



Degree Project in The Built Environment

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# Understanding Implementation

A Case Study of the TOD Implementation Process in  
Flemingsbergsdalen

MAJA GUSTAFSSON

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# Abstract

Transit Oriented Development (TOD) is a strategic approach in urban planning that promotes sustainable urban growth through efficient land use and enhanced public transportation. This thesis explores the implementation of TOD within a Swedish context through a case study on the development of Flemingsbergsdalen in southern Stockholm. This is done through interviews with different actors involved in the development process. The study aims to understand how TOD is adapted to and implemented in Flemingsbergsdalen and to identify the primary challenges encountered in the TOD implementation process.

The research revealed two primary findings. Firstly, the implementation of TOD in Flemingsbergsdalen adheres closely to recognised design and planning principles of TOD, reflecting both the historical and contemporary planning contexts. Flemingsbergsdalen's development, informed by early TOD initiatives in Flemingsberg, illustrates how evolving planning ideas contribute to and shape the built environment. Secondly, the study identifies three main categories of challenges: financing TOD, defining roles and responsibilities, and managing internal and external organisation. These challenges highlight the complex interplay between economic factors and institutional roles, significantly influenced by both formal and informal institutional factors such as budgeting, economic priorities, and the varying levels of stakeholder knowledge and experience in navigating financing processes for TOD projects.

The findings suggest that while TOD principles are well-supported in theory, the process of implementation is filled with complex challenges that can be difficult to navigate. This thesis contributes to research by identifying and categorising these challenges and providing a framework for understanding the dynamics between them.

**Key words:** Transit Oriented Development, TOD implementation, Formal institutional factors, Informal institutional factors, Flemingsbergsdalen.

# Att förstå implementering

## En fallstudie av implementeringsprocessen av TOD i Flemingsbergsdalen

### Abstract

Transit Oriented Development (TOD) är ett strategiskt tillvägagångssätt inom stadsplanering med syfte att främja hållbar urban tillväxt genom effektiv markanvändning och förbättrad kollektivtrafik. Denna uppsats undersöker implementeringen av TOD i en svensk kontext genom en fallstudie av utvecklingen av Flemingsbergsdalen i södra Stockholm. Detta görs genom intervjuer med olika aktörer som är involverade i utvecklingsprocessen. Studien syftar till att förstå hur TOD anpassas och implementeras i Flemingsbergsdalen samt att identifiera de huvudsakliga utmaningarna som uppstår i implementeringsprocessen av TOD.

Forskningen visade två huvudsakliga resultat. För det första följer implementeringen av TOD i Flemingsbergsdalen väl etablerade design- och planeringsprinciper för TOD, vilket speglar både historiska och samtida planeringskontexter. Utvecklingen av Flemingsbergsdalen, som efterföljer tidiga TOD-initiativ i Flemingsberg, illustrerar hur utvecklande planeringsidéer bidrar till och formar den byggda miljön. För det andra identifierar studien tre huvudkategorier av utmaningar: finansiering av TOD, definiering av roller och ansvar, samt hanteringen av den interna och externa organisationen. Dessa utmaningar lyfter fram det komplexa samspelet mellan ekonomiska faktorer och institutionella roller, starkt påverkade av både formella och informella institutionella faktorer såsom budgetering, ekonomiska prioriteringar och de varierande nivåerna av aktörers kunskap och erfarenhet i att navigera finansieringsprocesser för TOD-projekt.

Resultaten tyder på att även om TOD-principer är väl understödda i teorin, är implementeringsprocessen fylld med komplexa utmaningar som kan vara svåra att navigera. Denna uppsats bidrar till forskningen genom att identifiera och kategorisera dessa utmaningar och genom att tillhandahålla ett ramverk för att förstå dynamiken mellan dem.

**Nyckelord:** Transit Oriented Development, TOD implementering, formella institutionella faktorer, informella institutionella faktorer, Flemingsbergsdalen.

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Maja Gustafsson

A handwritten signature in blue ink, appearing to read 'Maja Gustafsson', with a large, stylized flourish at the end.

May 2024

Stockholm

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# 1. Introduction

Transit Oriented Development (TOD) is a concept within urban planning that has emerged as a strategic approach aimed at fostering sustainable cities through the integration of land use and transportation planning. The concept introduces a strategic framework for urban planners and architects to continue to plan for growth of the urban areas through the idea of efficient land use sustainable public transportation. Despite the growing global popularity of TOD and its alignment with general sustainability goals, the implementation process of the TOD concept remains understudied in contexts outside of the United States and the Netherlands. Since planning strategies are often heavily dependent on the local governance system of laws and regulation, this lack of research creates a research gap that is important to fill in order to gain understanding of the TOD process in specific contexts. Planning with an emphasis on land-use efficiency is often complex since it requires that a large number of functions can fit and co-exist in a smaller space. Research on TOD has showed that this efficiency can be complicated to plan for, and even more difficult to implement. Despite this, research on the aspect of TOD implementation has provided a limited number of comprehensive explanations of what specific aspects of TOD are particularly challenging for planners and practitioners to navigate (Hrelja et al 2020).

In Sweden, ideas similar to the core principles of TOD guided the planning ideals in the post-war era. One example of this is the rapid urban development of Stockholm after the Second World War, when integrated housing and public transit planning was an important principle in order to raise living standards and ease the overcrowding in the inner city. This is what laid the ground for the extensive metro network in the capital city that was completed during the following decades (Ibraeva et al 2020). This same time period has however also been the scene of the emergence of another transportation ideal, the accessibility with the private car. This has led to a variation of importance for the TOD concept throughout time. The rise of car-centric urban planning in Sweden paralleled the global trend of increasing automobile ownership and the expansion of road infrastructure. Cities began to prioritize the construction of highways and large parking facilities, which encouraged suburban sprawl and car dependency. In Stockholm, for instance, the development of extensive road networks like the Essingeleden expressway in the 1960s facilitated greater car use and influenced urban planning strategies to accommodate private vehicles. However, this shift also brought challenges such as traffic congestion and environmental pollution (Hirdman et al 2012).

In modern Swedish urban planning TOD has gained importance again for its connection to sustainable urban planning and the mission to lower emissions from the transport sector. In Swedish, this ideal of planning is often connected to the term *stationsnära planering*, which translates to “planning near stations”. This is closely related to the concept of TOD since it is based on the same principles. A testament to this renewed focus is the current extension of the metro network in Stockholm (Hrelja et al 2020). Projects like the blue-line extension to Nacka and Söderort are designed to improve accessibility and reduce car dependency by connecting more suburban areas to the city’s public transit system. These extensions not only aim to meet

the growing demand for efficient public transportation but also support the development of new residential and commercial zones near the new stations (Region Stockholm n.d, A). This strategic expansion underscores the city's commitment to sustainable urban growth and reflects a broader shift towards enhancing public transit infrastructure to achieve environmental and social benefits.

The lack of knowledge about the TOD implementation process and its challenges in a Swedish context, combined with the concept's recent surge in popularity, highlights the need for further research on this topic (Hrelja et al 2020). Understanding the specifics of implementing TOD in Sweden is crucial for providing effective recommendations on how to organize and execute these projects to achieve the desired outcomes. Comprehensive research will enable urban planners and policymakers to navigate the complexities of TOD and tailor strategies that are suited to Sweden's unique urban environment, ultimately ensuring the success of sustainable transit-oriented development initiatives.

## 1.1 Aim and Research Questions

In this thesis I will target the identified research gap on TOD implementation in a Swedish context through a case study of the ongoing development project in Flemingsbergsdalen, southern Stockholm. This will be done through qualitative interviews with officials from Huddinge municipality, Region Stockholm and Trafikverket, as well as representatives from local developers and property owners. The aim of the study is to identify how the TOD concept has been implemented in the case of Flemingsbergsdalen and what challenges the interviewees are experiencing in the implementation process. This will be done through the following research questions;

### Research questions

- How has the concept of Transit Oriented Development been implemented in the case of Flemingsbergsdalen?
- What challenges are experienced by different actors in the TOD implementation process?

## 2. Literature Review & Analytical Framework

This section of the thesis can be seen as a combined literature review and analytical framework that will provide context to the research questions and set a framework for how they will be answered in the analysis. It is structured in two different parts that aims at answering one research question each. The first research question will be answered by using a framework of core principles of TOD that were identified through the literature review. The second research question will be analysed through a framework of challenges to TOD implementation, as well as the political theory of new institutionalism.

### 2.1 Transit Oriented Development

Transit Oriented Development (TOD) is a concept in urban planning that was coined in 1993 by American architect Peter Calthorpe. His research was grounded in theories of ecology, sociology, urban planning and transport planning, with a focus on finding ways to organise sustainable urban communities. According to Calthorpe, this was achieved through planning dense and mixed urban areas with a maximum of 10 minutes walking distance to the nearest transit stop and core commercial area. This type of planning was thought to create urban areas that fostered a sense of community through the shared public spaces in close connection to modern and functional public transport (Jamme et al 2019).

Transit Oriented Development as a concept place itself within a movement in urban planning called *New Urbanism*. The movement was shaped as a response to several interrelated urban issues prevalent at the time. Firstly, there was a growing dissatisfaction with suburban sprawl and its associated problems such as traffic congestion, social isolation, environmental degradation and other issues said to contribute to a low quality of life in urban areas. New Urbanism offered an alternative vision of development that emphasised walkability, mixed land use, and vibrant community spaces, aiming to mitigate these challenges. The foundation of the movement was to provide concepts which could bring back the quality of life to the urban areas that had been taken away during the past decades of planning (Jamme et al 2019). New Urbanism and its engagement in densification and mixed use were often criticised for advocating utopian visions that had no base in reality (Ellis 2002). The same critique was presented in relation to Calthorpe's focus on TOD as a tool for fostering a sense of community. Critics even accused Transit Oriented Development for practising social engineering and physical determinism (Jamme et al 2019).

Despite the criticism of both New Urbanism generally and TOD specifically, the move towards densification, mixed use and walkability gained popularity from the 1990's and forward as a way to promote both sustainability and community within urban planning. TOD has since the first definition from Calthorpe evolved into a well-researched area within urban planning and transportation studies, with a substantial body of literature available (Hrelja et al 2020). While TOD emerged from the American context and New Urbanism, the concept has since gained influence in other parts of the world. In Europe, TOD has been contextualised through the movement called *Compact City*. This movement shares many elements with New Urbanism, such as the focus on densification, reduced car-use and increased walkability. However, the

European Compact City is more occupied with advocating for land-use efficiency and the sustainability perspective while the American New Urbanism additionally emphasises the community-building aspects (De Vos et al 2014). This area of urban planning with all different contextual backgrounds can according to Westerink et al (2013) be classified as “the compact city family”.

Today, the TOD concept is commonly described as an approach to achieve dense urban development and sustainable public transportation in order to secure an efficient use of land resources and transportation infrastructure in an urban region. It can also be described as the integration of land-use and transport planning with the purpose of promoting public transport by maximising convenience (Thomas & Bertoloni 2017). The implementation of TOD as an urban development strategy is often multi-scalar, meaning it occurs on several different levels; national, regional and municipal. From a regional perspective, TOD is often used as a strategy for regional enlargement by expanding the regional labour market for example. On a municipal level, factors such as efficient land-use and accessibility are more frequently discussed as the main purpose of TOD. Although TOD strategies are implemented on different levels of governance, there seems to be consensus in literature around the general goals and purpose of the strategy. There is however no universally accepted definition of TOD since concepts such as dense, walkable, or even accessible, are heavily context-based and differ around the world (Capitao Patrao 2023). Despite these contextual challenges, there are some definitions that are more generally accepted than others. For example, Hrelja et al (2020) settles on the definition from Thomas & Bertolini (2017) p. 140. The same definition will be used throughout this thesis. It reads;

“TOD can be described as the integration of land-use and transportation planning that makes walking, cycling, and transit use convenient and desirable, maximising the efficiency of existing transit services by focusing development around transit stations, stops, and exchanges.”  
(Thomas & Bertoloni 2017)

Most research and implementation of TOD has been done in an American context. In Europe, the concept has mostly been researched through case studies in the Netherlands (Ibraeva et al 2020). This indicates a need to produce more research on TOD cases and projects outside of the American or Dutch context in order to better understand the mechanisms of TOD in other countries as well as the transferability of the concept (Hrelja et al 2020).

### 2.1.1 Core Principles to TOD Implementation

As different theoretical frameworks of sustainable development have gained traction in urban planning, the concept of Transit Oriented Development has been expanded and developed into several different tracks and categories. This section in the literature review provides an attempt to explain some of these different categories and the different levels they operate on. Whilst there are several different typologies to TOD, I have chosen to work with a specific typology from De Vos et al (2014) since it offers a broad insight in how different types of TODs impacts the physical urban landscape. The typology presents a division of 3 different types of TODs which is based on the initial stages of development. These types are; New TODs, High-density TODs and Low-density TODs.

**New TODs** are projects where the development of a completely new area is concentrated around new public transportation services. The new TODs are planned according to TOD ideals and concepts from the beginning, which can be clearly seen through the urban design with high-density, mixed-use neighbourhoods in close proximity to newly constructed rail-bound public transport. This way of planning has gained popularity in Europe and is seen as the common practice for new developments in Sweden, for example.

**High-density TODs** are projects which aim to introduce high-quality public transport into already densely built and populated areas. This includes projects which will increase connectivity within a neighbourhood as well as between different neighbourhoods. This way of “doing TOD” is particularly popular in dense Asian areas, and it is often used as a way to decrease the car-usage within already existing urban structures as a way to make the urban area more sustainable.

**Low-density TODs** are projects which aim to increase density and urban qualities in traditionally suburban areas with low density in both the built environment and population. This type of TOD is often used as a tool for limiting urban sprawl and decreasing the general car usage.

Since the new TODs are developed around new lines of rail-bound public transport, they form what can be described as a pearl band along the newly constructed railway, tram or metro line with small and dense pearls representing the urban centres. High-density TOD impacts the built environment through the introduction of new railway, tram or metro lines, and low-density TOD looks like a combination of the both with new transport infrastructure and urban developments within an existing suburban area. De Vos et al (2014) explains these physical implications further through this model;

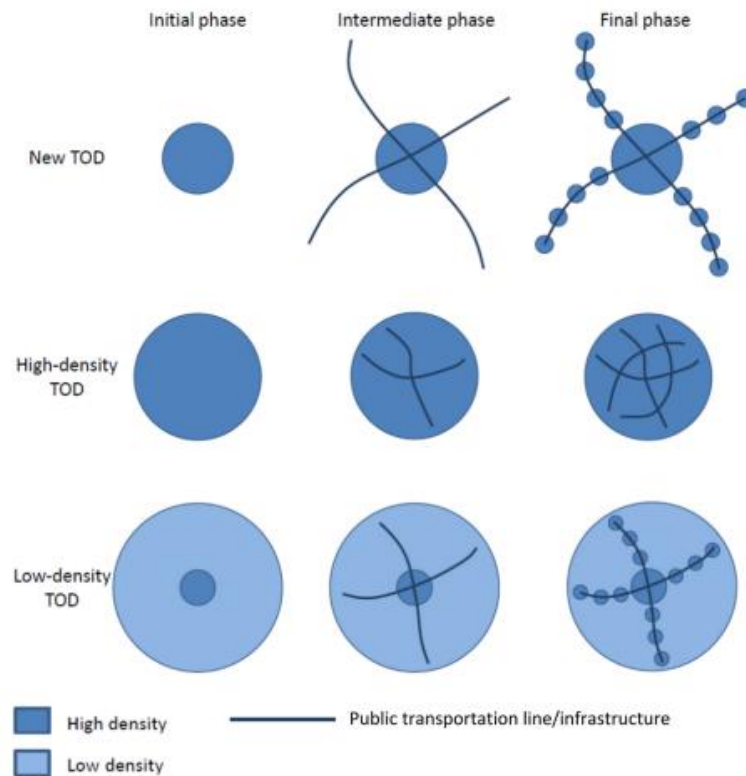


Fig. 1. Three types of TODs.

(De Vos et al 2014, p. 328)

These different ways of performing TOD within different urban contexts are important to understand since they have different implications on the urban landscape. De Vos et al (2014) also argues that the type of TOD has implications on resident's attitude towards the new development and the TOD ideals of reduced car-use and increased walkability. They claim that new and high-density TODs rarely face any objections from residents because there; a) are no residents there or b) the current residents are already well integrated in the general ideas of TOD. Residents in low-density TODs might however find it more difficult to get on board the idea of reduced car use since it might be conflicting with the lifestyle they are used to. According to de Vos et al (2014), this has implications on the TOD implementation process since it would require an active change in attitudes from residents in a low-density TOD. This means that it could take a longer time for a low-density TOD to be successful than it would for the other types of TODs.

The research from De Vos et al (2014) showed that when TOD is performed in different contexts it has implications both on the methods used when planning them and the structure of the physical landscape once they are completed. When going through the literature of TOD it becomes clear that there are a large number of different principles that are described to be important when planning for Transit Oriented Development. In the section below I have chosen to sort these principles into two different categories, *design principles* and *planning principles*. The design principles offer guidance on how the physical urban environment can be designed to foster behaviors and usages in and of the urban space. The planning principles include research that is more focused on the governance of TOD and what planning tools can be used

in the implementation. These principles will then be used in the analysis as a part of answering research question 1; How has the concept of Transit Oriented Development been implemented in the case of Flemingsbergsdalen?

## Design Principles

**Walkability** is essentially about actively promoting walking in the urban space. Interventions to improve walkability often include reducing the space that is designated to cars and drivers. This can be done through replacing a car lane with walking paths for example. In TOD literature, the most important intervention to increase walkability is to ensure short walking distances to the nearest public transit station for all residents. Much of the research on walkability and TOD is therefore focused on ways to measure walkability and define what “short” walking distances mean in practice (Park et al 2015).

**Mixed-Use Development** is an approach that has developed from the New Urbanism movement and theories of sustainability. The core of the approach is to design cities with mixed functionality instead of creating separated residential or work-place areas for example. Today, mixed-use can be explained as a universal truth in urban planning of how to design vibrant and sustainable urban areas. Mixed-use development is also one of the core principles in the TOD concept, and there are a large number of articles written on the subject (Grant 2007).

**High-Density Development:** High-density development can be explained as the opposite of urban sprawl. It is an integrated land-use and design approach that advocates for an efficient land-use by designing dense areas in the attractive areas in close proximity to public transit stations. High-density development is a crucial aspect to the TOD concept as it constitutes the base for many other interventions, including mixed-use and walkability. Research on mixed-use in TOD literature is often focused on quantitative measurements of the effect of density on public transit ridership etc. (Sung & Oh 2011).

## Planning Principles

**Integrated Land-Use and Transportation Planning:** The strategy of integrating land-use and transportation planning is so central to the TOD concept that it even makes out half of the definition of TOD used in this thesis. Research on the topic highlights the importance of integrating land-use planning and transportation planning on an institutional level in order to have the ability to perform urban developments in connection to transit developments. A lack of integration between these areas is often mentioned as a challenge to implementation of the TOD concept (Suzuki et al 2013).

**Experimental governance and financing models:** The financial aspect is often discussed as a challenge of implementing TOD plans since adequate financing is one of the basic requirements for the feasibility of the project. Research shows that this often

calls for a more experimental approach to governance where different types of financing models can include both private and public actors in different constellations. This includes a multi-disciplinary and experimental approach to implementation, as well as site-specific tools and instruments for different types of financing models. One planning principle within this topic that has gained popularity during the last decade is in literature often referred to as “planning by invitation”. This is when individual land and property owners are invited to a cooperative development process together with the municipality (Thomas et al 2018).

### 2.1.2 General Findings

To summarise, TOD is a broad theoretical concept which encompasses everything from sociological discussions on the role of community to quantitative measurements of distances and densities. In this section of the thesis, I have discussed the theoretical background of TOD as a concept and provided an analytical framework of core principles that will be used in the analysis to answer the first research question. In the next section I will expand on the literature review for the specific research field of challenges in TOD implementation and provide the analytical framework that will be used to answer the second research question.

## 2.2 Challenges to TOD Implementation

One significant category of research within Transit Oriented Development focuses on investigating the challenges of TOD implementation. The purpose of this research is to identify key factors that have an impact on the success of a TOD project. In addition to this, there are also several examples of studies that focus on evaluating specific aspects of the implementation process and their impact on the result of the project (Hrelja et al 2020). Some of these will be discussed during the following sections of this literature review. There are several different articles which try to list or categorise challenges of TOD in order to get a broader understanding of why some TOD projects tend to be more successful than others. Hrelja et al (2022) drew the conclusion from different literature reviews that there are typically five different areas of challenges within TOD research. These areas are:

1. The availability and nature of sites for TOD close to public transport nodes
  2. The quality of public transport
  3. Existing land use patterns that “lock-in” existing travel behaviour
  4. Market conditions for and developer perceptions of TOD
  5. Governance
- (Hrelja et al 2022)

Some of the challenges listed above are mainly related to issues of localisation and other more physical perspectives. However, both market conditions and developer perceptions of TOD, as well as issues of governance are both issues that are related to implementation of TOD. In this section of the thesis, I will develop further on three specific themes of challenges that are particularly frequent in the literature on challenges in TOD implementation. These themes will

be used as a part of the analytical framework that will help research question 2; What challenges are experienced by different actors in the TOD implementation process?

### 2.2.1 Financing TOD

The interest of developers and investors to participate in a TOD project is also highly impacted by outside factors such as the current economic situation or events that are hard to predict. According to Wenban Smith (2011) an economic decline, or recession, has a profound impact on both planning and the construction sector. This often becomes particularly evident in the cities where it becomes bluntly obvious when construction is not going to plan. This forces planning officials at all levels to make difficult priorities, pausing some projects, cancelling some and redirecting more focus to some (Wenban Smith 2011). The strategy of TOD often requires a drastic urban redevelopment which requires large investments from both public and private actors. These are the types of projects which can be particularly challenging to finance during a recession, especially for the private sector which typically suffers more from an economic decline (Venner & Ecola 1996).

An economic recession is not the only challenge when discussing the financing of TOD-projects. Even in good economic times, large developments in dense urban areas are costly and can be challenging to achieve. Venner & Ecola (2007) identified a number of different challenges for private developers to retain funds and loans to participate in a TOD-project. They claim that the complexity of a TOD-project with multiple actors sharing a relatively small area and building with dense urban qualities poses a risk that is often hard to motivate banks and other investors (Venner & Ecola 2007). This confirms the previously mentioned finding by Hrelja et al (2022) that developers often review TOD-projects as expensive and risky. Another factor that complicates the project even more is the need for public investments in infrastructure such as roads and public transport. The infrastructure projects themselves are often both expensive, complicated and require several different investigations. This raises discussions within a project of cost distribution and what the final time plan should look like (Hrelja et al 2020). These factors combined puts financial restrictions as one of the largest challenges for TOD-developments.

### 2.2.2 Local Governance

Another line of research that focuses on the topic of challenges and enablers of TOD is research on processual dimensions, particularly related to governance at a local level. This is essentially about understanding the processes of decision making and how different actors are navigating the development project. According to Sherrer (2019), this type of research requires an in-depth analysis of all stages of a project and involves both informal and formal institutional factors. One factor that is addressed as a challenge to TOD within this type of research is a lack of processual knowledge. Sherrer motivates this notion by stating that TOD as a strategic planning practice is a result of the increased focus on sustainability in urban planning and has led to the integration of urban and transport planning. This shift towards an integration has had significant implications on the planning process and how to navigate it in practice. Despite this significant

change, there is a lack of research and recommendations on how practitioners can navigate the new system. According to Sherrer, this lack of knowledge is one of the largest processual challenges to TOD implementation (Sherrer 2019).

One of the most reported challenges to TOD in the literature is complex governance structures which makes it hard to navigate the planning process and its actors. An example of such a challenge is the divided structure between transport planning and urban planning. As previously discussed, TOD entails the integration of these two fields of planning. However, a common governance structure in many countries is that the urban planning is carried out on municipal level and the transport planning is carried out on a regional level. This results in a fragmentation in an area where integration is one of the base premises for the entire project. Despite good efforts of coordination between municipality and region in questions connected to transport infrastructure and urban development, the fragmentation of governance will create distance between the two and complicate a seamless integration. In practice, this can result in conflict regarding both financing and the timeline of specific transport or urban development projects (Paulsson 2020).

Another possible processual challenge for TOD implementation is the uncertainty about the own organisation's role in the development and what the division of responsibilities should be. This is partly a symptom of the lack of knowledge on how to navigate the system, partly the symptom of an increased marketisation of urban planning (Thomas & Bertolini 2014). In Sweden, the marketisation of urban planning is connected to the ideological discussion of the role of the municipality. The neo-liberal turn in general politics from the 1990's pushed a narrative that the role of the municipality is to offer what is legally required by it as effectively as possible, nothing more, nothing less. All other activities should then be outsourced to entrepreneurs or sold to private actors (Granberg & Montin 2014). This narrative of municipal marketisation risks creating tension when working with extensive urban development projects such as a TOD. These projects are complex and difficult to navigate, and because of the municipal planning monopoly it is the municipality's responsibility to lead the project.

### 2.2.3 Internal and external collaboration

Another area of research within TOD implementation with a large number of articles is the topic of enablers, or "success factors". Thomas and Bertolini (2017) wrote an article on critical success factors for TOD implementation which was considered a large breakthrough for TOD research at the time. By using a larger number of case studies and a codified data matrix, they identified that the most frequent critical success factors in TOD implementation as political stability at the national level, relationships between actors in the region, interdisciplinary teams used to implement TOD and public participation (Thomas & Bertolini 2017).

Many key elements contributing to success can be attributed to informal institutional factors. For instance, in terms of actor relationships, Thomas and Bertolini (2017) suggest that strong relationships between municipal actors on a regional level, coupled with actors willing to innovate with new policies, practices, and tools, are crucial for success. Additionally, Thomas

and Bertolini (2014) found in a Dutch case study that while land use and transportation planners may be acquainted with TOD concepts, they may be less familiar with the "softer" but transferable lessons vital for successful TOD implementation. These include fostering good actor relationships, securing national government support, adopting a multidisciplinary approach, and actively engaging the public (Hrelja et al 2020) This also is why having interdisciplinary teams is a critical success factor to TOD implementation, by only engaging trained traffic planners or urban planners in the planning process other important factors risks getting lost in the process. In some projects the planning and the work with "softer values" has been separated and then expected to be integrated in a later stage through collaboration. Research shows that this method is less effective and at risk for more friction. An integrated and interdisciplinary approach to TOD is simply an important success factor for TOD implementation (Thomas & Bertolini 2014).

In many cases, the enablers or success factors of TOD tend to be just the opposite of the challenges. Some of the most frequently described challenges are good relationships between actors, shared goals and a common understanding of what TOD is and has the potential for in their local context. Research on enablers also shows the importance of context when it comes to evaluating TOD-projects and their outcome. Another insight from prior research is that the planning of TOD has to be considered as a dynamic process which unfolds within intricate governance frameworks, where actors with different resources, abilities, and agendas interact. In essence, TOD planning should be perceived as a contextualised endeavour that develops not only within the formal structures of government institutions but also significantly through informal channels of governance (Hrelja et al 2022).

#### 2.2.4 General Findings

To summarise, in this section of the thesis I have presented the existing research on challenges in TOD implementation that are relevant in relation to the second research question and TOD implementation in Flemingsbergsdalen. This resulted in three main categories of challenges; *Financing TOD*, *Local governance* and *Internal and external collaboration*. These three categories constitute one part of the analytical framework that will be used to answer research question two. In the next section of the thesis, I will introduce the second part of the analytical framework by expanding on institutionalism and institutional implementation challenges.

## 2.3 Institutionalism

One way of conceptualising the challenges of TOD implementation is through an institutional lens. Institutionalism is a theory in political science which focuses on the role and impact of institutions in the political system. In this context institutions refer to the laws, rules, procedures and organisations that structure human behaviour within a political system (Immergut 1998). When applied to the field of urban planning, institutionalism prescribes the act of urban planning as a political act in itself. This framework contributes to an awareness of how structural driving forces shape planning ideals and their implementation (Healey 2007). Institutionalism was chosen as a valuable framework for researching the challenges of TOD implementation because it provides insight to how institutions - such as government agencies, regulations, and planning processes - affect urban development, land use, infrastructure provision, and governance.

One aspect of institutionalism that is crucial for TOD and its implementation is the concept of *institutional capacity*. Institutional capacity refers to the ability of institutions to effectively perform their functions and achieve their goals. In the realm of urban planning, this capacity is directly linked to the implementation process and the ability of institutions to turn plans and visions into reality. Given that TOD implementation typically involves multiple stakeholders, robust institutions must not only be able to manage their own internal processes, but also possess the capacity to collaborate with other actors on complex issues. Effective TOD requires seamless coordination among various government agencies, private sector partners, and community groups, emphasising the need for strong inter-institutional relationships and shared resources. Enhancing institutional capacity thus involves not only building internal competencies and resources but also fostering an environment of collaboration and collective problem solving (Polk 2011).

In this section of the thesis, I will develop further on the institutional approach to identifying challenges in TOD implementation. This analytical framework will be used to provide an institutional context to the analysis and as a way to answer research question 2; What challenges are experienced by different actors in the TOD implementation process?

### 2.3.1 Institutional Implementation Challenges

Institutional factors and contexts are frequently researched within the field of TOD implementation. Researchers that subscribe to the institutionalist perspective of planning as an act of politics often argue that all challenges to TOD implementation are institutional in nature (Tan et al 2014). This is motivated by the notion that the institutional setting is where all actors involved in the implementation process manoeuvre the process itself and interact with each other (Hrelja et al 2022). The institutional challenges are also often identified as the most important challenges to overcome in order to successfully implement TOD in any local context (Tan et al 2014). This makes it important to analyse the TOD implementation process and the perceived challenges through the institutionalist lens in order to get a full understanding of the underlying causes for the challenges.

A common distinction in research is made between formal institutional factors and informal institutional factors. The formal institutional factors are factors that are consistent for projects carried out in the same country, such as the planning process itself or different legal regulations. Informal institutional factors, on the other hand, are factors that can differ significantly from project to project. An informal institutional factor can be the importance of good personal relations between representatives from different actors for example (Thomas et al 2018). This distinction between formal and informal institutions is particularly important in order to understand the procedural dimensions of TOD implementation (Hrelja et al 2020).

The division between formal and informal factors is important because it allows the researcher to draw conclusions on what types of institutional behaviours are at the root cause for specific challenges. However, it is also important to note that these two categories of institutional factors continuously impact each other. This was discussed by Tan et al (2014) who introduced the concept of mutually reinforcing factors as a way of describing how formal institutional factors can be affected by informal institutional factors, and vice versa. One example of such a mutually reinforcing factor is the topic of financing. The researchers explained this by stating that it is not just the limits of financial capacities that affects the implementation process. It is also affected by the perception of limited resources and low expectations of being approved for national or regional fundings also acts as a challenge in itself (Tan et al 2014).

### 2.3.2 General Findings

In this section of the thesis, I have introduced the concepts of institutionalism, institutional capacity and institutional implementation barriers to TOD. These concepts make up an important part of the analytical framework that will be used in order to answer the second research question. The framework consists of the combination of existing research on challenges in TOD implementation and the analytical lens of institutionalism. In the analysis, this will be referred to as *institutional challenges to TOD implementation*.

## 3. Method

### 3.1 Research Design

This study is shaped through the identified research gap found in existing literature on the implementation process of Transit Oriented Development. The aim is to gain knowledge about the challenges in the implementation phase in Sweden through insights on different actors' perspectives in the case of Flemingsbergsdalen. This prompted the choice to use a qualitative research method which, according to Mojahan (2018), is a form of social action focused on understanding people's experiences and the way they interpret their surroundings. Qualitative research methods are common in the field of social science because of the inherent focus on social factors and the value of the lived human experience.

The choice of research design also comes with stances on epistemological and ontological considerations, as well as reflections on the use of theory and how that shapes the research. This study was performed through an *abductive* research design, which is a combination between inductive and deductive research designs (Hurley et al 2021). Inductive research design is not driven by theory or designed to test a hypothesis. It can be described as theory-generating rather than theory-testing, which implies that any theoretic frameworks are applied after the research has been carried out, with the purpose of theorising the results (Bryman 2012, p. 5-6). Deductive research, on the other hand, can be seen as more a theory driven approach where a hypothesis guides the research. The theoretic frameworks are established before the research process has begun. The idea with an abductive research design is to combine the two approaches to find a middle ground between them. Abductive research is neither data- nor hypothesis driven, instead it includes a parallel and equal engagement with both empirical data and theoretical understandings (Thompson 2022). This design was deemed well suited for the purpose of this study since the focus was to uncover and understand perceived challenges in TOD implementation rather than testing how a specific theory could explain the challengers. At the same time, the theory was used as a way to inform and shape both the research questions and the interview guide. The abductive research design allows for

Qualitative research within the social sciences is sometimes criticised for drawing generalised conclusions based on subjective personal experiences. These types of discussions are an example of ontological considerations, which in essence are different ways to understand the nature of social entities. The two main ontological positions are objectivism and constructionism where the former describes social knowledge as objective from its surroundings and the latter as constructed by them (Bryman 2012, p. 32-33). This study is based on the constructivist position that the social context of a process continuously shapes the process itself. The social context therefore needs to be studied in order to understand how the process works and why.

There are a few different methods of collecting data that can be used in qualitative research. For this study, semi-structured interviews were chosen as the most appropriate. One of the advantages with interviews as a research method is the ability to investigate a topic from the

interviewee's perspective. Another advantage that was particularly valuable for this research was the flexibility it offers to adapt the interviews to be able to capture the individual challenges brought up by different interviewees (Bryman 2012, p. 470-471). In order to accomplish this flexibility, the interviews were designed to be semi-structured and based on a few main questions, but where the interviewee could speak freely about their experience without being shaped by the questions. The interview guide can be found in the appendix.

### 3.1.1 Case Study

The primary aim of this thesis was to examine the challenges associated with the implementation of Transit-Oriented Development (TOD) in a Swedish context. A widely accepted method for investigating a phenomenon within a specific context is through a case study. While definitions of a case study vary, it is generally understood to be the detailed examination of an individual unit and its interaction with its environment (Flyvbjerg, 2011, p. 301). For this thesis, Flemingsbergsdalen was selected as the study area to explore how TOD has been implemented and to identify the challenges faced by officials involved in its execution. Flemingsbergsdalen was deemed an appropriate case study due to its status as a significant development project in Sweden, involving numerous stakeholders. This selection is critical because the literature indicates that the complexity of TOD projects arises primarily from their multifaceted nature, with various actors participating at different stages of the development process (Hrelja et al., 2022).

The case study method, though widely used, is often subject to discussion and criticism. Some researchers argue that the knowledge gained from a case study is difficult to generalize, as it is challenging to determine the extent to which the results are influenced by the specific context of the study area. Despite these concerns, the case study method remains one of the most popular scientific approaches due to its ability to provide in-depth insights into complex issues (Flyvbjerg, 2011, p. 303). This thesis acknowledges these limitations of the case while leveraging the strengths of the method to contribute to valuable understanding of TOD implementation challenges in Sweden.

## 3.2 Interviews

Eleven interviews with twelve interviewees were carried out between the time period of February 7th and March 8th 2024. According to Rowley (2012), one of the first questions to ask in the process of selecting interviewees is "Who is in the position to answer my questions or to provide the insights that I seek?". Since the aim of this study was to research different actor's perceived challenges in the implementation process of a TOD project, the first step in selecting interviewees was to identify which actors are relevant in the development of Flemingsberg. During the past year I have had the opportunity to work as a trainee at the division for strategic planning in Huddinge municipality. This experience both sparked my interest in Flemingsbergsdalen as a development project and provided me with valuable insights of who to talk to about the development and how to contact them. After researching the background of the project and discussing the selection process with colleagues from the municipality, four different categories of actors were selected;

1. Huddinge municipality

2. Region Stockholm
3. Trafikverket
4. Local property owners

Once the categories were selected the process of getting in touch with the right people from the different actors began. In the first step of this process, a colleague at Huddinge municipality with a key role in the development of Flemingsberg was briefed about the research project and asked to participate. After accepting the request to participate, the colleague was asked to share any internal or external contacts that could possibly be relevant for the research. This approach is sometimes referred to as “snowballing”, where initial contacts are asked to recommend other potential interviewees (Rowley 2012, p. 265). The suggested interviewees were then approached by email with a short description of the aim of the research project and a request to participate. A full anonymised list of the final interviewees can be found in table 1 below.

Table 1: Interviewees per identification, date of interview, method and time

Identification	Date	Type	Time
Huddinge 1	07.02.2024	In person	36 min
Huddinge 2	13.02.2024	In person	62 min
Huddinge 3	14.02.2024	In person	35 min
Huddinge 4	27.02.2024	In person	60 min
Huddinge 5	22.02.2024	Online	42 min
Huddinge 6	08.03.2024	Online	58 min
Region Stockholm 1*	04.03.2024	In person	50 min
Region Stockholm 2*	04.03.2024	In person	50 min
Trafikverket 1	13.02.2024	Online	43 min
Trafikverket 2	26.02.2024	In person	22 min
Property owner 1	29.02.2024	In person	51 min
Property owner 2	07.03.2024	Online	37 min

\* The interview was held during the same occasion.

Some of the interviews were carried out in person while others were held online via Microsoft Teams due to practical considerations, such as sickness or travels that interfered with the availability for the interviewee. Some research suggests that there can be differences in the length of the answers of interviewees and the general tone or atmosphere of conversation depending on if the interview is conducted in person or by telephone (Bryman 2012, p. 488).

Since the remote interviews were performed via video call, possible impact from the lack of being able to see facial expressions etc. is believed to be minimised. Based on the lengths of the different interviews it can also be established that in this study, in-person or online interviews did not have an impact on the length of the interview (see table 1).

Interview guides for qualitative interviews can be used more or less freely depending on how structured the semi-structured interview should be. The questions can be viewed as more of bullet points for memory or as set questions that are there to guide the conversation in different directions (Bryman 2012, p. 437). In these research projects the interview guide slightly changed depending on what actor was being interviewed or what their individual specialisation was. However, there were still a few core questions which all interviewees were asked to elaborate on. These were the questions directly connected to the research questions, such as “what are the main challenges in the development of Flemingsberg?”.

### 3.3 The Use of Documents

In addition to the interviews this study is also based on findings from two specific documents about the goals and visions for the future of Flemingsberg and Flemingsbergsdalen. One of the documents is a planning programme for Flemingsbergsdalen from 2020 (Huddinge municipality 2020), the other is a development programme for Flemingsberg from 2022 (Huddinge municipality 2022a). The two documents were not analysed through any strict coding process. However, the purpose with including them in the research design was to be able to determine the frequency of the use of the identified planning and design principles of TOD that were discussed in previous sections.

### 3.4 Coding

The coding process in qualitative research is usually a process of reading through the research material and sorting or categorising it into different themes. This process is individual to every research project depending on the topic and the research questions. The themes are then used in the analysis as a way to understand the topic and answer the research questions (Bryman 2012, p. 575). The coding process of this research project was inspired by a principle in grounded theory called “line-by-line coding”. This process entails meticulous coding where every line in the transcript is coded in the initial stage, a rather time-consuming process which will result in a large number of different codes. The point is however that the researcher is forced to stay in contact with the data and the different perspectives it provides throughout the coding process. Once all transcripts have been coded the next step is to go through the codes, identify common denominators and combine codes into more general or abstract themes (Bryman 2012, p. 577).

In this research project, the initial coding was not performed strictly line-by-line since many of the interviews were conversational in character and also included some discussions that were not directly related to the research questions or the general topic. However, the aim was to code as many lines as possible to ensure that no themes or topics were left out. The first round of coding resulted in a large number of codes that were reworked and combined into 11 new codes. The process was repeated and with the research questions in mind the 11 codes were sorted to

fit into three different themes; *Financing TOD, Roles and responsibilities* and *Internal and external cooperation*. The three themes all represent a group of challenges that are connected to the same topic within the broad scope of TOD-projects and urban development. There are several examples of challenges that are an important factor in all three themes.

### 3.5 Ethical Considerations

Since there was usually some time between the initial email and the date of the interview, the interviewees received another email a few days before the interview with an information sheet and the interview guide. The information sheet repeated the initial information about the general aims of the study and contained some additional information about how the interview was going to be carried out, that they would be cited anonymously and that the interview was going to be recorded and transcribed. It also clearly stated that the interviewees were allowed to withdraw their participation or decline to answer specific questions at any time. This was important since the topic of challenges in the cooperation with different actors can sometimes be sensitive information, and it was important that all interviewees were made aware of how the interviews would be used throughout the process of this research project. The information sheet was then repeated off record before the interview started to allow for last minute concerns to be talked through. Clear information and expectations of how the interview-session will be carried out is believed to improve trust between interviewee and interviewer, which can be particularly important when more sensitive subjects are discussed (Bryman 2012, p. 482).

There are both advantages and disadvantages to sending the interviewees the interview guide in advance of the interview. Some of the disadvantages include a misinterpretation of the research focus, or a loss of spontaneity or depth due to over-preparation. However, there are also advantages to sharing the interview guide, such as transparency and efficiency (Rowley 2012, p. 266). In this research project it became clear early in the process that some of the respondents would feel more comfortable participating in the research if they were able to see the questions in advance. After careful consideration, it was concluded that the disadvantages were manageable in relation to the advantages and the decision was made to provide all interviewees with the interview guide in advance.

## 4. The Case of Flemingsbergsdalen

In this part of the thesis, I will investigate the implementation of TOD in Flemingsbergsdalen by presenting the historic development of Flemingsberg and the future plans for Flemingsbergsdalen. This will function as an introduction to the case study and provide context to the final analysis.

### 4.1 Early TOD in Flemingsberg

The area around what is now known as Flemingsberg has been inhabited for around 8000 years and is believed to be one of the first inhabited areas in the Stockholm region. What was first an archipelago where people lived off fishing and hunting slowly turned into an agricultural region with rich soils in the hilly landscape. The specific area of Flemingsberg was first mentioned in written sources through the mention of a farm called Anderstad in the 1400's. When the farm was bought by the Fleming family in the 1800's the name was changed to *Flemingsberg* (Huddinge municipality 2022a). During the latter half of the 1800's, the rural landscape of hills and valleys was first introduced to industrialism through the new railway that was constructed along the valley. Flemingsberg did not get a railway station until much later, but the new infrastructure still marks the beginning of a new era for the areas surrounding Stockholm. During the following century Flemingsberg was considered its own small settlement, with a population of only 260 people in the year of 1965 (White arkitekter 2022).



Image 1: Approximate borders of current day Flemingsberg in 1960 (kartbild.com)

As mentioned in the literature review, some of the first examples of planning according to TOD principles can be found in Sweden and Denmark during the post-war era (Ibraeva et al 2020). Due to rapid urbanisation and population growth after World War 2, Stockholm and many other urban areas in Sweden suffered from a severe housing shortage. In an attempt to improve the

situation and to lift the general living standard, the Swedish government initiated an extensive housing development programme called *miljonprogrammet*. The goal was to build 1 million new and modern housing units during a period of 10 years between 1965-1975 (Stockholmskällan 2022). Due to the rapid urbanisation and drastically growing population in Stockholm, the new modern residential areas were planned to be located outside of the city centre where the land was cheaper and the air was cleaner. This development prompted an expansion of the existing public transport system to ensure good connections to the inner city. The result of this planning paradigm was new suburban areas around the city of Stockholm, strategically connected through a system of metro, tram and railway (Stockholms läns museum, n.d)

Huddinge municipality also made commitments to the new planning paradigm and to contribute to the visions of *miljonprogrammet*. In 1958 they bought land in Flemingsberg from the owner of Flemingsbergs gård, and the large areas of unexploited land in direct proximity to the railway made it a strategically important area both for Huddinge municipality and the Stockholm Region. With promises of a train station in Flemingsberg for commuter trains, the municipality started to plan for two new residential areas with multi-family housing built on the opposite slopes of the Flemingsberg valley, called Visättra and Grantorp (Huddinge municipality 2022a). Around the same time the regional government in Stockholm decided that Flemingsberg should be the location for a new, modern hospital in the Stockholm region. The location was strategically chosen to even out the prominent regional imbalance between the northern and southern parts of the region. When the construction of the hospital started in 1967, it was the largest development in all of Scandinavia and was planned to be a showcase of modern health care with both practice and education within all types of medicine located within the same building (Locum 2021).

Huddinge Hospital was inaugurated in 1972 and one year later the residential area Grantorp was completed as the latter of the two areas in Flemingsberg. Despite the railway station being central for the plans of both the hospital and the residential areas, it would take another 15 years before it was completed in 1987. Despite the delay of the train station, the planning office at Region Stockholm stuck to the ambition of decreasing the regional imbalance. During the 1980' and 1990's the main focus was to increase the number of workplaces south of Stockholm. This was mainly done through the establishment of two different clusters in Flemingsberg, a legal cluster with a district court, police department and mixed security jail, and a life-science cluster with research companies in close proximity to the hospital. In 1996 the construction of a new university, Södertörns högskola, began between the hospital and the railway station in an area now known as the campus (Tyréns 2023).

Despite frequent investments in urban development in Flemingsberg, the central parts of the district were not developed until the 2010's. Before that, one of the main impressions of Flemingsberg when passing through with the train was the empty gravel parking lot located in connection to the railway station (Interview, Huddinge 1). This unique situation with available and close to untouched land in one of the best locations from a transit view can be explained by looking at the timing of the project. Since the train station was not completed until 1987, the

planned expansion of Flemingsberg and the construction of a cohesive city centre for the district coincided with the economic depression in Sweden during the 1990's. During this economic crisis the construction industry was particularly affected, resulting in a dramatic decline in new constructions (Kiander & Vartia 2011). For Flemingsberg, this led to a pause in all development plans for an indefinite period of time while waiting for the market to turn around (Interview, Huddinge 1). It was not until 2017 that the so-called "Stage 1" development of the central area was completed with a large grocery store, a sports centre, a new square and 184 new rental apartments were completed (Skanska n.d.)

The development of Flemingsberg since the 1960's has not been linear, and the yearly rings of the area are clearly visible through the architecture and physical environment. What started as what could be described as a typical early TOD project of the post-war era has during the years been subject to different trends in both urban planning and society in general. Flemingsberg today is often described as an area characterised by barriers made up by both infrastructure, functions and differences in altitude. These barriers create a built environment which separates areas from each other. With few or no target points that makes people move between the different areas of Flemingsberg, the experienced barriers get even bigger (WSP Advisory 2020).

## 4.2 Contemporary TOD in Flemingsbergsdalen

During the latter half of the 2010's the TOD principles were revisited by Huddinge municipality through the new ambitious plans of how to develop the central areas of Flemingsberg in a project called Flemingsbergsdalen. The name Flemingsbergsdalen translated from Swedish is "Flemingsberg valley", a suitable name considering it is located in the valley that runs between the two Million programme housing areas of Visättra and Grantorp. The area is located in the central part of Flemingsberg that had been left relatively undeveloped up until now. This unique condition of available land in direct connection to the existing train station paves the way for a new and transit-oriented development (Huddinge municipality 2020; Huddinge municipality 2022)

In 2018 the municipality signed a deal of collaboration with private development company and property owner Fabege for an extensive redevelopment of Flemingsbergsdalen. This was done with the basis in the regional development strategy RUFSS where Flemingsberg was pointed out as one of the regional cores in the Stockholm Region. The recognition of Flemingsberg as a regional core led to the vision of developing Flemingsberg into the so-called *Stockholm South Business District* with 50 000 residents, 50 000 workers and 50 000 visitors (Fabege 2018). In 2020, the joint project of a development plan for Flemingsbergsdalen with Huddinge municipality and Fabege was completed. This marked the official start of the large development project that according to the development plan will be completed as a whole in 2050 (Huddinge municipality 2020).



Image 2: Aerial image of Flemingsbergsdalen in 2012, before initial development (Google maps 2024)



Image 3: Visionary image of the proposed volumes of Flemingsbergsdalen (Huddinge municipality 2023)

Image 2 and 3 above provide an illustrative insight to the magnitude of the planned development in Flemingsbergsdalen. The vision of Stockholm South Business District in Flemingsberg builds on the regional ambitions of creating more balance to the regional labour market through the addition of more workplaces in the southern part of Stockholm metropolitan area. Flemingsberg is pointed out as a good location for this development for a combination of

different reasons. Some of these are the good connections with both commuter- and long distance trains, the established life-science cluster, the universities located on campus, as well as the unique situation with large pieces of available and unexploited land in the district centre (Huddinge municipality 2020; Region Stockholm 2018).

The development programme for Flemingsbergsdalen stakes out the vision for the future and provides an overview of urban planning principles that will be used to reach it. Some of the most important principles in the development plan are density, mixed-use and walkability. The ambitions are to create a city district with “very high density”, a concept which includes high-rise buildings and a density unlike any Swedish urban area to date. The mixed-use ambitions include plans for offices, housing, service, cultural activities and recreation. The dense area with mixed-use development is also planned to have a finely meshed street network which prioritises pedestrians above drivers (Huddinge municipality 2020).

The project of Flemingsbergsdalen is also mentioned as an important intervention in order to reduce the physical barriers in Flemingsberg and create a more cohesive urban area. This is seen as important in order to promote movement between different areas of Flemingsberg and increase the service to the residents in the area today (Huddinge municipality 2022). The ambition from both Huddinge municipality and Fabège is for Flemingsbergsdalen to contribute with the kind of development that will help Flemingsberg reach the goals set out in both regional and local planning documents of Flemingsberg as an important regional core for all of the Stockholm region (Huddinge municipality 2020; Huddinge municipality 2022).



Image 4: Visionary illustration of the central parts of Flemingsbergsdalen  
Illustration: Sweco Architects via [www.neonstudioarch.com](http://www.neonstudioarch.com) (Huddinge municipality 2023)

Parallel with the development of Flemingsbergdalen, Region Stockholm and Huddinge municipality are also planning for a new transit link. The project called *Spårväg Syd* is a new light-rail line that is planned to connect Flemingsberg and Flemingsbergdalen with other areas in the west of the municipality and the suburbs in south-western Stockholm. Flemingsberg will be the end-station for *Spårväg Syd*, where a new transit station on an over-docking construction above the railway station will make the commuter trains more accessible for many residents in the southern part of the region. *Spårväg Syd* was one of four large infrastructure projects in the Stockholm region that was negotiated in the *Sverigeförhandlingen*, a negotiation process initiated by the Swedish government aimed at facilitating the expansion of national and regional transportation infrastructure in integration with housing planning (Region Stockholm 2024a). The transit station was however not included in the negotiations and will have to be dealt with in a separate process (Interview, Huddinge 3). In return for the investment in new transport infrastructure, Huddinge municipality is obliged to plan for 18 500 new housing units around the light-rail line stations (Huddinge municipality 2022b).



Image 5: Visionary illustration of the interchange station for *Spårväg Syd* (Huddinge municipality 2021).

The plans of development in Flemingsbergdalen also include covering of the existing infrastructure barriers made out by the railway and the national road called Huddingevägen. This is a complex construction where all traffic through the central parts of Flemingsberg would be led underground. Since this project revolves around national transport infrastructure, the national traffic agency Trafikverket conducted an investigation in collaboration with Region Stockholm and Huddinge municipality called *Åtgärdsvalsstudie*, in English a Strategic Choice of Measures Investigation. This investigation highlighted the technical complexities of the

project, but did not manage to conclude any clear answers about the feasibility of the project (Trafikverket 2020a). The issue of the over-docking is not yet officially settled, but the vision has been doubted due to the high cost and technical difficulties.

### 4.3 Who Does What?

The plans for future development in Flemingsberg require many different actors. This section aims at explaining the roles and responsibilities of the main actors in the planning and implementation process; Huddinge municipality, Region Stockholm, Trafikverket and Property owners and developers.

#### Huddinge Municipality

The municipality has the most central role in planning and plan implementation in Flemingsbergsdalen. Since the municipality is the only actor that has decision-making power regarding detailed planning and its adoption, they are required to be involved in all types of development (Boverket 2023). Another municipal responsibility is the comprehensive planning, which involves staking out the long-term goals and visions. Since it is a political organisation, it is important that these questions are well anchored within the different political parties to ensure long-term stability and commitment to the development (Persson 2013). The municipality also works with the strategic development questions relevant on both comprehensive and detailed levels. This means that they often have a coordinating role which entails contact with all the different actors that are a part of the planning and development process (Boverket 2018).

Apart from detailed and comprehensive planning, the municipality is also responsible for several specific issues, such as traffic planning, environmental planning, water related issues etc. Both traffic planning and water related issues have been very relevant in the development of Flemingsbergsdalen and in Flemingsberg in general. When designing a new urban area on the scale of Flemingsbergsdalen it has a big impact on all existing systems. This has required several investigations both on the development's impact on the traffic system and on the water system (Sweco 2023; Sweco 2020).

#### Region Stockholm

Region Stockholm's role in urban planning is mainly to coordinate the development in the different municipalities in the region to make sure they are on track to hit the goals set in the regional development plan called RUF 2050 (Region Stockholm 2024b). The region is also in charge of the regional public transportation, which includes the commuter trains, light-rails, metro, buses and commuter boats (Region Stockholm n.d.). One of the leading principles for development for Region Stockholm is urban development in the transit station areas (Region Stockholm 2024b). It is however important to note that the regional planning authority does not have any abilities to make plans that are legally binding when it comes to areas covered by the municipal monopoly (Region Stockholm 2018).

## Trafikverket

Trafikverket is the national traffic authority in Sweden and the owners of all the bigger, national roads and the national railway system. They have two main roles in the urban planning process, to plan for the development and maintenance of roads and railroads and to be a responding actor to any development plans that can have an effect on their roads and railroads (Trafikverket 2020b). There are several infrastructure objects in Flemingsberg that are under the ownership of Trafikverket, such as the railroad and the national road Huddingevägen with belonging traffic interchange areas. Since the development of Flemingsbergsdalen is directly adjacent to Trafikverket's influence areas, they are an important and active part in the current development (Huddinge municipality 2020).

## Property owners and developers

The property owners are crucial for the future development in Flemingsberg and Flemingsbergsdalen, but they do not have the same formal status in the planning process as the other actors listed above. A property owner is mostly included in the development of its own property, and sometimes the directly neighbouring areas. This means that they formally only have access to a limited part of the planning process. This does not mean that they are not allowed to take part in any other areas of the planning process, but it would require initiative from the other actors to invite them to participate (Koglin & Pettersson 2017). In Flemingsbergsdalen however, the developer Fabege has the opportunity to play a bigger role since they own large areas of land and have signed a development deal with the municipality. In the case of Fabege and Flemingsbergsdalen this also opens up for Fabege to be an active part of marketing both their own properties and Flemingsbergsdalen as an attractive place to invest in.

## 5. Analysis

In this section of the thesis, I will present the results from the interviews and document analysis through the application of the analytical framework. The aim is to draw conclusions connected to the two research questions; 1) How has the concept of Transit Oriented Development been implemented in the case of Flemingsbergsdalen? And 2) What challenges are experienced by different actors in the TOD implementation process?

The section builds on two main parts. The first part investigates the implementation of TOD in Flemingsbergsdalen by comparing the interviews and the development documents to research on TOD principles and categories. The second part consists of an analysis of the challenges that have been brought up during the interviews and aims at explaining and contextualising the challenges mentioned in the interviews with the different actors.

### 5.1 TOD Principles in the Development of Flemingsbergsdalen

As mentioned in the previous section of the thesis, the area of Flemingsberg can be seen as a product of the *Early TOD* planning paradigm in post-war Scandinavia. The original plans for Flemingsberg were based on the basic TOD principles of integrating transport planning and housing planning. However, the area has also been equally shaped by all other paradigms that have been influential ever since. The turn to car-centric ideals in the 70's and 80's shifted the focus from public transport to the private car, which resulted in an expansion of road infrastructure and parking spaces in Flemingsberg. The economic crisis in the 1990's resulted in a significant decline in the construction industry which hindered planned infill projects, but also led to the establishment of more knowledge intensive workplaces and a new university campus.

The history of Flemingsberg does include some elements of planning according to TOD, but it also includes concepts which are more or less contradicting it. However, there are indications that the planning principles of TOD are returning to Flemingsberg through the new plans of development for Flemingsbergsdalen. These specific principles will be discussed in the following sections.

#### 5.1.1 Planning Principles

The planning principles of TOD in Flemingsbergsdalen will be analysed through the interviews conducted within the frames of this research, as well as the two development plans for Flemingsberg and Flemingsbergsdalen. The structure of this section is based on the planning principles listed as a part of the literature review in section 2.1.2 "Core principles to TOD implementation".

#### Integrated Land-Use and Transportation Planning

The literature review stated that integrated land-use and transport planning is one of the most important planning principles of the TOD concept. When looking at the project of developing

Flemingsbergsdalen, it is clear that the process of this integration is a present discussion in the planning process in all of Flemingsberg. In the development plan for Flemingsberg, it is stated that state-owned transport infrastructure currently has a large impact on the area (Huddinge municipality 2022a). This is partly related to infrastructure for public transport through the railway, but much of the state-owned infrastructure in Flemingsberg today is road-infrastructure. In the interview with Trafikverket 1, they stated their role in the project is to protect the functionality of all types of infrastructure that they own in a development area. This was expressed like this:

“Apart from the railway system we are also affected by plans that include Road 226, Huddingevägen since it is included in plans that relates to Spårväg Syd. Trafikverket sees that as a prioritised road, which means that we don’t want the accessibility on the road to be affected. That is an important question here since the plans for the transit interchange for Spårväg Syd suggest that it should be placed on top of the adjacent rail-area.” (Interview, Trafikverket 1)

Road infrastructure is typically not associated with Transit Oriented Development, but since the state-owned roads and railways are managed by the same governmental authorities, it requires the same type of organisation and collaboration. Since there are several different state-owned infrastructure facilities on a relatively small area in Flemingsbergsdalen, which is now subject to intense development and densification, the dialogue and collaboration between Huddinge municipality and Trafikverket has become a prominent part of the planning process in Flemingsbergsdalen. In the interview, Huddinge 2 describes it like this:

“Well, right now the focus has just been infrastructure, for the past 3 years. Because it really is that complex.” (Interview, Huddinge 2).

Another example of a transit infrastructure related question in Flemingsberg and Flemingsbergsdalen is Spårväg Syd. In the two planning documents, the light-rail is highlighted as one of the solutions that will strengthen the share of sustainable transportation in Flemingsberg. However, in the light of this thesis it is important to investigate the relations between the planning of Flemingsberg and Flemingsbergsdalen, and the planning of Spårväg Syd. In the traditional way of planning for TOD, public transport is an integral part of the process that is almost always described to come first in the process (de Vos et al 2014). In this planning process, it could be argued that it is the development in Flemingsbergsdalen that drives the planning of Spårväg Syd instead. This was discussed in an interview with an official at Huddinge municipality which highlighted that

“With the light-rail, it might be the case that Flemingsberg is more important to the light-rail than the light-rail is to Flemingsberg. This is just because the connections to the city already are really good, and that is the most important connection. But of course, Spårväg Syd is important to make Flemingsberg more accessible by public transport!” (Interview, Huddinge 1).

However, the fact that the light-rail is not the base of development in Flemingsbergsdalen does not automatically discard it from being an example of TOD. The fact still remains that the area was originally planned as an early TOD and around the idea of proximity to a rail-bound station. The conclusion on Flemingsbergsdalen as a TOD or not also depends on how the project is defined and what context it is analysed in. The classifications of different types of TODs by de Vos et al (2014) suggests that modern TOD projects in Sweden are usually carried out as “New

TOD's" where completely new areas are built and designed according to TOD principles. Flemingsbergsdalen could fit into this category if the development project is seen as its own project independent from the rest of Flemingsberg and its early TOD history. In this case, the category of "low-density TOD" appears more suitable. The low-density TODs are usually performed in suburban areas with the purpose of increasing density and urban qualities within an already populated area (de Vos et al 2014). However, such a separation of Flemingsbergsdalen and its immediate surroundings of Flemingsberg is difficult to make. Even more so since the unity of Flemingsbergsdalen and Flemingsberg is an important vision and statement made by planners and politicians that are involved in the project (Huddinge municipality 2020; Huddinge municipality 2022a).

Another factor to consider is also that the plans of a light-rail in the location of Spårväg Syd has been discussed since the 1980's (Johansson & Anud 2018). This speaks for Flemingsberg as a product of the ideals of the TOD concept, and that the TOD interventions just did not always make it all the way to implementation. Now, 40 years later, the same arguments are made of the light-rail enabling travels crosswise of the traditional lines of public transport, making the urban areas in the south of Stockholm more accessible to each other and fostering growth and development (Region Stockholm 2024a). This was also confirmed in the interview with Huddinge 3 who stated that:

"The network of public transport in Stockholm runs radially into strong commuter trains and the metro. And what the light-rail would do is to create a connection crosswise. So Spårväg Syd is originally a part of a very long main line that was pointed out a long time ago." (Interview, Huddinge 3).

In conclusion, the process of integration of transport and land-use planning is prominent in the development in Flemingsberg today. The presence of several different state-owned infrastructures in a relatively small area makes negotiation processes and collaboration with Trafikverket a crucial part of the planning process. In addition, the planning of the long-awaited Spårväg Syd is back on the agenda which also requires intensified discussion and collaboration on transit related issues.

### Experimental governance and financing models

The next core planning principle in the literature on TOD is experimental governance and financing models. One example of this principle is the financing model of Public-Private Partnerships (PPP's). These are different ways for public and private actors to join forces and co-finance projects that are difficult for either actor to finance by themselves (Wong et al 2022). PPPs are relevant to the TOD planning process since it relates to the complex issue of infrastructure financing. In the case of Flemingsberg, the financing of infrastructure has been an important part of the planning process for many decades. For example, when discussions about Spårväg syd were on the agenda again in the early 2010's, the politicians in Region Stockholm finally rejected the plans on a crosswise light-rail based on calculations that deemed it non-profitable (Johansson & Anud 2018). This requires a more experimental approach to planning and project financing where the traditional roles of public and private can be challenged in order to reach agreements and achieve financial feasibility (Thomas et al 2018).

This was discussed during the interview with Property owner 1 who requested more insight in the infrastructure planning process. They stated that their developments are so vastly dependent on some of the infrastructure projects that are still in the planning stage, but they are not able to contribute to the actual work with the infrastructure plans. If they were invited to participate in the processes, Property owner 1 believes that they could be a part of the solution and help some of the complex projects further. If not directly through financing the projects, then at least through supporting the municipality in negotiations with other parties etc. Property owner 1 expressed it like this:

“We get some information (about the infrastructure projects) but are not involved in it at all and don’t have any impact on it. I think there is room for improvement on that part. Private companies together with the public sector, if you do it the right way you might have a chance to push to speed up the projects. There are examples of other areas where we have been more involved, where we had a bigger role also in these questions. I don’t know if it really matters that much, but it makes you think if there are other ways to do it to have more and quicker progress.” (Interview, Property owner 1).

When this discussion was lifted in interviews with the municipality, it was expressed that the experimental approach did not have an apparent role in the implementation of TOD in Flemingsbergsdalen in terms of private funding of infrastructure etc. (Huddinge 1; Huddinge 2; Huddinge 6). However, the project of developing Flemingsbergsdalen could in itself be seen as a case of experimental governance due to the partnership between Huddinge municipality and the private development company Fabege. This is a typical example of what was mentioned as “planning by invitation” in the literature review (Thomas et al 2018), where Fabege has been invited by the municipality to participate in the development in Flemingsbergsdalen in a more hands-on approach than what is custom in traditional planning processes. According to the interviewees from Huddinge municipality, the strategy to collaborate and work with planning by invitation has been crucial for the general feasibility of the development project in Flemingsbergsdalen (Huddinge municipality 1; Huddinge municipality 2; Huddinge municipality 6). This provides a confirmation that the planning principle of experimental governance and financing models has been an integral part of the planning and implementation process of TOD in Flemingsbergsdalen.

### 5.1.2 Design Principles

The planning principles of TOD in Flemingsbergsdalen will be analysed through the interviews conducted within the frames of this research, as well as the two development plans for Flemingsberg and Flemingsbergsdalen. The structure of this section is based on the design principles listed as a part of the literature review in section 2.1.2 “Core principles to TOD implementation”.

#### Walkability

Walkability is a frequently occurring concept in both of the development plans, and make up an important part of the vision for future Flemingsberg. The development plan for Flemingsbergsdalen states that a majority of the travels in the area will be by foot, bike or public transport. Walking will be encouraged through fine-meshed street networks where pedestrians are prioritised and with good navigability. It also states that the short distances between different end-points in the area is an important strategy for the walkability in the area (Huddinge municipality 2020). The development plan for Flemingsberg states out the ambitious goal that 70 % of the travels in Flemingsberg should be by foot, bike or public transport by 2030. This goal entails the strategy that through traffic should be avoided in the central parts of Flemingsberg. The drivers should instead be referred to the outskirts of the city centre where they can park their car and continue their travel by foot, bike or public transport. The strategy is also dependent on a strong public transport offer with the transit-interchange as a centre of the road structure and the city centre (Huddinge municipality 2022a).

#### Mixed-Use Development

Mixed-use development is another important concept in the development of Flemingsberg and Flemingsbergsdalen. The current physical structure of Flemingsberg is divided by function, a division that is strengthened by elevation- and infrastructure barriers that tend to isolate the different areas from each other. The introduction of Flemingsbergsdalen, with a mixed-use approach, is seen as a part of the solution to lessen these barriers and create a more cohesive Flemingsberg. This active strategy is stated in the development programme for Flemingsberg (Huddinge municipality 2022a), and was also discussed in the interview with Huddinge 6 who said:

“In the more local perspective, what we have seen and what is important to our politicians is to outbuild these different enclaves that make up Flemingsberg. It is very segregated in use and how you move within Flemingsberg today. That is an important part of the vision for Flemingsbergsdalen, to create a link between these different areas” (Interview, Huddinge 6).

The strategy of mixed-use development is also described as one of the key principles in the design of Flemingsbergsdalen in order to make it a lively area during all times of the day. The development plan of Flemingsbergsdalen describes it like this:

“Flemingsbergsdalen will be an area with a pulse that is alive during both day and night, where everything you need in your daily life is available nearby.” (Huddinge municipality 2020).

According to the development programme of Flemingsbergsdalen, a lively, mixed-use urban area is also an important principle to ensure social sustainability in an area. The general idea behind this in the case of Flemingsberg is that mixed functions create arenas for people with different interests to meet and share the same space. This is then thought to have positive effects on segregation in society (Huddinge municipality 2020). Overall, the mixed-use development is an important strategy in the development of Flemingsberg that is often mentioned both in the planning documents and in the interviews.

## High-Density Development

The principle of high-density development is crucial in the development of Flemingsbergsdalen. In the development plan, it is first and foremost mentioned as a way to create something different in Flemingsberg, something that stands out compared to other similar development projects and can be used as a way to get investors to the area. This is how it is formulated in the development plan:

“To signal a high degree of urbanity and to mark Flemingsberg in the landscape, a high building volume is proposed (in Flemingsbergsdalen). The great additional volume is assessed to make parts of Flemingsbergsdalen substantially more dense than the inner city of Stockholm” (Huddinge municipality 2020).

The role of density as a way to stand out was also highlighted in the interview with Property owner 1. When asked about what was most important for them in the process of working with the development plan, they stated that:

“It might have been the high density. That it should feel a little bit like Manhattan, high, dense, urban. That’s the idea. It should not be mediocre, no new Kista or Barkarby. It needs to be something completely different” (Interview, property owner 1).

Density as a sales argument is not something that is frequently discussed in the literature. Instead, the literature is focused on density as a way to ensure high public transit ridership and walkability due to proximity to local goal points. In the development programme for Flemingsbergsdalen, high density in urban areas is explained to be beneficial for an effective land-use, shorter distances, increased ridership and good conditions for coordinated technical solutions for aspects like waste disposal and mobility (Huddinge municipality 2020).

### 5.1.3 Conclusion

The research question that was to be answered in this section of the thesis was; “How has the concept of Transit Oriented Development been implemented in the case of Flemingsbergsdalen?”. The answer to this question is that the core principles of the concept of TOD appears to have been central for the plans and strategic documents that describe the visions for the area. The planning principles of integrated land-use and transportation planning is an integral part of the planning process in Flemingsbergsdalen, and the interviews showed that the issue of transportation infrastructure takes up a large portion of the planning official’s time. The second planning principle of experimental governance and financing models is also important in the development of Flemingsbergsdalen, mainly because of the previously mentioned issue of achieving financial feasibility in the transport infrastructure projects.

The design principles of walkability, mixed-use development and high-density development are all core concepts in the development plans when describing the future development of Flemingsbergsdalen. The interviewees expressed that a high density is crucial for their visions of the area.

## 5.2 Institutional Challenges to TOD Implementation in Flemingsbergsdalen

In this section of the thesis, I will analyse the various challenges faced in the implementation of TOD in Flemingsbergsdalen based on the interviews with the different actors. These discussions highlight common challenges from different perspectives, which reveals the complexity of the TOD process. The literature review identified three primary categories of challenges to TOD implementation: *Financing TOD*, *Roles and Responsibilities*, and *Internal and External Collaboration*. These categories form the foundation of the analytical framework, which is employed to address the second research question: What challenges are experienced by different actors in the TOD implementation process? Each category will be examined through the lens of institutionalism, a framework identified in the literature review as particularly useful for understanding the influence of institutions on urban development. This section of the thesis I will provide quotes from the interviews which will serve as a base for discussion based on TOD literature on institutional implementation challenges.

### 5.2.1 Financing TOD

This category called “Financing TOD” addresses the challenges of financial feasibility in TOD projects through different topics related to financial challenges in the transition from planning to implementation. Specifically four different topics were identified in this category; from *vision to implementation*, *global factors and local processes*, *the local demand for TOD* and *financing cultural and social activities*.

#### Financial feasibility in the early stages of planning

Looking at the first challenge connected to financial feasibility, several interviewees discussed the difficulty of making visionary or comprehensive plans that are rooted in financial feasibility. Property owner 1 mentioned this as a challenge that often becomes more visible in the detailed implementation process than it was during the work with the general strategic documents. They stated that:

“And then we have the perspective of financial feasibility. Usually when you want something you first have to know what that would mean for the project in economic terms. To have that view is a deal breaker. To not plan for interventions that eventually are not even feasible.”  
(Property owner 1).

Financial feasibility was also mentioned as one of the main challenges in the interview with Huddinge 1. They argue that comprehensive planning and detailed planning are two different

levels of planning and that it can be challenging to find financial feasibility in ambitious comprehensive plans that haven't had to evaluate questions of cost-distribution and financial models yet. This was expressed like this:

“Working with this “fluffier” level has its challenges so to say. It is a completely different level than to work in the concrete level where the economy is and so on. Everything has a reality in a whole other way than what you have on this level where you work... At this point we are developing a regional core together based on these comprehensive goals. But we don't have a concrete economic responsibility for this specifically. It just becomes very different.” (Huddinge 1)

As mentioned in the literature review, the visions and plans made according to TOD principles often depend on expensive solutions and methods that are. One example of such a solution is the construction of new, or improvement to existing, transit infrastructure (Venner & Ecola 1996). The interviewees quoted above stated that it is challenging to work on the comprehensive level and have high ambitions on what to achieve in Flemingsbergsdalen, while also keeping a realistic outlook on what is feasible and not. It can therefore be difficult to stick to the ambitions of the TOD principles once the project reaches the phase of implementation. This type of challenge is not unique to the TOD implementation process in Flemingsbergsdalen, it has been a frequently discussed topic in urban planning for decades (Healey 2007).

The challenge of transitioning a project from vision to implementation can also be examined through an institutional lens. As highlighted in the literature review, financial challenges related to Transit-Oriented Development (TOD) are often mutually reinforcing, comprising both formal and informal institutional factors (Tan et al. 2014). However, it's arguable that these implementation challenges extend beyond financial issues. From an institutional perspective, the difficulties encountered in both comprehensive and detailed planning stem from the inherent nature of planning as a social and political endeavour (Hrelja et al. 2020; Tan et al. 2014). In practice, this means that the challenges faced by Property owner 1 and Huddinge 2 should not be viewed merely as the inevitable clash between vision and reality. The institutional approach suggests that these challenges also relate to how different actors interact and negotiate in an institutional setting, often leading to more ambitious visions at the project's outset to ensure that substantive content remains through to implementation (Healey 2007). Therefore, the challenge of moving a project from vision to implementation in TOD projects is not only about financial feasibility but also involves navigating various planning levels and actor interactions.

### Global economic factors

One aspect that makes it challenging to implement everything from the comprehensive plan are outside factors that are hard to predict and account for. The development plan for Flemingsbergsdalen was made between 2018 and 2020 (Huddinge municipality 2020). Since then, a lot of things have changed related to the world economy. The Covid-19 pandemic, the Russian war on Ukraine and the sanctions that were put in place as a consequence have all had implications on the implementation of TOD in Flemingsberg. Huddinge 6 discussed the topic by stating this:

“We also notice that with the state of the world, with interest rates, wars, the pandemic, it has had a large impact on production costs, the raw materials. And we notice that the projects are getting more expensive, that you need to add more costs to risk. That affects the room for investments. So, with the initial calculations for the light-rail 5 years ago for example, the same facility is way more expensive today. That means we won’t make the budget and need another form of financing. Also, when ongoing projects are delayed and get more expensive, that shrinks the room for investments for new projects.” (Interview, Huddinge 6)

The aspect of projects getting more expensive than what was budgeted for just 5 years ago makes it difficult to assess future costs in the initial visionary and comprehensive plans. As mentioned by Huddinge 6, this opens up the need for other forms of financing, apart from the infrastructure investments allocated by national and regional authorities. In the literature review, financial factors were mainly classified as a formal institutional challenge to TOD implementation since it is related to the institutions and legal frameworks of urban actions. However, it could also be seen as a mutually reinforcing factor where the formal factors are affected by informal processes and interactions (Tan et al 2014). However, there is a distinct difference between economic factors related to securing financing for a development project, and the global economic structures that affect general pricing, inflation and other economic factors that have an impact on a local level. Although the economic system is arguably man-made, those processes occur on a different level than the local officials in Huddinge who work with the implementation of TOD in Flemingsbergsdalen.

#### The local demand for TOD

The next challenge related to financial feasibility is the demand on the types of buildings and services that are planned for a TOD project. In the previous section of the thesis, it was established that planners have set high ambitions for TOD design principles in Flemingsbergsdalen. These include the addition of a large number of office spaces in the area. One practical challenge that was discussed during the interviews was to make sure that these office spaces are actually filled with people and companies that contribute to the vision of Flemingsbergsdalen as a vibrant and interesting place to be part of (Huddinge municipality 2020). Since all these offices will be built from scratch, much of the implementation of the vision is dependent on a high demand for these types of buildings and the offer that Flemingsbergsdalen can provide. When this challenge was discussed during the interviews, Property owner 1 expressed that the current demand on office buildings in Flemingsbergsdalen is low, which creates a challenging situation for all actors involved in the project. They expressed it like this:

“There is no demand on the market for office spaces in Flemingsberg right now. If we were to build something today it would be really difficult for us to fill the vacancy” (Interview, Property owner 1).

The low demand on office buildings in Flemingsbergsdalen has also been noted by the officials at Huddinge municipality. In the interview with Huddinge 4 I asked how they would describe the demand on office buildings in Flemingsberg today. The answer to that question was simply “weak” (Interview, Huddinge 4). There are many reasons for the low demand, one being the

current economic recession and its implications on the economy in general. (Property owner 1, Huddinge 2, Huddinge 4, Huddinge 6, Region Stockholm 2). Another reason is said to be the intense competition within the Stockholm region where many municipalities and developers have been planning and constructing office buildings during the last decade (Huddinge 4, Region Stockholm 2). Regardless of the reason behind the situation, the low demand is concerning considering the ambitious visions. During the interview, Property owner 1 also stated that they will not build on speculation in Flemingsbergsdalen, meaning they have to find reliable tenants before the construction can even begin. This means that the low demand could be a real challenge to TOD implementation in Flemingsbergsdalen since it could hinder the plans of the urban area even being built.

#### Financing social and cultural activities

Lastly there are also challenges connected to the planning of the so-called “softer values” in Flemingsbergsdalen, such as cultural activities and community engagement (Interview, Huddinge 5). As stated in the literature review, Transit Oriented Development as a concept is rooted in ideas of the urban as a space for community. This means that one important factor when planning a TOD is to facilitate spaces for engagements and interactions (Jamme et al 2019). The development plan for Flemingsbergsdalen sets up ambitious goals for the area to supply both Flemingsbergsdalen and Flemingsberg with cultural, social and economic activities. The strategy for achieving venues for social interaction is to place public functions in strategic locations. An emphasis is put on the social importance of schools and pre-schools, but the transit centre is also an example of a public function that can have social importance (Huddinge municipality 2020).

Despite the ambitious plans in the development documents, planning for cultural and social functions in an area of new development is a challenge in relation to financial feasibility. According to Huddinge 5 cultural activities and actors can rarely support themselves financially when it comes to the ability to pay for high rents etc. They express it like this:

“I work a lot with questions related to how we can make Flemingsberg a place where actors in culture want to be and can be. And I wrestle a lot mentally with the question of finding models of financing for cultural activities. Because we want culture to be a part of the development in Flemingsberg, it creates urban values and qualities. But it does not carry itself financially, and will not be able to do so in a newly developed area either. So that is really a key question for me right now” (Interview, Huddinge 5).

When discussing this challenge with the property owners, it becomes clear that the cultural aspect is a challenge also for them. Property owner 1 stated that it is important to attract culture to Flemingsbergsdalen in order to make sure that the area does not become homogenous in function. An area with mainly office buildings and lunch restaurants will not be the vibrant 24-hour city that the development plans are aiming for. However, it is not possible for them to lower rents to enable the cultural functions to be placed in the most strategic locations. Here, the property owner claims that the municipality needs to have a wider toolbox to be able to collaborate on different ways to enable cultural functions. They expressed it like this:

“But the key here would be to work more with the municipality. We do that already today, but I think we need to view it even more from above. The municipality often asks how we can ensure cheap rents for these activities in the urban centre. And that is a question we can’t even answer today. Of course we always want to attract businesses and activities that support the general development. But we are also a profit-driven company. We can’t say that ‘these actors can get 8 months free rent’ for example, it doesn’t work like that. The municipality really needs to be a part of the solution here. Maybe they can rent some spaces in central Flemingsbergsdalen and create space for music schools or artist’s studios We need to collaborate on these issues.” (Interview, Property owner 1)

When the question of more active municipal involvement in these issues was discussed with the municipality, it was stated that this is a question of political priorities and involvement. Huddinge 5 expanded on the topic by stating that:

“That is a question that is very high on the agenda in the cultural industry right now, rents. And we are currently looking into how other municipalities are doing it. When it comes to Huddinge municipality with these issues, it is pretty much non-existent. Huddinge municipality has never worked with this before, and we are at the bottom of the list of cultural budgets per capita for all municipalities in Sweden. This has not been a politically prioritised question for a long time. So it becomes kind of a clash now with the ambitions in Flemingsberg and the structure in place to make that happen. It feels like we have a long way to go in this area” (Interview, Huddinge 5).

The challenge of enabling social and cultural activities within the new development can also be viewed as a combination of formal and informal challenges. The pricing and cost of rent in the new buildings is a formal challenge that can be addressed through formal incentives such as a system of subsidisation for cultural or social activities. However, the decision to do so is all in the power of the property owners who, as in the case in Flemingsberg, does not always have the financial abilities to do so based on good will. The challenge then becomes of informal nature because the responsibility of initiating a subsidy programme for culture is passed to the municipality and the politics on the role of culture. Politics and the opinions on the importance of culture in the urban areas is a typical example of informal institutional challenges (Hrelja et al 2020).

### 5.2.2 Defining Roles and Responsibilities

The next category of challenges, roles and responsibilities, is mainly dealing with challenges that are rooted in an uncertainty of the different roles in the implementation process. This relates both to uncertainty about other organisations and the own organisation’s role in the process. This section will be structured based on three identified topics; *the duality of the municipality, placemaking and marketing, the uncertainty of Trafikverket* and *the involvement of Region Stockholm*. The section will expand on these challenges by incorporating quotes from the interviewees and discussing their role as challenges to institutional implementation.

## The duality of the municipality

In interviews with representatives from the municipality there was a discussion on what type of role the municipality could and should play in these types of development projects with many actors involved. Some of the interviewees stated that they experience a hesitation or insecurity from the municipality in these matters, something that they believe have a negative impact on their work in Flemingsbergsdalen. One interviewee expressed this opinion by saying:

“I think that the type of role a municipality should play in the development of these regional cores is a big question. I experience that there is some type of duality in the question of proactivity or reactivity. Is it within the municipality’s role to drive this development or should the market do that? Also, should we have a policy of equal treatment between the different districts in the municipality or can we actively market specific districts more than others?” (Huddinge 2).

Another interviewee from Huddinge municipality expanded on the consequences of the duality mentioned by Huddinge 2 by stating:

“I can’t see that Huddinge municipality has previous experience with developing an area of this size. I understand that it is complicated and that we need to be best at being a municipality, that the resources go to the right things. But I think that smaller investments could have really set the ball rolling, and we would have come a lot further by now. Now you can notice some frustration from other actors that the municipality is not doing anything” (Huddinge 4).

This duality could stem from political discussions on the role of the public sector versus market actors. This can in turn be connected to the previous discussion on the turn to “planning by invitation”, where many municipalities decided to take a less proactive role in the development process and leave more of the risks and profits to the private market. Thomas et al (2018) argues that this approach can be seen as a reaction to the economic crisis in the 1990’s and the economic losses it resulted in for many municipalities. By letting the private actors take a bigger role in the development the municipalities trade some of their self-governance in the projects with the opportunity to achieve development without taking the biggest risk (Thomas et al 2018). However, this position to leave much of the development to the private sector can be difficult in a system of municipal planning monopoly. Although much of the responsibilities have been transferred to the collaboration partner, the municipality still has to remain an active part in the planning process. According to Tan et al (2014), this can lead to conflict and confusion about roles and responsibilities between different actors. From an institutional perspective this can be discussed as a formal institutional challenge that is based on the complexity of governance (Tan et al 2014).

## Placemaking and marketing

In the example of the development of Flemingsbergsdalen, the uncertainty about the role of the municipality is a challenge in itself because it causes uncertainty for the planners on how to navigate certain issues. However, this uncertainty also has concrete consequences for specific areas of the planning process. The “frustration” mentioned in the previous quote by Huddinge 4 was discussed as a consequence of the more passive role that the municipality has taken in the development process in Flemingsberg. They stated that there is a frustration from other actors that the municipality does not do enough when it comes to getting the word out about the development of Flemingsbergsdalen in order to attract businesses to the planned office buildings. They expressed it like this:

“It's not just about physical development; the municipality also needs to step up its understanding that everything we say about Flemingsberg, everything we discuss, becomes a reality. So we all need to be some sort of salesperson, but in our own context, somehow. The frustration is that we need to have a much clearer or much more unified communication about everything that is happening to strengthen Flemingsberg as a place.” (Interview, Huddinge 4).

The vision for Flemingsbergsdalen states that there will be around 50 000 workplaces in Flemingsberg in 2050, and the central parts of Flemingsbergsdalen are planned to be high-rise office buildings (Huddinge municipality 2020). With this in mind, several of the interviewees stated that it is crucial that all actors start working together to promote Flemingsberg as the best office location in Stockholm, in Sweden or even the world. Particularly based on the current situation with low demand on offices in Flemingsberg and the financial recession affecting the economy in all of Sweden. Property owner 2 said:

“But the most important thing, what I am missing here, is that there is... To lift the mental attitude from different parties so that there is a more comprehensive approach to the development of Flemingsberg. Right now it tends to fall flat because people don't want to do anything. Because they are afraid of pushing it too hard.” (Property owner 2).

In the interview with Property owner 2, they developed their thoughts of what a comprehensive approach to the development in Flemingsberg could be by lifting examples from other life-science clusters in Sweden and how they work with marketing. One example that was further explained was Lund in Skåne:

“In Lund, for example, there is... There is just no doubt in what the municipality, the region, companies and other actors want. They have an incredible common goal where they want to be the best in the world. And what do they have? Well, they have a university hospital and a number of research companies around it. That is very similar to the situation in Flemingsberg. But why can't Flemingsberg be the best in the world?” (Property owner 2).

The discussion on the need for more strategic placemaking and marketing is also connected to the previous discussion on the role of the municipality. In interviews with officials from the municipality it became clear that this way of working, with focused marketing on a specific city district, can fall outside of the common view of the usual role of a municipality. Huddinge 4 explained that this way of working is nothing new, many municipalities and regions have

worked like this for a long time. In Huddinge however there is now a need to work actively with anchoring this attitude with politics and within the municipal organisation. Both Huddinge 4 and other interviewees are requesting a more hands-on approach when it comes to marketing Flemingsberg as a regional core.

“...The goal is to have 50 000 workplaces here. They are not just going to automatically show up. When we get a request, we have to be able to take care of it, and then we need to have a swift-footed, internally synched organisation. We need to be able to sell Flemingsberg and get people to understand how cool it is to be a part of this journey.” (Huddinge 2).

Comparing the example of Lund, Property owner 2 also lists Region Stockholm as one of the actors that together with the municipality could take lead in the active work with placemaking and marketing. This should then be motivated by the regional interest of securing more workplaces in the southern part of the region. In the interview with Region Stockholm, they stated that the smart specialisation of the different regional cores is an important strategy in a regional perspective. The life-science specialisation in Flemingsberg is therefore encouraged by Region Stockholm and something they claim to be lifting when discussing the different regional cores and in the general marketing of the Stockholm region. However, they also state that their role is more to create room for cooperation and to set the agenda for mutual discussions rather than working hands on with marketing specific districts.

“Our function, the regional function, is a lot about facilitating cooperation. We don’t have the same ownership as for example Länsstyrelsen has on a regional level where we can put our foot down and say yes or no. You could say that our role is more to grease the system to drive the development forward.” (Region Stockholm 1).

This shows a disconnection between what the local property owners expect from Region Stockholm and how they view their role as a regional planning agency. Overall, there are different views on what role the different actors have on specific issues in Flemingsberg. The interviews show that there is both an external and internal demand for a higher level of involvement in marketing and placemaking by the municipality. It also indicates that there is room for Region Stockholm to play a more active role in these types of questions, given the request from local property owners.

I argue that the challenge discussed in this section can be seen as a consequence of the challenge discussed in the previous section “the duality of the municipality”. This is because the passivity from the municipality to take lead in the placemaking and marketing of Flemingsbergsdalen is rooted in the same hesitation about the municipality’s role in the development process that was previously discussed. The turn to “planning by invitation” has thus not only led to conflict and confusion in regards to responsibilities in the planning process, it is also affecting the more informal institutional practices that are seen as important in these types of larger urban development projects.

## The uncertainty of Trafikverket

Discussions on a specific actor's role in the development of Flemingsberg were also seen to be connected with other issues. One actor that was frequently mentioned in discussions about different actors' roles in the development of Flemingsbergsdalen was Trafikverket. Several of the interviewees from the municipality and the region explained that the role of Trafikverket in the bigger picture of urban development appears to be a bit diffuse. One example of this confusion is said to be the government mandate for Trafikverket to be a *samhällsbyggare*, or “builder of society” in English. Some of the actors claim that they interpret this as Trafikverket having the responsibility to promote sustainable development in all parts of society, not just to protect the interest of keeping full accessibility on every state road or railroad. For example, Huddinge 3 stated that:

“With Trafikverket it feels like that is a part of their organisational culture. They have a bigger purpose of being a “builder of society”, but it feels like as each project comes further along, they move towards the role of state road builders. In the early stages of planning, it feels like it is a lot easier to get along and work towards the same goal. But when it comes down to implementation it is like they take a step away again” (Interview, Huddinge 3)

The officials from Region Stockholm also stated that Trafikverket needs to work on finding their role in the bigger picture and realise the importance of infrastructure in a more holistic perspective. According to Region Stockholm 1, there is often a disconnect between what is said in Trafikverkets' initial investigations and the final product, that the perspectives of accessibility and to overbridge challenges are often deprioritised once the project reaches the implementation phase. They expressed it like this:

“And then there are these huge projects that have their own body. I'm thinking, for example, of the Tvärförbindelse Södertörn; it's a complexity in itself. Because when they initially agreed on the Tvärförbindelse Södertörn, they said that public transport would be prioritised and that this should be linked to achieving sustainable urban environment goals. But when it comes to the road plan, much of the actual road design does not benefit public transport. Something happens within Trafikverket between the overarching beautiful goals and the finished product.” (Interview, Region Stockholm 1).

The uncertainty about Trafikverket's role in broader urban planning was also discussed in the interviews with officials from Trafikverket. Trafikverket 2 reflected on the issue and expressed that they saw this uncertainty as one of their biggest challenges. Particularly when working with projects in a location like Flemingsberg with different types of complex infrastructure, they stated that Trafikverket needs to remember their bigger task to develop better societies, not just better roads or railways. This opinion was expressed like this:

“The thing I think is most important is that we, Trafikverket, understand these large urban development projects. Because Flemingsberg is a massive urban development project. Trafikverket usually just wants to build roads and railroads, but you need to understand that the railway is just a means, the goal is to develop society and contribute to urban development.” (Interview, Trafikverket 2).

These organisational factors to the different roles in the planning process are also likely to be rooted in informal institutional practices where it becomes difficult for individual representatives from Trafikverket to both have the position as “builder of society” and to protect the financial interests within the specific project they are working on.

### The involvement of Region Stockholm

Another topic of discussion in this category of challenges was the role of Region Stockholm in the development of the regional cores in general and Flemingsberg in particular. The question of the regional actor’s involvement was first raised by interviewees at Huddinge municipality. The decision to aim for high ambitions and volumes in the development in Flemingsbergsdalen is highly linked to Flemingsberg’s role as a regional core as pointed out in the RUFSS (Interview Huddinge 1, Huddinge 2, Huddinge 6). This has raised questions about what responsibility Region Stockholm has in the implementation phase of all the interventions they have pointed out as crucial to succeed with the regional cores. Some interviewees from the municipality raised this question in relation to the discussion on implementation challenges and their complexities. In the interview with Huddinge 2, they expressed it like this:

“One question that I think is super interesting is... Okay, so the region is pointing out these eight regional cores in the RUFSS document. And then what? How will they become regional cores? Whose responsibility is it? What support do we get to create them?” (Interview, Huddinge 2).

This topic was also discussed in the interview with representatives from Region Stockholm. According to them, the support provided to municipalities is mainly related to the way they prioritise the regional funding of different development projects on a regional scale (Interview, Region Stockholm 1). Because of the strong municipal planning monopoly, they stated that it is not up to them to make the actual plans or decide what is important in each regional core. From their perspective, being pointed out as a regional core in RUFSS is a confirmation that development in this location is desirable from a regional perspective. This was expressed like this:

“One could say that being designated as a regional city centre is a shared commitment. This includes ensuring efforts to drive development in that direction. We often respond with investments in infrastructure and public transportation. And there is coordination involved. This means aligning development with urban planning and planning for businesses and the necessary components for it to develop into a regional city centre.” (Interview, Region Stockholm 2).

When it then comes down to prioritising funding for different projects, it is more likely that the funding will go to projects that are aimed at strengthening the regional cores. However, there are several regional cores in the region that are all in need for funding of large infrastructure projects. Additionally, there are also important projects that take place outside of the regional core (Interview, Region Stockholm 2). For Region Stockholm it becomes an issue of prioritising. Although the regional cores have been pointed out, there are still several priorities that need to be made. This question of prioritising and allocating resources is mostly an example of formal institutional barriers which are decided through budgets and financial limitations.

However, they can be difficult to navigate since they are decided through negotiation processes that take place on both formal and informal levels of planning (Tan et al 2014).

### 5.2.3 Managing Internal and External Cooperation

The last category of challenges is related to all challenges that can be connected to organisational factors, mainly differences in how the different actors are organised and the aspect of organisational culture. This challenge relates to the basic finding that all actors have different levels of interest in the specific TOD implementation in Flemingsberg, which also means they have different levels of involvement in the implementation process. This section will be structured based on two identified topics; *different organisational driving forces and cultures* and *appropriate internal organisations*. The section will expand on these challenges by incorporating quotes from the interviewees and discussing their role as challenges to institutional implementation through the concept of institutional capacity.

#### Different organisational driving forces and cultures

The planning process involves many actors, but it involves even more people. By working for different organisations with different motives and understandings of the development in Flemingsberg, the individual people involved in the process are equipped with different tools to navigate it. It is important to note that since the different actors all have different roles, they also have different responsibilities in the development and are run as completely different organisations. The municipality and the region are political organisations that need to make sure that the plans are politically grounded before moving forward, the property owners are private companies with return requirements and Trafikverket is a state agency that relies on funding from the national government. According to several interviewees there needs to be a better understanding of these differences and what that means in terms of different choices and decisions. They expressed it like this:

“...Because we don’t understand their processes, we don’t know what they are looking at. It often becomes an issue of ‘us against them’ instead of seeking understanding for each other’s positions and working together. So I generally think that there is not enough understanding of each other’s worlds. I think that could have prevented a lot of clashes in the process” (Interview, Huddinge 2).

Property owner 1 also discussed the importance of understanding each other’s driving forces. They argued that more time should have been spent on identifying challenges and obstacles before the planning process of Flemingsbergsdalen was initiated. They expressed that:

“The municipality has never managed a development project this large before. Does their current organisation give them the opportunity to do that in an appropriate way? Those are the types of questions we are sitting with now, 5-6 years later. That could have been dealt with in an earlier stage. It is not the first time in Sweden that a development project of this size is carried out.” (Private property owner 1).

Property owner 1 argued that the organisational challenges within the project of developing Flemingsberg could have been avoided or minimised by a more thorough preparation. This

could have included looking at other examples of large development projects in Sweden and an attempt to map out what organisational preconditions are important in a process like this. Another suggestion from Property owner 1 was to work towards gaining understanding about how the other actors are organised and what their respective challenges are. This intervention could also be a part of an initial screening, together with an organisational consultant there could be workshops dedicated to gaining understanding of each other's organisation.

### Appropriate internal organisations

The challenge of organisation also covers more basic topics such as the internal organisation in terms of ability to work effectively with the most important issues. One example that was addressed here is the lack of strategic planners that work with overseeing all infrastructure plans in Flemingsberg and how they affect each other. This is a function that is currently lacking both in the municipality and from Trafikverket. Instead, the planning of infrastructure in Flemingsberg is strictly project based, which means that every development connected to infrastructure or public transport is its own project with people working to protect their organisation's interest in that specific project. The interviews with both Trafikverket and Huddinge municipality showed that there is no organisation for more strategic planning of infrastructure once the plans get more concretized and move away from being just visions. According to Huddinge 3, this makes it difficult to prioritise between different projects once the planning process has started:

“When it comes to these large infrastructure projects, it is almost like they are running themselves. Especially when you get closer to implementation I think it definitely becomes very project-based, particularly from Trafikverket I would say” (Interview, Huddinge 3).

This argument was expanded by Huddinge 2 who argued that a more strategic function is needed in order to ensure more effective infrastructure planning:

“We could really need someone that works strategically with infrastructure. With an overview, not just in the respective projects. Right now, we have really good people in every project, but we don't have anyone that looks at the bigger picture. How do we prioritise these projects between each other? What do we say to Trafikverket and Trafikförvaltningen? So that we from Huddinge municipality can speak with one voice. Now we just discuss things in every individual project, and then Trafikverket have their different representatives in every project. But there is no real collaboration based on the bigger picture.” (Interview, Huddinge 2).

Another finding on the topic of appropriate internal organisations is related to how the organisation is suited to deal with specific themes and questions. In the interview with Huddinge 4 they argued that they have struggled with finding an appropriate form of organisation around the so-called “softer values” for many years:

“I mean, physical plans in all glory. But it is not the buildings that make us want to go to places, it is the people there, the content, the feeling, the safety, it is the companies that contribute to life and vibrancy, it is the culture. Some of us realised right away that we need an organisation for that as well. The organisation was used to manage the physical development but not the development within these other values” (Interview, Huddinge 4)

The answer from Huddinge 4 indicates that it is easier to build an appropriate organisation around more traditional municipal tasks, such as the formal process of urban planning. It is however more difficult to decide on a strategy regarding softer values that are outside the traditional scope of a municipality’s responsibility.

The challenges mentioned in this section related to organisational factors can mainly be categorised as informal institutional factors (Tan et al 2014). The argument made by both Huddinge 2 and Huddinge 4 in the quotes above suggest that some of the officials at the municipality has identified a number of organisational changes that would improve their ability to work with TOD implementation in Flemingsbergsdalen. The suggestions of hiring a person that is responsible for the comprehensive planning of infrastructure projects within the municipality, for example, does not have any formal obstacles. However, it is the informal factors within the organisation of the municipality itself that leads to the types of issues described by Huddinge 4. The dilemmas of this challenge can be better understood through the concept of institutional capacity. For instance, the suggestion to hire a strategic planner reflects a need to build internal institutional capacity, ensuring that infrastructure planning is cohesive and aligned with broader development goals. Similarly, fostering an understanding of each other’s organizational challenges enhances external institutional capacity, enabling more effective collaboration and reducing conflicts (Polk 2011).

5.2.4 Conclusion

The aim of this section was to answer the second research question; What challenges are experienced by different actors in the TOD implementation process? This was done through the application of the analytical framework of institutionalism on the challenges to the implementation of TOD in Flemingsbergsdalen that were brought up during the interviews with different actors. The three main categories of challenges; *Financing TOD*, *Roles and responsibilities* and *Internal and external organisation* all listed a number of different formal and informal challenges that are experienced by different actors in the ongoing development of Flemingsbergsdalen. The simple answer to the second research question is therefore that the different actors experience several different challenges TOD implementation, mainly related to financial issues, hesitations about roles and responsibilities and different organisational prerequisites. The challenges are summarised and sorted by category in table 2 below:

Table 2: Identified challenges in the TOD implementation process in Flemingsbergsdalen.

Financial challenges	Roles and responsibilities	Internal and external organisation
Financial feasibility in the early stages of planning	The duality of the municipality	Different organisational driving forces and cultures
Global economic factors	Placemaking and marketing	Appropriate internal organisations

The local demand for TOD	The uncertainty of Trafikverket	
Financing social and cultural activities	The involvement of Region Stockholm	

The institutional lens provided a critical framework to the analysis which was useful for understanding the multifaceted challenges in the implementation of TOD in Flemingsbergsdalen. By examining both formal and informal institutional factors, the analysis could uncover deeper insights into the complexities of the different categories of challenges. The financial challenges can mainly be understood as formal institutional challenges which are related to structures in the Swedish planning system and how resources are allocated on a national, regional and municipal level. In this aspect the financial aspects act as a barrier that makes the implementation process difficult to navigate for individual planners. In accordance with the findings by Tan et al (2014), some of the formal institutional challenges are also affected by informal institutional factors, making them into mutually reinforcing challenges. The two other categories of challenges, *roles and responsibilities* and *internal and external organisation* are more informal in character since they are more affected by factors such as attitudes, traditions and taboos for example (Tan et al 2014).

## 6. Concluding Remarks

In this thesis I have addressed the research gap on TOD implementation in a Swedish context through a case study on the TOD implementation process in Flemingsbergsdalen. By examining core principles and challenges, I aimed to answer two research questions: 1) How has the concept of Transit Oriented Development been implemented in Flemingsbergsdalen? and 2) What challenges are experienced by different actors in the TOD implementation process? These questions were explored through interviews with officials from four different categories of actors involved in the development of Flemingsbergsdalen.

There are two general findings in this thesis, each related to one of the research questions. The first general finding is that the concept of Transit Oriented Development has been implemented in Flemingsbergsdalen through the adoption of the core design and planning principles of TOD implementation that were identified in the literature review. The study also places Flemingsbergsdalen within the historical context of surrounding Flemingsberg, which was planned as an early TOD nearly 70 years ago. This historical perspective illustrates the complexity of TOD planning and highlights how evolving planning ideas shape the physical environment. Evaluating Flemingsbergsdalen in the future will reveal how effectively these TOD principles were integrated and realised.

The second general finding in this thesis identifies three main categories of challenges: *financing TOD*, *defining roles and responsibilities* and *managing internal and external organisation*. These categories reveal the diverse challenges faced by planners implementing

TOD strategies. A key conclusion is that most of the challenges discussed in this thesis were related to financing. All challenges in the Financing TOD category involve financial issues. Additionally, some challenges in the other categories, such as the involvement of Region Stockholm and the duality of the municipality, also stem from economic priorities and strategies. This thesis, through the framework of institutionalism, shows that formal institutional factors like economic distribution and budgets are potentially affected by informal institutional factors, such as the knowledge and experience in navigating the financing processes for individual TOD projects. The analytical framework in this thesis highlights that the interplay between formal and informal institutional challenges contributes to the overall complexity of TOD projects.

Moreover, it is not only the complexity of the individual challenges that complicate the TOD implementation process, but also the interplay and dynamics between these challenges. For instance, financial constraints can exacerbate issues related to role clarity and organisational coordination, leading to delays and inefficiencies. Similarly, ambiguities in roles and responsibilities can hinder effective collaboration and decision-making, impacting the overall project execution. This interrelated nature of challenges underscores the need for a holistic approach in managing TOD projects, where solutions are designed to address multiple issues concurrently rather than in isolation.

The discussion on different challenges in TOD-projects also opens for reflections on which challenges are specific to TOD-projects and which challenges are likely to occur in any large urban development project today. In the specific case of Flemingsbergsdalen it was clear that a large part of the challenges were related to the integration of transport planning and planning for housing. The financial, technical and spatial difficulties of planning for this type of infrastructure is also what typically distinguishes TOD-projects from other developments that does not necessarily require an expansion of the public transport infrastructure. Although the challenges experienced are likely to be similar, it is important to understand the specific challenges of TOD implementation in order to learn how to better organise these processes in future projects.

The case of Flemingsbergsdalen provides valuable insights into the intricacies of TOD implementation. It demonstrates that while the principles of TOD are clear and well-supported, their practical application requires navigating a complex web of challenges. Future TOD projects can benefit from these insights by adopting more integrated and adaptive strategies to manage the multifaceted nature of TOD implementation. This approach will be essential in ensuring that the core principles of TOD are not only planned but also successfully realised in the built environment.

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# Appendix

## Appendix A

### Interview Guide

1. Tell me about your role, what questions do you work with?
  - How long have you been working in this role?
  - What is your background?
2. Tell me about your role in the development of Flemingsberg.
  - How long have you been working with Flemingsberg?
  - What does your role entail?
  - Do you have experience with similar projects from before?
3. What are the crucial issues in Flemingsberg right now from your perspective?
4. How is the work in Flemingsberg progressing right now?
  - How do you feel about it?
  - What are you satisfied with?
5. Which other stakeholders are important for your work in Flemingsberg?
  - Do you collaborate or interact with any of these stakeholders?
6. Which platforms for collaboration are you/your team a part of?
  - How is the collaboration organized?
  - Can you provide some examples, what was your most recent meeting regarding Flemingsberg? What was discussed then?
7. How would you describe the process itself, how does it work when a place undergoes such a major change as in Flemingsberg?
8. Based on your experience, what have been the biggest challenges so far in the development of Flemingsberg?
  - What challenges do you experience in the project right now?
  - What challenges do you anticipate facing in the future?
9. What could have been done differently to facilitate a smoother process?
  - What has worked well?
10. How do you think the outcome will be, what will Flemingsberg be like in 30 years?

