem public authorities face in urban development is to ensure that the development is realized in a manner that also fulfils the requirements of economic, environmental and social sustainability. Here, we make a distinction between private and public economic sustainability. In the framework, we recognize only such economic objectives that affect the economic position of the municipality as a representative of the public. From the perspective of municipalities, the

economic sustainability of development from the perspective of private businesses and households can be judged to belong under the social objectives.

[Figure 1 here]

The framework illustrates how the public objectives recognized in Section 2 relate to economic, environmental and social sustainability. The qualitative aspects of development are important mostly from the perspectives of environmental and social sustainability. It should be noted that they also affect economic sustainability since the public incomes related to development are dependent on the realization of development which the qualitative aspects of the allowed development certainly affect. Coordinated development is related to environmental (less sprawled development) and economic sustainability (economies of scale in public infrastructure provision). Public cost recovery is clearly an issue attached to economic sustainability. Public value capturing, however, has both an economic (effect on public incomes) and a social sustainability rationale (the idea that part of the land value increment is unearned). Finally, the equitable treatment of landowners can be regarded as pertaining to a social sustainability perspective.

It should be noted that the framework does not include the objectives of competition enhancement and the socially optimal quantity of new property development since these objectives can only be promoted effectively at a wider level than an individual development project. Therefore, these objectives go beyond the scope of this study. Furthermore, since our focus is on the added value of the land development approaches in securing public objectives, we only investigate the process of land development, not the qualities of the planning processes. However, it should be noted that these are important factors for the overall social sustainability of urban development as well (Rashidfarokhi et al., 2018).

The data for the study was collected by interviewing at least one key informant from each project and by investigating public documents available in the public records. In all four cases, these documents included land use plans, political decisions and agreements between the municipality and the landowners/developers. The public documents have been followed until January 2018. To acknowledge the importance of the institutional framework defining the setting where the investigated land development approaches take place, the relevant parts of the legislation were also studied. Table 1 summarizes the interviews and the studied public documents.

[Table 1 here]

Moving on to the studied cases, the Finnish cases are located in the Helsinki Metropolitan Area and the Swedish cases in the Stockholm Metropolitan Area. These metropolitan areas are the most populated and also the fastest growing metropolitan areas in their respective countries. For several decades, the municipalities wherein the studied cases are located have been witnessing a constant population growth (Figure 2), which can be expected to continue in the foreseeable future. Thus, there should be significant long-term demand for new dwellings in the municipalities. Hence, the cases are representative examples of large-scale urban development projects trying to respond to the demand for new dwellings and commercial spaces created by the megatrend of urbanization.

[Figure 2 here]

All cases are located within the suburban area surrounding the urban centre of the respective metropolitan areas (see Figure 3) and are significant in terms of development volume. In three of the four cases, the municipality prepared and approved, during the first decade of 2000s, a partial master plan guiding the preparation of the detailed plans in the case areas. In the fourth case (the Finnish private land development), only a more informal vision was prepared instead of an official

partial master plan. In all cases, development has been divided into several detailed plans with varying areas and building volumes. The implementation of all cases has been on-going throughout this research. Table 2 summarizes the characteristics of the cases of which implementation practices are analysed in more detail in Section 4.

[Figure 3 here]

[Table 2 here]

#### 4. Results and discussion

Following the framework presented in Section 3, this section discusses the potential added value of public land development in relation to private land development in the studied cases from the perspective of the public objectives. These objectives include 1) the quality of the developed environment, 2) the coordinated realization of the development, 3) public cost recovery, 4) public value capturing, and 5) equitable treatment of the landowners. The following subsections discuss the findings of the case studies concerning each of these objectives.

##### 4.1. Quality of the developed environment

The institutional frameworks of Finland and Sweden provide the municipalities with a significant opportunity to control development quality through planning. In any location, the municipality alone decides on the approval of a new detailed plan (or an amendment to an already existing detailed plan) that is in most cases a prerequisite for a development project of any significance. In both countries, these detailed plans can determine the allowed volume of construction including the heights as well as the permitted uses of buildings. The control of the permitted uses can even extend to the sizes of the dwellings in apartment buildings. However, the law is interpreted in such a way as not to place limitations on property owners' rights to sell or lease their properties. Thus, affordable housing provision, which is the usual remedy for tackling social segregation in

metropolitan areas, can only be promoted via voluntary agreements. It is important to note that both countries also have quite time consuming planning processes. Thus, there can also be an incentive to arrange the control of qualitative issues via voluntary agreements even if control via plans was legally possible.

In the studied public land development cases, these voluntary agreements have been individual building plot sales agreements. Most of these agreements have been preceded by pre-agreements where the private developers have agreed to participate in the preparation of the detailed plans in exchange for receiving limited-time reservations for specific future building plots in the area. The final building plot sales agreements have been signed after the approval of the detailed plan close to the time of the initiation of the building development on a particular plot. In the private land development cases, the voluntary agreements have been development agreements signed before the approval of the detailed plan(s) and have concerned the area of one or several detailed plans. In the Swedish case, the development agreements have also been preceded by two broader agreements concerning the development of the whole area.

In all studied cases, the landowners and developers have agreed to follow comprehensive quality documents attached to the plans and many standard conditions such as the connection of the properties to the municipal water and sewage networks. However, most quality requirements have been of a general nature and seem not to have been significantly affected by the land development approach.

The added value of public land development has been achieved through the voluntary agreements concerning individual building plots. The building plot specific conditions seem to have had the most significant role in the promotion of affordable housing provision. In the private land development cases, the agreement conditions concerning affordable housing have been quite

general, non-detailed or, as in many agreements of the Swedish case, completely absent. In comparison, in public land development cases, the individual building plot sales agreements have controlled the provision of affordable housing in a very detailed manner.

The fundamentals of this control have been determined by the institutional arrangement of the housing markets that differs between the studied countries to some extent. In Sweden, all rental apartment buildings are subject to rent control. Thus, a higher number of rental apartment buildings automatically means a higher number of dwellings with rents below the market rent. After development, these buildings can only be changed to commonholds if at least two-thirds of the apartments are bought by the former tenants. Thus, it is relatively difficult to change the apartments to non-controlled housing after development. Apart from rental apartment buildings, other dwellings are not subject to any price or rent controls unless otherwise agreed.

In Finland, there is no general rent or price control. However, the Finnish state provides subsidies for the provision of affordable rental housing. The loan subsidy includes a condition of keeping the apartments in rental use with controlled rents and tenant selection based on social criteria for a defined time – usually 40 years. Thus, the buildings developed with the subsidy normally remain in this use for the planned time.

In all studied cases, the main focus regarding the promotion of affordable housing provision has been on allocating building plots to these institutionalized types of affordable housing. However, the opportunities of the municipalities for detailed building plot specific control have been considerably higher in the public land development cases. In addition, the municipality in the Finnish public land development case has also tried to promote the affordability of the unregulated apartments in some commonholds by agreeing on limitations concerning the sale prices of the apartments. Yet, these limitations have only concerned the first sales of the

apartments. Thus, they could also be regarded as an income transfer from all taxpayers to the few households which have been able to buy the apartments.

Furthermore, the building plot sales agreements in the Finnish public land development case have labelled the unregulated apartment buildings as “free market rental buildings” or “free market owner occupied buildings”. The free market rental buildings have been transacted with a lower plot price and a condition that they become rental buildings. The plot transactions for the owner occupied buildings have occasionally included some restrictions on whom the apartments can be sold to in order to prevent the developer from selling the building to a rental housing investor. However, the long-term effects of such transaction conditions are only partly effective. On one hand, an “owner occupied building” almost invariably remains as a commonhold unless it is sold to a rental investor under construction since it is extremely difficult for any rental investor to acquire all the apartments of an existing commonhold. On the other hand, a rental investor who has bought a “free market rental building” can always select to sell the individual apartments to the markets, since such conditions are explicitly forbidden in the law on real estate transactions.

In addition to the control on forms of housing tenure and affordable housing provision, the municipalities in the studied public land development cases have exercised the available building plot specific control to affect the composition of commercial services in individual retail projects – an issue which has not been included in the development agreements in private land development cases. In the Finnish public land development case, such control has also been included in the detailed plan of the central shopping area. Between 2011 and 2017, such detailed control for retail uses were explicitly allowed in the Finnish legislation.

Furthermore, in the Swedish public land development case, the municipality has also agreed on more detailed parking arrangements following the parking norms of the detailed plans and on the



reservation of premises for a public pre-school in the ground floor of a residential building. Most probably, these issues could also have been controlled sufficiently in the detailed plans, but it seems that the municipality has preferred the flexibility of control via agreements.

#### 4.2. Coordinated realization of development

Both in Finland and in Sweden, a municipality can restrict the allowed future uses of land through planning. However, the municipality cannot force the landowners to develop their properties to meet the new plan. In Sweden, a detailed plan gives building rights only for a limited implementation period ranging from 5 to 15 years. In Finland, the building rights are generally valid for 13 years. These limitations reduce to some extent the opportunities to speculatively postpone development. However, the timeframes still allow for quite considerable speculation. Furthermore in the Helsinki Metropolitan Area, landowners are encouraged to implement detailed plans with an increased property tax for undeveloped building plots.<sup>2</sup> The municipalities can also issue reminders to build that give an automatic right of compulsory purchase to the municipality if not followed. However, all these institutional measures can be regarded as quite ineffective for securing coordinated development. For that, voluntary agreements are practically the only option.

In both public land development cases, the municipalities have already selected the private building developers for the majority of the building plots before the preparation of the detailed plan proposals. The agreements related to these reservations have included clauses about the planned development schedule of the individual building plots. The developers have had limited-time exclusive rights to buy the designated building plots within the planned schedule. The reservations have generally not included financial penalties for unrealized acquisitions. Two detailed plans of the Finnish case with somewhat special characteristics have been exceptions to

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<sup>2</sup> The 14 municipalities of the Greater Helsinki area are obligated to impose this tax, whereas the remaining Finnish municipalities can choose to do so.

this. One of these plans was a location for the National Housing Fair in 2015 with a fixed schedule and the other for the central area of the neighbourhood containing a shopping centre and neighbouring residential developments. The willingness of the municipality to actually collect the financial penalties instead of granting extensions to the planned schedule has not been consistent but instead been dependent on the circumstances. Regardless of the scarce use of financial penalties in the reservations, the building plots in both public land development cases have mostly been acquired in the planned schedule. Thus, the conditions concerning the plot acquisitions appear to have generally been sufficient for coordinated acquisitions.

However, from a coordinated development perspective, the acquisition of a building plot is not sufficient but the building plot must also be developed in the planned schedule. There is a clear difference between the public land development cases concerning development deadlines. In the Finnish case, it has been a standard that the building plot transaction agreements have included development deadlines with financial penalties. Such deadlines and penalties have been generally absent in the Swedish case. In both cases, the acquired building plots have been to a large extent developed in due time after the plots have been acquired. Thus, it seems that the absence of deadlines has not had negative effects in the Swedish case. It is uncertain how much effect they have had in the Finnish case on the development decisions of the private developers.

It should be noted that the position of a municipality as a major building plot supplier may reduce the necessity of financial penalties regarding acquisition and construction deadlines. The probability of a building developer speculatively postponing the acquisition or construction of building plots is certainly quite low when its reputation in the eyes of the dominant building plot supplier is at stake. Of course, this depends on the negotiation power of the municipality which can vary between different segments of property markets. This is demonstrated by the Finnish public land development case where the municipality has agreed to extend the acquisition and

development deadlines of the shopping centre, which is crucial for serving the retail needs of the area. In the Finnish retail markets, there are practically only two retailers who can open hypermarkets meeting the needs of the planned shopping centre (both to be located there). Therefore, the shopping centre development is completely dependent on the investment decisions of these two dominant retailers. The municipality is in a weak negotiation position with the retailers, who can make municipalities compete for their favourable location decisions. Thus, the building plot supplier position that has served the municipality well in the residential developments has been less effective in incentivizing the development of the shopping centre.

In the private land development cases, the voluntary development agreements have included provisions for the development schedule. In the Swedish case, the wider implementation agreement providing a framework for the development agreements also included target schedules. However, only in the Finnish case has the development schedule been binding with financial penalties. The municipal project manager in the Swedish case described that, in private land development, the municipality must accept that the realization of the development is controlled by the landowner. Otherwise, the municipality would use public land development.

The difference in the agreements of the private land development projects has not caused any notable difference in the realization of development. In both projects, the realization has been delayed from the planned schedule. Despite the agreed development schedule with financial penalties, the municipality has not collected the penalties in the Finnish case. The main reason for this decision has been that the delays were judged to be caused by unpredictable events and, thus, collection of the penalties unfair. The unpredictable events included the global financial crisis of late 2000s, just when the implementation of the first detailed plans was starting, and the concurrent struggles of the major telecommunications company Nokia Plc, which was supposed to be the main office tenant in the area. Furthermore, it is important to note that the original

development agreement partners were mostly legal estates, not professional developers, which also most certainly increased the reluctance to collect the penalties.

#### 4.3. Public cost recovery

Public cost recovery opportunities are to a large extent affected by the institutional framework defining the responsibilities of landowners and municipalities in urban development. In public land development, public cost recovery is internalized. However, the institutional framework still has significant importance regarding the added value that public land development can offer from a public cost recovery perspective.

In both Finland and Sweden, municipalities are responsible for providing streets and other public areas (referred to by the term *technical infrastructure* from now on) when the development of private properties creates a need for them. The municipalities can collect the provision costs of the technical infrastructure from the landowners through statutory charges. In Sweden, the collected costs via a statutory route must be reasonable, taking into account the benefit that the landowner receives from the detailed plan. In Finland, the statutorily collected costs are not allowed to exceed 60 % of the expected land value increment.

Typically, instead of collecting infrastructure provision costs via the statutory route, municipalities in Finland and Sweden sign voluntary development agreements with the landowners to settle the public cost recovery issues. This has also been the case in both of the studied private land development cases in this study. The agreements in the cases demonstrate the main institutional difference regarding public cost recovery in the studied countries. In Sweden, the law has been interpreted in a manner that the responsibilities of the landowner cannot be extended over the statutorily collectable infrastructure provision costs through voluntary contracts. This means that the provision costs of public service buildings (henceforth referred to by the term *service*

*infrastructure*) cannot be collected from the landowners by any means. The Finnish legislation, instead, explicitly states that the voluntary agreements are not subject to the regulation of the statutorily collectable costs.

Thus in Sweden, voluntary development agreements can only achieve the same outcome of public cost recovery that would be achieved via the statutory route. This has also been the agreement content in the studied Swedish private land development case: the responsibility to cover the realized technical infrastructure costs has been divided among the landowners based on the share of their land ownings and the planned building right for their land in the area.

In Finland, the agreements can include anything and are to our understanding rarely even linked to the actual costs of the technical infrastructure. Instead, landowners usually pay a negotiable fee (which could also be regarded as an additional development tax) for the building right received in a detailed plan. This has also been the approach in the development agreements in the studied Finnish private land development case. The landowners have agreed to pay a fixed fee for a unit of developable floor space and to transfer the land for streets, public areas and public service buildings without compensation to the municipality.

The municipal project manager told that the fixed amount has been based on the estimated provision costs of technical and service infrastructure. Only technical infrastructure costs could have been recovered by the statutory charges. Thus, the municipality has received service infrastructure as extra in the voluntarily agreed payments. In exchange, the municipality has carried the risk of insufficient payments for public cost recovery since the payments have been based on estimated, not realized, costs. Furthermore, the development agreements have also contained a limiting clause so that if the payments exceed the realized costs, the surplus can only be used for such municipal investments that serve the properties in the area.

The comparison of the cases regarding public cost recovery (see Table 3) suggests that, despite the institutional differences, public land development appears to have brought significant added value over private land development in both countries. In the Swedish private land development case, public cost recovery is limited to the costs of technical infrastructure due to the institutional framework. In this specific case, the profit over the technical infrastructure costs is completely caused by the minor part of the project area owned by the municipality. In the three other cases, where the cost recovery of the technical infrastructure costs is fundamentally more uncertain, not only the technical infrastructure costs but also the service infrastructure costs can be estimated to be recovered. In the Swedish public land development case it is impossible to make reliable estimations of service infrastructure investments with the available data. Assuming roughly similar costs of service infrastructure investments as in the other three cases, notable profits after the service infrastructure costs can be expected. Generally, it seems that the studied public land development cases can be expected to be more effective in terms of public cost recovery when projected over the full completion of the projects.<sup>3</sup>

[Table 3 here]

When it comes to the realized public cost recovery, the available data allowed us to reach reliable results only in the Finnish cases. These cases demonstrate the usual challenge of public land development – the time gap between public costs and incomes. Thus, the overall profitability of the public land development case is still much more dependent on the uncertain future incomes than the private land development case. This is mostly due to the schedule of the fixed

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<sup>3</sup> It should be noted that the Swedish public land development case has gone through a significant adjustment of the partial master plan. However, with the available data we were only able to provide an estimation of public cost recovery based on the original plan. The new significantly adjusted partial master plan contains a much higher density of private developments. It seems probable that the market demand should support the profitable sales of a higher amount of building right, thus, the proportional profit of the case can be expected to be at least on the same level as it is with the original partial master plan.

development agreement payments from the landowners to the municipality in the private land development case.

However, it should be noted that, in the Finnish private land development case, agreed payments of almost M€ 40 were significantly delayed. The municipality allowed the landowners to pay their due payments by transferring some of their building plots with around 120,000 m<sup>2</sup> of office building right and 20,000 m<sup>2</sup> of mixed use building right to the municipality. With this decision, the municipality exposed itself to the financial risks of public land development to a higher extent. Furthermore, the municipality also limited its opportunities to change the content of the detailed plans regulating the development of these building plots for the subsequent ten years, thereby exposing itself to the risks related to plot demand more than in the typical form of public land development.

In addition to the effectiveness of public cost recovery in the studied cases discussed above, it should be noticed that the realization of development is also associated with other long-term incomes and costs to the municipalities, such as higher incomes from property and income taxation as well as the maintenance costs of the new infrastructures. The occurrence of these incomes and costs, however, are not dependent on the land development approach per se. Selection of a land development approach may have an indirect effect on the occurrence of these incomes and costs to the extent that the selected approach promotes the realization of development discussed in Section 4.2.

#### 4.4. Public value capturing

As discussed in Section 2, value capturing tools can be divided into direct and indirect tools. In both of the studied countries, direct value capturing is arranged via annual property taxation, taxation of capital gains when land is sold, and a stamp duty when land is bought (see Table 4 for a

summary of the tax rates). Property taxation is not affected by the selected land development approach. Generally, the capital gains tax and stamp duty are paid when two actors transact a property. However, the municipalities of both countries are exempt from capital gains tax (in Finland this applies only if the land is sold within the municipality's own jurisdiction), and the municipalities of Finland are exempt from the stamp duty (the exemption should not affect public value capturing since the buyers of developed land are private actors). In both countries, the stamp duty and capital gains tax are received by the state except for the capital gains tax of legal persons in Finland which are divided between the state and the municipality with respective shares of around 70 and 30 percent.

[Table 4 here]

Thus, by using public land development, the municipalities of both countries practically capture the capital gains tax from the state, in contrast to private land development. In societies such as Finland and Sweden, where the municipalities have a high level of independence from the central government, the capital gains tax collected by the state in private land development certainly represents to some extent a lost value capturing opportunity for the municipality. Therefore, in the following analysis we do not take into account the capital gains taxation as municipal value capturing. The stamp duties and property taxation are excluded from the analysis since their payment is indifferent between the land development approaches.

As discussed in Section 2, the tools used to cover public infrastructure provision costs can be regarded as indirect value capturing. In both countries, such indirect value capturing is clearly the most significant value capturing method from the perspective of a municipality unless public land development is taken into account. In Sweden, the available value increment to be captured is the realized cost of technical infrastructure provision due to the institutional framework (as long as



the costs are regarded as reasonable when taking into account the landowner's position). In Finland, public cost recovery and, therefore, also indirect public value capturing is dependent on case-specific negotiations. The Finnish private land development case has involved a fixed "price" for a square metre of assigned building right which, according to our understanding, is a typical outcome of the negotiations between a municipality and a landowner in the Finnish private land development. Such an arrangement can be regarded to have more characteristics of direct value capturing than public cost recovery. However, the explicit purpose of voluntary development agreements, as set out in the legislation, is public cost recovery not public value capturing. Therefore, the legitimacy of these kind of arrangements can be questioned if the law is interpreted to the letter.

Public land development internalizes public value capturing after the land has been acquired by the municipality. Only the possible premiums paid over the existing use value of the land form the uncaptured value increment. In both Finland and Sweden, municipalities have in practice almost unlimited rights to use compulsory purchase in the land acquisitions for urban development within their jurisdictions. There are, however, differences in the principles of how compulsory purchase compensations are determined in the studied countries.

In Finland, a basic principle is that the full market value of the land is to be paid to the owner. However, there is a specific rule in the legislation stating that the value increment caused by a detailed plan (approved or in preparation process), for whose implementation the compulsory purchase is carried out, is to be subtracted from the full market value. However, only the value increment from seven years before the compulsory purchase decision or from the day the decision to prepare the detailed plan was made (i.e. whichever is closer) is subject to such subtraction. In Sweden, the compensation has been the full market value plus 25 per cent since 2010. The Swedish legislation had a "value cutting" rule similar to that in Finland. However, it was removed

from the legislation in 2010 at the same time when the 25 per cent premium was introduced.

Thus, nowadays the Finnish legislation seems to enable the municipalities to capture value increments more effectively than the Swedish one. However, during the land acquisitions of the studied cases, the changes of 2010 were not yet introduced and the institutional conditions for land acquisitions were quite similar in both countries.

Within the institutional frameworks where the municipalities have a practically unlimited right to use compulsory purchase, private land development can probably never provide more efficient public value capturing than public land development. It would require either a municipality to act quite irrationally in the markets of undeveloped land, or a private landowner to be a professional building developer to whom the actual building development opportunities would be so valuable that it would be willing to sacrifice almost all of the land value increment in pursuit of them.

Indeed, in the studied cases, public land development appears to have been much more efficient in public value capturing (see Table 5). The differences between the studied public land development cases and private land development cases are notable and point in favour of public land development.

[Table 5 here]

Interestingly, value capturing seems to have been much more efficient in the Swedish than in the Finnish public land development case. The explanation for this comes from the timing of the land acquisitions. Most of the land areas in the Finnish case were acquired only after the approval of the partial master plan that already defined the expected development opportunities to a quite detailed extent. In the Swedish case, the land acquisitions occurred before this.

The reason for the rather late land acquisitions in the Finnish public land development case was that traditionally the case municipality had been reluctant to use compulsory purchase and had

been willing to let private land development happen. Therefore, the municipality first negotiated for many years with the original landowners for the development agreements and only bought the land when the landowners became willing to sell.

One original landowner, however, decided to keep its land and signed a cooperation agreement (setting a framework for the forthcoming development agreements) with the municipality. The landowner was able to negotiate an agreement where it promised to give to the municipality land containing 50 % of the total building right that was to be assigned to the landowner in the forthcoming detailed plans. In addition, the landowner committed to transfer the land for streets, public areas and public service buildings (10,000 m<sup>2</sup> of building right) to the municipality. Thus, the private land development part of the project involved much smaller value capturing than public land development used within most of the area.

#### 4.5. Equitable treatment of landowners

The institutional frameworks of planning and development in Finland and Sweden are founded on a general principle that landowners and other stakeholders should be treated as equitably as possible when taking into account the spatial objectives of the land use plans. As discussed in Section 2, it is very challenging to provide a combination of plans and development agreements that would produce an exactly equitable economic gain for all landowners. This is demonstrated also by the studied private land development cases.

In the Swedish private land development case, the landowners have received significantly different quantities of building rights in relation to their land ownings (ranging from 0.47 to 0.86 at the time of signing the implementation agreement). The division of technical infrastructure provision costs among the landowners has balanced this difference to some extent. The share of each landowner has been determined with the following formula:  $(3 * \text{landowners share of total})$

building right + landowners share of total land area) / 4. Thus, those landowners having a higher amount of building right in relation to their land ownings have had a relatively higher share of cost responsibility. However, the formula does not take into account the differences in the building right value caused by the qualitative differences of the assigned building rights, including the relative locations of the new building plots in respect to the public areas and service infrastructure. Based on the approved detailed plans, it seems that the allowed uses have differed mainly in the type of housing, i.e. houses or apartment buildings, between the areas of the landowners. Thus, the value differences caused by the allowed uses are probably quite moderate.

In the Finnish private land development case, the landowners have received quite different quantities of building right in relation to their land ownings (ranging from 0.2 to 1). In addition, the land assigned for the streets, public areas and public service buildings that the municipality (according to the development agreements) is to receive for free has been allocated quite unevenly between the landowners. Also, the office and residential building right has been to some extent unevenly divided between the landowners.

The development agreements do not take into account the qualitative differences or the different amounts of original land owned. Instead, each landowner pays the same "price" for a square metre of building right (although there is one development agreement that has been signed 9 years after the original agreements where the payment for new building right differs). The two landowners who received the highest share of office building right (probably the lowest value use in the location) are the ones with the lowest and the highest amount of building right in relation to their land ownings. Thus, it seems that true equitability among the landowners has not been the driving force of the planning and related development agreement negotiations. The equal unit price in the development agreements has provided only a limited amount of equitability after the content of the plans is taken into account.

The equitability of the landowners may have been further reduced by the inconsistent treatment of them regarding the office plots for which there has not been the expected demand in the case location. Some of the landowners have been able to receive a detailed plan change allowing residential uses and some of them have been able to transfer their office building plots (and also some other land) to the municipality in exchange for their due development agreement payments.

When it comes to the public land development cases, as discussed in Section 2, by applying public land development a municipality internalizes the effects of its planning decisions after the land acquisition, and the equitability concerns towards the landowners reduce to those relating to the acquisition terms. In both public land development cases, the land was acquired via voluntary transactions. Thus, in theory the landowners were treated equitably in the sense that each landowner received a price on which it was willing to sell the land. However, since municipalities have wide rights for compulsory purchase in both countries, the assessment of the situation is less straightforward. Voluntary transactions may not reflect the true price under which landowners would be willing to sell their land since the threat of compulsory purchase looms behind the transaction negotiations. Also, if a municipality is willing to buy land via voluntary agreements with a significantly higher price than a realistic estimate of the compensation in an alternative compulsory purchase, an argument of insufficient equitability can be made unless the municipality has completely ruled out the use of compulsory purchase as a land acquisition method. In a democratic system, any such restriction on the used methods can only remain in place for a few years until a new city council is elected.

Regarding the paid premiums, it seems that the Finnish case performs less efficiently than the Swedish one (see Table 5). In the Finnish case, a major share of the land was acquired with significant premiums over the value that the municipality could have been ordered to pay if compulsory purchase had been used. There are court rulings related to the compensations in the

transfers of the public areas in the case area. In these court rulings, it was suggested that in the two transactions covering most of the development area, the premiums were around 30 % of the transaction prices. Furthermore, one landowner who was reluctant to sell was rewarded with a development agreement that captured only around 50 % of the value increment (plus the streets, public areas and public service building plots transferred for free to the municipality) from the landowner.

As already mentioned, the transactions and the development agreement were voluntary within a situation where the municipality was known for being reluctant to use compulsory purchase.

However, the situation was changed during the implementation of our case project and the municipality updated its land policies to include all means available for land acquisition. Already in 2015, the municipality decided to use compulsory purchase for a 40 hectare site within the same partial master plan area where our case project is located. Certainly, this particular landowner would not agree having been treated equitably when compared, for example, to the landowner who received the favourable development agreement within the same partial master plan area.<sup>4</sup> This is an illustrative example of the equitability challenges arising in an institutional framework where municipalities have wide compulsory purchase rights, the legislation excludes hope-values from compensations, and democratic governments are elected every few years.

Finally, as already mentioned in Section 2, the equitability issues in public land development are not limited to the equitable treatment of landowners. Favouring of certain market actors at the expense of the others when the publicly developed building plots are sold becomes a potential threat to equitability. In both Finland and Sweden, municipalities are allowed to select freely to whom they sell or lease their land. The only limitation is that they must be able to argue

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<sup>4</sup>The landowner brought this compulsory purchase to administrative court but lost his claim.

reasonably that the land has been transacted at the market value (unless sold directly to private households when prices below the market value are also accepted). In the studied public land development cases, the developers for most of the building plots have been selected through quality-based open competitions. Thus, the equitability problems regarding developer selections seem to have been absent. Of course, a quality-based competition is always more subjective than a price-based bidding, potentially leaving room for favouring of specific developers.

## 6. Conclusion

This paper studied the added value of public land development from the perspective of the public objectives related to economic, environmental and social sustainability. The objectives recognized from the literature included quality of the developed environment, coordinated realization of development, public cost recovery, public value capturing and equitable treatment of landowners. These objectives formed the framework through which four case studies of large scale urban development projects were conducted. Two of the cases were located in Finland and two in Sweden. These two Nordic countries have relatively similar planning and development institutions as well as a strong tradition of using public land development. In both countries, the cases included one case relying mostly on public land development, and one case where more private-oriented approaches have been dominant.

From the results of the case studies several conclusions can be reached. First, the added value that public land development can bring to the promotion of qualitative objectives is dependent on the statutory control that municipalities are allowed to include in their land use plans. Even if the range of the allowed controls is wide, it can be beneficial for a municipality to increase the flexibility of control on some issues by including controlling conditions into the transaction agreements of building plots instead of statutory plans. Such flexibility of the detailed control

concerning spatial issues appears difficult to achieve with private land development in these countries.

Second, public land development appears to bring significant added value to coordinated realization of development. In private land development, the municipality needs to cooperate with the landowners and although some development deadlines with financial penalties can be agreed upon, the use of such penalties is very difficult and can easily act against the goal of smooth development that is conditional on working cooperation. However, also in public land development, the usefulness of development deadlines with financial penalties seems to depend on the market position of the municipality.

Third, institutional frameworks seem to have a significant effect on the added value that public land development can bring to public cost recovery and public value capturing. In particular, the contractual freedom between municipalities and landowners appears to be important. It seems that a highly regulated agreement framework provides a clear and predictable setting to evaluate the advantages and disadvantages of the different land development approaches. On the other hand, contractual freedom may provide the municipalities with more effective public cost recovery and public value capturing in private land development. However, the freely negotiated agreements may result in a situation where municipalities still carry almost the same amount of financial risks in private land development as in public land development. Then, it can be difficult to argue for private land development on economic reasons and public land development may become almost a norm in the society. This is highly probable due to the efficiency of public land development in public value capturing compared to private land development.

Fourth, the arrangements of public cost recovery and value capturing also resonate with the equitable treatment of landowners. Due to the uncertainty of the final land value increment as



well as the heterogeneity of the properties and spatial objectives loaded on them, it appears to be challenging to have an arrangement where the landowners are treated equitably in regard to their economic position. This problem seems to be present in both freely negotiable and more regulated development agreements. Public land development can potentially solve these problems but may provide a setting for inequitable treatment of private building developers. This issue could be mitigated by requiring open and transparent bidding in every transaction involving publicly owned land. However, the flexibility related to transaction negotiations would then be certainly lost to some extent.

Fifth, when municipalities have an extensive right to use compulsory purchase, consistent long term land policies, usually overreaching several terms of municipal governments, appear to be necessary for the equitable treatment of landowners. Whenever the willingness of a municipality to use compulsory purchase changes, it affects the negotiation position of the landowners and, thus, may lead to inequitable treatment of them. Within democratic societies, it is quite clear that each municipal government has the right to change the land policies to suit better the policy agenda of the elected representatives. However, within countries where public land development is commonly used, quick changes in local land development policies are probably more prone to cause situations that can be perceived as quite unfair to particular landowners.

In addition to the concrete conclusions from the case studies, the good economic performance of the studied cases, in connection to the dual regulator-developer role of the public authorities in public land development, raises a concern about potential undersupply of building land in the studied metropolitan areas. On one hand, there is an incentive for a municipality to limit the supply of building plots via planning and the sales decisions of building plots from the perspective of managing the market risk. On the other hand, the municipality also has an incentive to promote the supply of building plots due to the objectives of economic growth and housing affordability.

The profits in the studied cases give indications that the long-term socially optimal supply of new building plots could be much higher in the property markets of the studied metropolitan areas. Therefore, the relationship between the use of public land development and the building plot supply should be further investigated.

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Tables and figures

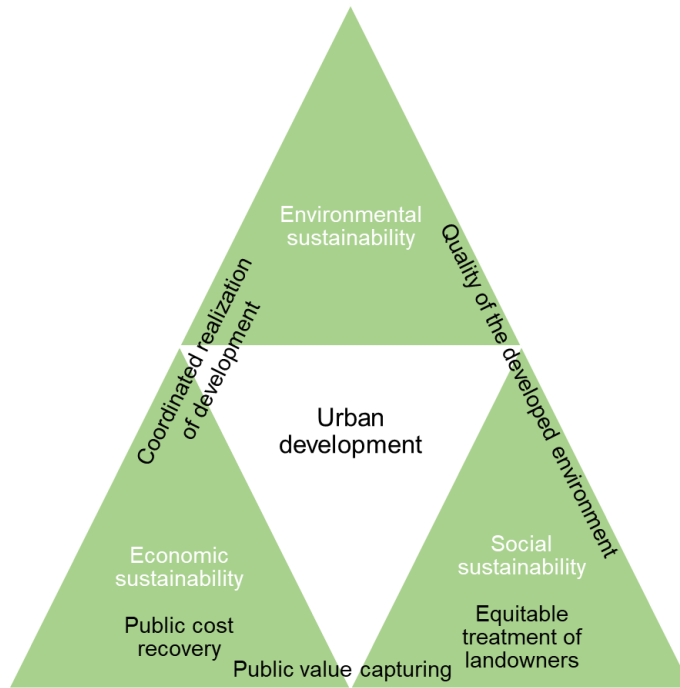


Figure 1 The framework of the public objectives employed in the case studies

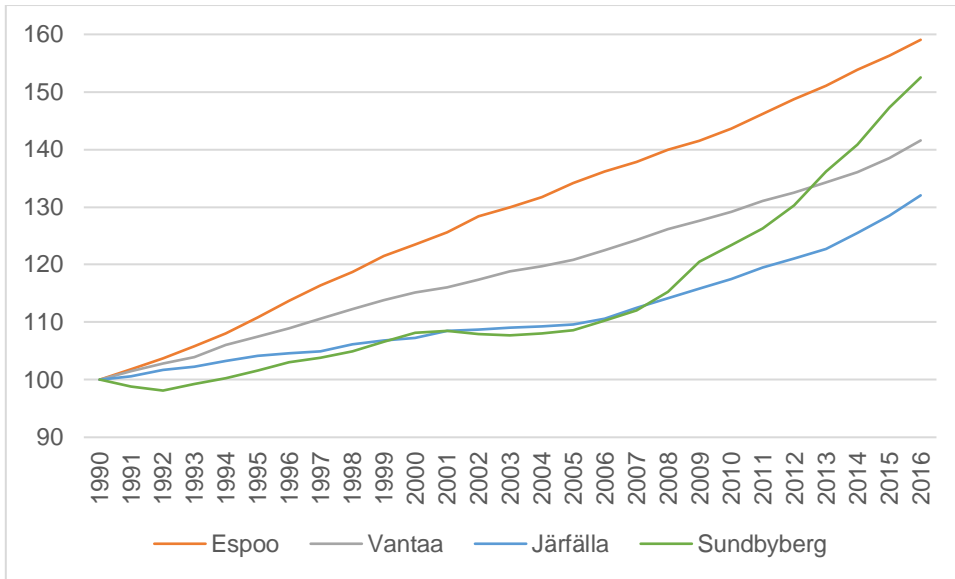


Figure 2 The indexed populations of the municipalities wherein the studied cases are located (Sources: Statistics Finland and Statistics Sweden)



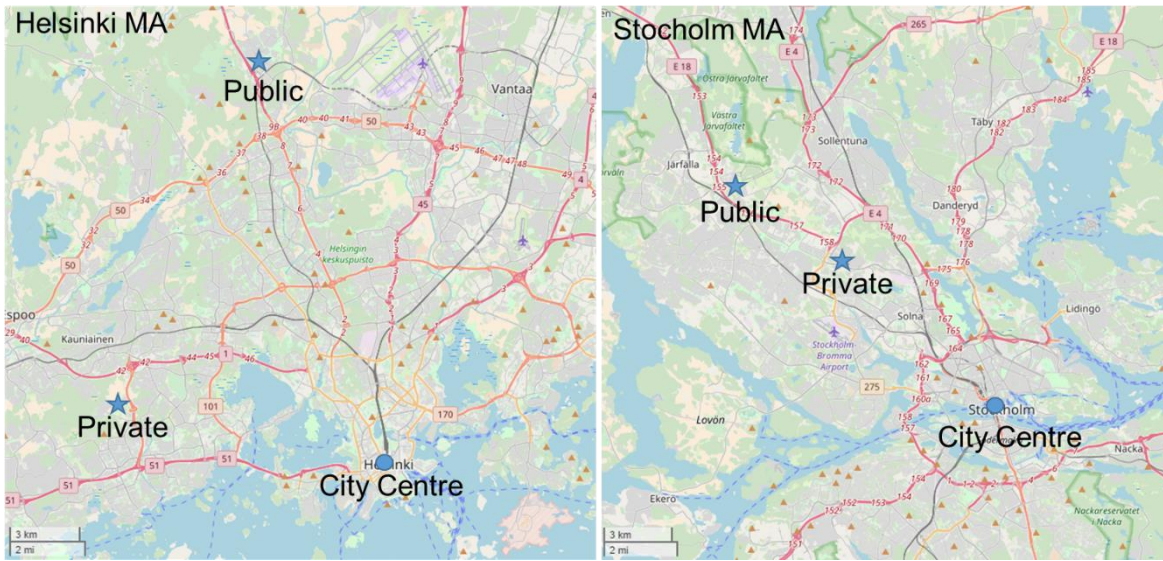


Figure 3 The case locations (Base map source: Open Street Map)

Table 1 The data used in the study

Case	Kivistö Centre, FIN	Barkarbystaden, SWE	Suurpelto, FIN	Stora Ursvik, SWE
<b>Interviews (length)</b>	Municipal project manager (92 minutes)	Municipal project managers of Barkarbystaden I & II detailed plans (110 minutes)	Municipal project manager (103 minutes)	Municipal project manager (77 minutes)  CEO of Stora Ursvik kb (93 minutes)  NCC regional manager (56 minutes)
<b>Studied planning documents (includes the plans under preparation)</b>	1 partial master plan  17 detailed plans	2 partial master plans  7 detailed plans	16 detailed plans	1 partial master plan  9 detailed plans
<b>Key implementation documents studied (non-exhaustive list)</b>	Around 40 building plot sales decisions  Around 50 decisions on street and park implementation schemes  A development agreement with a private landowner  3 co-operation agreements with partner developers  2 land acquisition agreements	Around 30 building plot sales decisions and agreements  Implementation strategies of the plans	5 development agreements  2 agreements to replace the monetary payments of development agreements with land transactions  3 building plot sales decisions  Municipality's financial statements 2008-2017  Municipality's budget 2014-2018	Around 10 development agreements  2 larger implementation agreements for the two parts of the project (+ 1 update)  Land sales agreement concerning municipality's land (+ price adjustment agreement)

Table 2 The key characteristics of the studied cases

Case	Kivistö Centre, FIN	Barkarbystaden, SWE	Suurpelto, FIN	Stora Ursvik, SWE
<b>Primary land development approach</b>	Public	Public	Private	Private
<b>Municipality (population in 31/12/2017)</b>	Vantaa (220,000)	Järfälla (76,000)	Espoo (280,000)	Sundbyberg (49,000)
<b>Metrop. area (population in 31/12/2017)</b>	Greater Helsinki (1.5 M)	Greater Stockholm (2.3 M)	Greater Helsinki (1.5 M)	Greater Stockholm (2.3 M)
<b>Total project area, ha</b>	150	300	310	69
<b>Approved plans (approval year)</b>	Partial master plan including larger area (2006)  Detailed plan draft containing all detailed plans (2011)  13 detailed plans (2012 -)	Partial master plan (2006)  Updated partial master plan (2016)  6 detailed plans (2004 -)	12 detailed plans (2006 -)	Partial master plan for whole area (2003)  Partial master plan update for the western part (2015)  9 detailed plans (2005 -)
<b>Target of new housing, dwellings</b>	Detailed plan draft: 10,000	Original plan: 5,000  New plan: 18,000	Detailed plans (approved and drafts): 7,500	Original plan: 4,200  New plan: 7,500
<b>Target of new commercial premises, m<sup>2</sup></b>	Detailed plan draft: 160,000	Original plan: 135,000  New plan: 240,000	Detailed plans (approved and drafts): 560,000	Original plan: 152,000  New plan: 90,200

Table 3 Public cost recovery in the studied cases

Project	Kivistö Centre, FIN (Public)	Barkarbystaden, SWE (Public)	Suurpelto, FIN (Private)	Stora Ursvik, SWE (Private)
<b>Land acquisition costs M€</b> Estimated total = E Realized = R	E: 42 R: 42	E: 22 R: 22	E: 3.9 R: 3.9	E: 0.9 R: 0.9
<b>Technical infrastructure costs M€</b> Estimated total = E Realized = R	E: 85 R: 40	E 97 R: N/A	E: 206 R: 90	E municipality 24 E private 59 R: N/A
<b>Land sales incomes M€</b> Estimated total = E Realized = R	E: 329 R: 59	E: 239 R: 165	E: 150 R: 4.6	E: 47 R: 47
<b>Payments from the landowners M€</b> Estimated total = E Realized = R	No monetary payments (only land transfers) agreed	Minor payments based on the technical infrastructure costs	E: 245 R: 91	Equals the landowners' share of the realized techn. infra costs
<b>Profit after the techn. infra. M€</b> Estimated total = E Realized = R	E: 202 (159 %) R: -23 (-28 %)	E: 120 (101 %) R: N/A	E: 185 (88 %) R: 0.9 (0.9 %)	E: 22 (86 %) R: N/A
<b>Service infrastructure costs M€</b> Estimated total = E Realized = R	E: 50 R: 34	E: N/A R: N/A	E: 62 R: 22	E: 45 R: N/A
<b>Profit after the service infra. M€</b> Estimated total = E Realized = R	E: 152 (86 %) R: -58 (-50 %)	E: N/A R: N/A	E: 123 (45 %) R: -21 (-18 %)	E: -23 (-33 %) R: N/A
<p>All figures represent the 11/2017 value of money based on living cost indices published by Statistics Finland and Statistics Sweden. Swedish crowns have been converted to Euros with the average exchange rate of 11/2017.</p> <p>Barkarbystaden estimated total figures are based on the original partial master plan building volumes due to data availability. The updated partial master plan contains much denser development. Thus, the estimated total incomes and costs can both be expected to be higher. Most probably denser development means that the increase of the incomes is relatively higher than the increase of the costs.</p>				

Table 4 The rates of the taxes that capture land value increments in the studied countries

Tax	Current tax rate in Finland	Current tax rate in Sweden
<b>Annual property tax on land</b>	0.93 – 2.00 % (to the municipality)  Optional rate for undeveloped building plots: 2.00 – 6.00 % (to the municipality) <ul style="list-style-type: none"> <li>• The 14 municipalities of the Greater Helsinki must have at least 3.00 %-units higher rate for undeveloped building plots than the general rate in the municipality (however not ever exceeding 6.00 %)</li> </ul>	No separate taxation on land and buildings  For a house: 0.75 % , however not higher than around € 780 (to the municipality)  For an apartment: 0.3 % , however not higher than around € 130 (to the municipality)  For offices and retail: 1.0 % (to the state)  For industrial properties: 0.5 % (to the state)  Undeveloped apartment building plot: 0.4 % (to the state)  Undeveloped house building plot: 1.0 % (to the state)
<b>Capital gains tax for private persons</b>	30% from the first € 30,000 then 34 % from the rest (to the state)	30 % (to the state)
<b>Capital gains tax for companies</b>	20 % (around 70 % to the state; around 30 % to the municipality)	22 % (to the state)
<b>Stamp duty for property buyers</b>	4 % of real estate (to the state)  2 % of shares of commonholds (to the state)	1.5 % for private persons and apartment commonhold associations (to the state)  4.25 % for companies (to the state)

Table 5 Value capturing in the studied cases

Project	Kivistö Centre, FIN (Public)	Barkarbystaden, SWE (Public)	Suurpelto, FIN (Private)	Stora Ursvik, SWE (Private)
Farm land price (€/m <sup>2</sup> )	0.79	5.4	0.79	5.4
Land acquisition price (€/m <sup>2</sup> )	65	8.2	-	-
Agreement payments (€/m <sup>2</sup> )	-	-	177	91
Price of building land (€/m <sup>2</sup> )	311	252	359	174
Value increment (€/m <sup>2</sup> )	310	247	358	169
Captured value increment (€/m <sup>2</sup> )	246	244	177	91
Captured value increment (%)	79	99	49	54
<p>The farm land prices are based on the regional averages in Finland from 1990 to 2017 and in Sweden from 1995 to 2016. The land acquisition prices are based on the actual acquisitions made by the municipality in the areas. The agreement payments are based on the actual agreements. The price of building land is based on the average price of building right on the actual transactions multiplied by the ratio of the assigned private building right to the total land area in the approved detailed plans. In the Stora Ursvik case, the Barkarbystaden average price per of building right was used since the data on the actual private transactions were unavailable.</p> <p>In the public land development cases, the parts not owned by the municipality have been excluded from the analysis. In the private land development cases, the parts owned by the municipality have been excluded from the analysis</p>				