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Exploring the Complexity of Decision-Making in Urban Development: A Comparative Case Study of Turku and Tampere Light Rail Projects

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Abstract

This article examines the challenges and opportunities of delivering urban policies through case studies of light rail projects in two Finnish cities, Tampere and Turku. Both cities initiated their light rail projects in the early 2000s, but only Tampere's light rail system has been implemented. The article explores why similar projects led to different outcomes and different timelines for related development. The first theoretical framework focuses on "transit-oriented development", which promotes sustainable urban growth through transit systems, for example light rail projects that also offer economic benefits among other possible goals, such as reducing ecological footprint and segregation. Another key framework involves examining the interactions between public officials and decision-makers, where local culture and relationships influence project advancement. The article uses documentation from city councils and interviews with key civil servants and decision-makers in both cities. It finds that in these two cities geography, economic factors, and political support differ significantly, affecting project success. While rational arguments are important, aligning beliefs and goals among stakeholders is crucial for progress. Among other factors, differences in decision-making cultures have led to divergent outcomes in each city's transit-oriented development efforts.

Keywords:
public decision-making;
urban development;
transit-oriented development;
public management

Practical Relevance

- In large-scale urban transit projects, such as light rail, effects on the urban traffic are not often enough to justify the project – more benefits are needed especially from urban development and city economy.
- In terms of decision-making for the project, it is crucial that both the public officials and decision-makers, such as politicians, have enough joint understanding on the fundamental benefits of the projects – and that those benefits are seen sufficient for all relevant stakeholders.
- The most crucial benefits that are needed to set the project in motion tend to differ - both based on the circumstances in the cities, but also on the specific challenges that need to be resolved during the times when the decision is made.

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Introduction

In recent years, there has been a significant trend in building modern light rail systems that connect urban areas and provide opportunities for urban development in cities, especially in Europe. This kind of development has attracted interest, as it can offer solutions to multiple aspects of sustainable urban development (Cervero, 1984; Moreno et al., 2020; Sekasi & Martens, 2021). The theoretical standpoint for this theme focuses particularly on the analysis of the concept of *transit-oriented development* (Renne, 2009; Ibraeva et al., 2020; Strong et al., 2017), and the resulting changes in cities—such as effects on urban development and segregation (Rayle, 2014; Derakhti & Baeten, 2020; Gospodini, 2005).

As a concept, transit-oriented development describes urban development that revolves around land use based on either light rail, commuter rail, or other high-capacity public transit (Renne, 2009). This kind of development, which integrates transit with urban planning, has been found to have positive ripple effects on city economies (Salat & Olivier, 2017; Ghebreegziabiher et al., 2010; Higgins & Kanaroglou, 2018), reductions in greenhouse gas emissions, and other factors related to ecological sustainability (Loo & du Verle, 2017), as well as social inclusion (Padeiro et al., 2019). Socially sustainable urban development is closely tied to goals such as the prevention of segregation (Smets & Salman, 2008; Bohl, 2000). It is worth noting that when implementing light rail projects of this kind, careful planning is needed (Furlan & Sipe, 2017) to ensure that all these aspects are included in the project.

In addition, the decision-making process in this type of urban development is interesting from many perspectives. One notable tension in the process is between rational, argument-based decision-making, often driven by public official, and power-driven decision-making, often led by elected decision-makers, especially in the context of urban revival projects (Flyvbjerg, 1998). Also typical of Nordic democracies is the concept of associative governance, which involves negotiation and compromise among various actors in projects such as urban development (Lund et al., 2024). Such negotiation and compromise are also evident in Finnish urban development, where state officials, regional actors, politicians, and city officials collaborate on strategic land use and urban planning (Kanniainen, 2017). Moreover, this kind of cooperation, and the roles of the different actors, changes over time, requiring both politicians and civil servants to adapt by focusing on strategizing and implementing long-term projects amid political turbulence (Haveri et al., 2018).

As a key research question, this article aims to explore the differences in decision-making processes and cultures between cities when transit-oriented development is pursued.

In this article, both the concept and the multiple goals of transit-oriented development, as well as the related complexities of decision-making, are analyzed through two comparative case studies: the light rail projects of Tampere and Turku. In both roughly similarly sized Finnish cities, the development and decision-making processes for new light rail systems have been ongoing since the early 2000s. However, while modern trams have been operating in Tampere since 2021, in Turku the final decision to build a light rail system has yet to be made. This article seeks to explore the similarities and differences between the projects, their relation to transit-oriented development, and most importantly, the effects and complexities of decision-making in both cities in relation to these themes.

Theoretical Standpoints

Setting the goals for transit-oriented development (and how to get it done)

In this chapter, the theoretical standpoint of the article is approached from two different perspectives. Firstly, the concept of transit-oriented development is introduced based on the multiple aims it seeks to achieve. Secondly, the theoretical discussion on related decision-making, focusing on the interaction between politicians and civil servants, is explored. Of course, limiting the study of interaction to only politicians and civil servants exclude important actors - such as the media and citizen interest groups. However, within the scope of this article, we must assume that both groups also bring other perspectives into the discussion beyond their own. Additionally, the interviews highlight key points from the broader public debate. All in

all, the question of interaction brings more depth to the key question of the article: how transit-oriented development is made to happen in different cities, especially in Western welfare states.

Transit-oriented development, as a concept, includes numerous goals that are always connected to the themes of urban development, especially when implementing a city that is sustainable in various ways (Renne 2009, Ibraeva et al. 2020, 110-130). The first set of goals consists of economic perspectives. These emphasize the savings in public investments enabled by public transit projects as land use intensifies, the increase in land and property values resulting in increased revenues for public entities (Mohammad et al., 2013), and the economic activity brought by increased vitality (Ghebreegziabiher et al., 2010; Salat & Ollivier, 2017; Zandiatashbar, 2019). Direct impacts of urban development can include positive developments in business activities when public transit investments have made the urban environment more attractive (Credit, 2018).

The second set of goals concerns social sustainability objectives, such as the impacts on residential area safety, accessibility, and social development, which are often seen to improve with public transit projects (Salat & Ollivier, 2009; Stenhäll & Rossi, 2024). However, some studies, particularly in global contexts, have noted that public transit projects can contribute to gentrification by prompting the displacement of lower-income residents (Liang et al., 2022; Wallin et al., 2018; Zuk et al., 2018). Interestingly, this phenomenon has not been conclusively observed in Finland (Vaattovaara et al., 2010; Rosengren et al., 2024). Compared to many other parts of the world, segregation in Finland is relatively low, and residential areas, as well as nearby services, are not strongly classified in minds of the people based on the area's reputation (Tunström et al., 2016; Rosengren et al., 2024). Additionally, social sustainability is influenced by broader urban development trends, including the creation of safer pedestrian environments, which are often associated with improvements in public transit (Wey & Chiu, 2013; Sung & Sugie, 2015).

The third set of goals relates to ecological sustainability, which has played an increasingly significant role in public decision-making in recent decades. Examples include the impact on traffic-related greenhouse gas emissions and particulate matter emissions (Ali et al., 2021; Kimball et al., 2013), both of which have been shown to decrease in connection with light rail investments, as car traffic is increasingly replaced by public transit. At the same time, broader effects on the transportation system have also been observed. As urban structures become denser due to transit-oriented development, people are more often directed toward walking, which further reduces the environmental harm caused by transportation (Renne, 2009).

The complex interactions and roles between city officials and decision-makers in urban development

The second theoretical standpoint in this article, the interaction between public officials and political decision-makers, has been widely researched (Svara, 2006; Nasi et al., 2022). In the context of transit-oriented development, it is particularly relevant to examine under what conditions of interaction urban development projects, such as light rail systems, are perceived as worthwhile (Strong et al., 2017), and how they can be successfully implemented. The importance of different stakeholders and their perspectives is also emphasized in research concerning how to measure the benefits of public transit-based urban development (Renne, 2009). For example, to implement large-scale projects, it is necessary to maintain sufficient institutional power to ensure that the development serves the objectives set by public entities, such as cities (Suzuki, Cervero, & Iuchi, 2013, p. 188).

But who defines when urban development generates enough value, and who holds the institutional power? A classic study in this field is Bent Flyvbjerg's *Rationality and Power* (1998). In Flyvbjerg's analysis, an urban revival project began with strong political support to improve the bus facilities and expand pedestrian-friendly zones in Aalborg's city center. However, the most compelling aspects of his study relate to the interaction between public officials and political decision-makers (Flyvbjerg, 1998, pp. 20, 73), and how the ownership of the urban revival project shifted between these two groups. Another central theme (Flyvbjerg, 1998, p. 131) is the conflict between rational, argument-based decision-making and power-driven decision-making - where rationality may be sidelined in favor of political strategy.

In addition, more recent studies on decision-making logic help to explain how decisions are made - apart from considerations related to rationality and power. For instance, the "logic of appropriateness" (March & Olsen, 2009) has provided valuable insight into how certain projects are viewed as normalized and even deterministic courses of action across multiple actor levels – for example, light rail project could be seen as an "appropriate" urban development response for a growing city. Other viewpoint for this is "logic of consequences" where decision-makers want to align "predicted consequences with their general preferences – their values, goals, interests or tastes – then choose the action for which the consequences align most closely with their preferences" (Brunsson & Brunsson, 2017).

As this article focuses on two Nordic projects, it is also relevant to consider research on traditions and qualities of "Nordic decision-making", such as those studied under the framework of "associative governance" (Lund et al., 2024). According to Lund et al. (2024), "associative governance is a mode of societal governance that involves negotiation, compromise, and institutionalized conflict between mutually recognized actors - these actors being the state on the one hand and society's associations-turned-corporations on the other". In the Finnish context, this can be seen, for example, in regional urban development, where state-level officials, regional public authorities, local politicians, and the public negotiate and compromise on shared land-use objectives (Kanniainen, 2017, p. 217). Each of these actors, including national-level decision-makers who are primarily for funding, have their own agenda when influencing city-level projects such as light rail development (Maggetti & Trein, 2018). In Finland, this strategic agenda is even written out in the agreements between state and local actors (Ministry of the Environment, 2023). In the research literature, this kind of alliance-building and strategic framing of democratic processes (Salet, 2008) is seen as a key factor in successful urban governance, especially when balancing democratic control and professional public administration (Mouritzen & Svara, 2002).

In the context of relatively close-knit Finnish cities, another important consideration is the fluidity of the relationship and roles between political decision-makers and public office holders. One recent study (Kyösti, 2024, p. 70) examined this relationship, noting that some key political decision-makers are becoming more "professional" - for instance, by serving as mayors or deputy mayors, as has occurred in both Tampere and Turku in recent years. In these roles, politicians often represent broader, city-wide coalitions in addition to their own political parties which affects on how they frame their goals (Kyösti, 2024). Simultaneously, the role of public officials is also evolving. A relevant concept, particularly in the cases of Tampere and Turku, is the idea of "political bureaucracy," which has been explored in the context of urban development (see Laine, 2003, p. 345; Hoikka & Borg, 1990, pp. 91–97). This concept refers to the tradition of senior politicians transitioning into key civil servant positions, bringing their political background and objectives into what is nominally a neutral administrative role – which may affect on their goals as well (Laine, 2003).

In conclusion, these shifting roles are also reflected in the expectations placed on public officials. Haveri et al. (2018) observe that as political fragmentation increases, public officials are required to devote more time and energy to "strategizing, keeping the long-term vision visible, and securing the implementation of strategic projects" - a role somewhat contrasted with that of elected, time-limited political decision-makers. Thus, as Flyvbjerg (1998, p. 73) points out, it is often difficult to determine whether the primary drivers of urban development projects are politicians, public officials, or both - and this ambiguity has a significant impact on the outcomes of such projects. As a conclusion, this kind of "Nordic decision-making" that focuses on interactions of political decision-makers and public officials on multiple levels provides interesting theoretical framework for this article.

Case Descriptions – The Light Rail Projects of Turku and Tampere

The planning of a light rail system in Tampere, a city in Finland with around 250,000 inhabitants, has been ongoing since the early 20th century, involving various possible implementation models and solutions across different time periods. When more serious planning began in the early 2000s, there were considerations in Tampere for a dual-track light rail system

partly integrated with the existing railway network (Tampere Region, 2010). As it turned out, these plans were never realized, but subsequently, the Tampere Region Development Program was initiated, during which the light rail was planned not only as a transportation system but also as a framework for evolving urban development (Tampere Region, 2010).

In Tampere, this kind of framework is reflected in the presentation to the city council for the light rail construction decision in 2016 (City of Tampere, 2016). During the development phase, the city updated and supplemented assessments of the light rail system's impacts, comparing them with a bus-based alternative and its projected outcomes at different points in time. The evaluation of the public transportation project was conducted across seven impact areas: 1) People, 2) Urban Image, Cultural Environment, and Landscape, 3) Environment, 4) Area and Urban Structure, 5) Traffic, 6) Vitality and Attractiveness, and 7) Economy (City of Tampere, 2016). It is noteworthy that these assessed objectives align with goal categories highlighted in earlier research (Renne, 2009; Salat & Ollivier, 2017) and discussed in the previous chapter. These categories serve as a framework for monitoring the outcomes of public transportation-oriented urban development in Tampere.

The other Finnish city discussed in this article is Turku, a city with around 200,000 inhabitants. Turku had a tramway system used in public transportation from 1890 to 1972 (Laaksonen, 2009). Tramway use peaked in the 1940s, after which the number of users gradually declined (Laaksonen, 2009). The tramway network was at its largest in the 1960s, with four lines in operation. Dismantling of the tramway system began in the late 1960s, as the city became more reliant on automobiles, and the removal of tram tracks aligned with the prevailing attitudes of the time (Laaksonen, 2009). This "we already had a tram system" sentiment has remained, albeit to a limited extent, as one of the arguments against light rail even into the 2000s. Following the discontinuation of tramway service, buses took over as the primary mode of internal public transportation.

After several decades, Turku began developing plans for a new light rail system. Initial studies for a high-speed light rail system were already conducted in 2002 (Laaksonen, 2009). More substantial planning emerged in 2009, when the municipalities of the Turku region commissioned a more comprehensive comparison of future transport systems (WSP Finland, 2009). In the early 2000s, the selected approach emphasized a high-performance bus system, which could later be complemented by a light rail system if required developments in land use and other economic conditions were met. In more recent documents (City of Turku, 2019; City of Turku, 2024), light rail is increasingly viewed as the preferred mode of transit, with anticipated city development impacts like those observed in Tampere.

Overall comparison of Tampere and Turku light rail developments and contributing factors

In the comparison between two cities, the first pointer is overall geography. The current urban topography of Tampere provides a more straightforward structure for setting up the tram compared to Turku – the whole of the narrow city center and major suburbs can be reached with the first lines already. In Turku, in comparison, the city center is more distributed – a light rail system with a single line can reach only parts of the city center, and at the same time there are more blind spots.

In terms of numbers, the city of Turku expects (City of Turku, 2024) that within 600 meters of the light rail route in 2050, there will be 30% of all inhabitants, 46% of workplaces, and 42% of residential building operations. In Tampere, around 60% of the inhabitants and around 50% of the workplaces are located within 800 meters of the initial light rail route – and residential building operations were mostly planned to happen along the route as well (City of Tampere, 2016). At the same time, of course, future urban development will add to the use of the light rail. In both cities, there are major plans for urban development, especially alongside the light rail route (City of Tampere 2020, 2023; City of Turku, 2024), and with this development, light rail would have more economic benefits and ridership – however, based on different models (City of Tampere, 2023; City of Turku, 2024), these are difficult to compare, but it seems that the obvious economic benefits are greater for Tampere – and those were widely accepted by the political decision-makers. In the material presented for decision-makers of Tampere, the

economical benefits were estimated to bring around two euros for every euro invested (City of Tampere, 2016) and in later material this urban development progress seemed to happen as planned (City of Tampere, 2020) – which of course provides solid background for future investment decisions as well.

Regarding the use of public transit, the numbers of transit ridership have diverged in Turku and Tampere. In 2019, the ridership in the Turku region was 26.3 million journeys per year, whereas in the Tampere region the figure was 41.8 million journeys (Föli, 2024; Nysse, 2024). After the COVID-19 pandemic, in 2023, the figures were 25.4 million journeys per year in Turku (Föli, 2024) and 50.4 million journeys per year in Tampere (Nysse, 2024). The development of ridership in the Turku region has been stagnant, whereas in Tampere, with the start of light rail traffic, the rise from the slump caused by the COVID-19 pandemic has been fast. It also should be noted that light rail system ridership in Tampere has consistently exceeded expectations (Nysse, 2024) – from the 55,000 daily riders expected initially to up to 80,000 daily riders.

In addition, one of the things interesting to compare from the social development side is segregation, which was already discussed before. As both cities, Turku and Tampere, are relatively large in the Finnish context, both cities also have differentiated residential areas. Based on the academic discussion (Rosengren et al., 2024), the subject is on the rise in all larger Finnish cities and is currently under review in both cities. As a phenomenon, segregation seems to be somewhat more prevalent in Turku (Saikkonen et al., 2018), based especially on the larger immigrant-based population and on residential structure: in Turku, there are more extensive exclusively rental-based residential areas – therefore it is seen as a more articulated topic in the materials in Turku (City of Turku, 2023).

Both cities have also similar strategic aims on economic, societal, and sustainability measures: as Finnish cities are often governed by coalitions with members from all sides of the political spectrum, the strategies that emphasize sustainable growth, measures against segregation, and economic vitality tend to dominate (City of Turku, 2019; City of Tampere, 2020). One example of this is the goals for climate neutrality, which have been set in Turku for the year 2029 and in Tampere for the year 2030. In terms of political governance of the city, both cities operate on a similar model, with 67-member city councils and with an executive city board chosen from the city councillors. Also, both cities have politically elected mayors and deputy mayors, although this change in the political model has happened at different times: in Tampere in 2007 and in Turku in 2021. The impact of these similarities and differences will be analyzed later in the article.

Materials and Methods

In the latter part of this article, the objectives set for the implementation of the city of Tampere light rail project are analyzed, using documentary materials as part of a case study. The source materials for the city of Tampere used for this analysis include:

1. Tampereen kaupunkiseutu TASE 2025 - Development Program for Tampere region (Tampere Region, 2010)
2. Newsec Valuation - Property Economics Analysis of Tampere City Light rail Alignment (Newsec Valuation, 2016)
3. City of Tampere - City Council Meeting Agenda and Attachments, dated 7th November 2016 (City of Tampere, 2016)
4. Newsec Advisory - Monitoring Report for Phase 1 and Property Economics Analysis for Phase 2 of Tampere Light Rail System (Newsec Advisory, 2020)
5. City of Tampere - City Council Meeting Agenda and Attachments, dated 19th October 2020 (City of Tampere, 2020)
6. City of Tampere - City Council Meeting Agenda and Attachments, dated 24th April 2023 (City of Tampere, 2023)

In Turku, the developments and documentation regarding light rail project spans along greater number of years than in Tampere - however the defining documentation for comparison can be listed as:

1. Report on the light rail system in the Turku urban area (Laaksonen, M., 2002)
2. Comparison of public transportation systems in the Turku region 2020 for Turku City Council, dated 14th December 2009 (WSP Finland, 2009)
3. Structural model of the Turku urban area 2035 for Turku City Council, dated 21st May 2012 (Pöyry, 2012)
4. City of Turku - General plan for the Turku light rail for Turku City Council, dated 14th December 2015 (City of Turku, 2015)
5. City of Turku- Refinement of the general plan for the Turku light rail for Turku City Council, dated 15th January 2019 (City of Turku, 2019)
6. City of Turku - General plan for the Turku light rail Satama-Varissuo, Turku City Board, dated 2nd October 2023 (City of Turku, 2023)

As mentioned above, one of the key questions for the article is why Tampere decided to build the light rail starting already from 2016 - and what were the defining questions, aims and other conditions that differentiated between the cities. For this, in addition to the comparison of documentation listed above, there is a need for comparison between the key contributing factors in both cities. Because of this, there was a need to interview some key decision-makers and civil servants from both cities, listed in Table 1 below. In the next chapter key findings are presented both from the material and from the interviews.

Table 1: Interviewees and their role in the light rail project

Interviewee	**Title**	**Role in the project**
I1: City Official, Tampere	Head of Housing and Land Policy	Initially influenced the master plan in the regional organization, later influenced the city's housing and land policy
H2: City Expert, Tampere	Housing Policy Expert	Joined the city during the light rail project to influence housing policy
H3: City Official, Tampere	Director of Urban Planning and development	Played a crucial role in leading the city's land use in the early stages of the tram project, later took on a central role in leading urban planning
I4: Decision Maker, Tampere	City Councilor	Key decision-maker at various stages of the light rail project, especially on urban planning
I5: Decision Maker, Tampere	City Councilor	Key decision maker at various stages of the light rail project, especially on competitiveness

I6: City Official, Turku	Director	Official with responsibilities for planning of the Turku light rail project.
I7: City Official, Turku	Director	Official with responsibilities for urban planning of Turku
I8: City Official, Turku	Director	Official with responsbilities for public transport of the Turku region
I9: Decision maker, Turku	City Councilor	Key decision-maker responsible for urban development in Turku. Previously several roles in other political functions
I10: Decicion maker, Turku	City Councilor	Key decision-maker for urban development in Turku Previously several roles in other political functions.

The interviews were conducted as expert interviews, with the aim of investigating the types of institutional frameworks, particularly the goals, that the experts involved in the preparation and decision-making of the light rail project associated with the investments made along the Tampere light rail corridor and the related decision-making process (Alastalo et al., 2017; Meuser & Nagel, 2009). The interview data was collected through both individual and focus group interviews during the years 2023 and 2024. In both forms of data collection, the interviewer's role was to facilitate discussions with the goal of gathering data that would enhance the understanding of the phenomenon under study from the perspective of the interviewed experts (Krueger & Casey, 2022). In the discussions, the experts were asked, among other things, what objectives were set for the light rail project, and these objectives were then reflected upon in terms of their fulfillment from the experts' perspectives and experiences.

All interviews were recorded, transcribed, and translated. The analysis method used was theory-driven content analysis, conducted using a five-stage analytical framework (Gläser and Laudel, 2013; Rossi, 2021). The first stage of the analysis involved identifying expressions in the interview data that were relevant to the research question. In the second, also strictly interview data-driven stage, these excerpts were condensed into the researcher's language while staying as close as possible to the original expressions, ensuring that the interviewees' perspectives were preserved. Following this, in the third stage, the simplified expressions were grouped into third-level categories by identifying similarly described phenomena across different interviews, as can be seen from Table 2.

Table 2: Formation of third-level categories

	Original quote	Translated and simplified	Category 3
H1	Mutta mutta, lähti mun mielestä selkeesti joukkoliikennehankkeena liikkeelle ja nyt sit se diskurssi on enemmän kuin kaupunkikehityshanke. Ja ihan tai jopa ääneen pormestarimme toimesta sanottu jossain vaiheessa tässä nyt viimeisen vuoden aikana muistaakseni hän totesi, että tai ois pitäny jo kauan sitte. Tää tavallaan diskurssi kääntää tähän kaupunkikehitykseen, että ihan liian kauan nyt ihmisten mielissä tämmösenä kalliina joukkoliikennehankkeena niinku pyöriny.	Originally seen as a public transport project, the discussion has now shifted towards urban development. Our mayor has acknowledged that this change should have happened earlier. This shift in focus highlights how the project has long been perceived as an expensive transport initiative, rather than a city development effort.	In city and urban planning, transportation, land use, and housing planning are combined.

In the fourth stage of the analysis, the third-level categories were combined into 10 second-level categories that already have similar traits. Finally, in the last stage of the analysis, five first-level categories, that are already related to theoretical background, were formed – example of this can be seen from table 3.

Table 3. Formation of first-level categories.

Category 3	Category 2	Category 1
Originally seen as a public transport project, the discussion has now shifted towards urban development. Our mayor has acknowledged that this change should have happened earlier. This shift in focus highlights how the project has long been perceived as an expensive transport initiative, rather than a city development effort.	In city and urban planning, transportation, land use, and housing planning are combined.	Combining transit-oriented development with urban planning and housing

With the analysis process described above, from the five first-level categories, five key themes are identified that provide the basis for deepening the comparison between the light rail projects of Tampere and Turku. At the same time, these themes are typical of the two original theoretical frameworks presented, and those combine the multiple aims of transit-oriented development with findings from the unification of views in the decision-making processes in both cities. The five themes are:

1. Combining transit-oriented development with urban planning and housing,
2. Transit-oriented development as a means of addressing urban traffic challenges,
3. Transit-oriented development as a means of preventing segregation,
4. Various other aims addressed by transit-oriented development, and
5. Unification of views among decision-makers and public officials regarding transit-oriented development.

In the next chapter, these themes with examples from the interviews are more thoroughly analyzed.

Results

Combining transit-oriented development with urban planning and housing

From the interviews, the differences between the Tampere and Turku light rail projects seem to stem from different approaches to transit-oriented development. Although in both cities the interconnection between the light rail projects and urban development can be seen in various master plans as early as the early 2000s (Tampere Region, 2010; WSP Finland, 2009), the interviews indicate that this connection is even more emphasized in the Tampere light rail project. In the interviews with stakeholders from Turku, the beginning of the project was more traffic-oriented - in other words, it was initially seen more as a solution to urban public transport than to drive urban development.

> Originally (the light rail was) seen as a public transport project, the discussion has now shifted towards urban development. Our mayor has acknowledged that this change should have happened earlier. This shift in focus highlights how the project has long been perceived as an expensive transport initiative, rather than a city development effort. (I9)

However, it is important to note that in recent years, the urban development perspective has become more emphasized in the Turku project as well. In the interviews, areas in the Turku city center with significant economic potential emerge as key drivers for an effective public transit system. In this respect, at least partly, the experiences and realized economic developments in Tampere have influenced stakeholders in Turku:

> We've been pondering a lot and haven't seen it clearly how much growth the light rail brings and what to compare it to. Regarding the light rail's additional growth, when we made the decision on the implementation planning recently, it was noted that our previous study by Newsec consultancy showed that the light rail brings in slightly over 4,000 new residents compared to the proposed bus rapid transit option. But this has been strongly questioned, with experiences from Tampere and estimates from Vantaa significantly challenging the notion that we need to believe in the light rail's transformative power more than what has been indicated in our calculations so far. (I6)

At the same time, it can be seen in both cities that the emphasis on urban development and economic benefits—such as rising land values and increasing numbers of residents—plays an increasingly important role in the discussion. These economic impacts are discussed later when analyzing the findings from the key stakeholders.

Transit-oriented development as a means for fixing urban traffic challenges

As discussed before, the effects on public transit and solving urban traffic challenges are, of course, crucial in light rail projects. In this part of the discussion, two key questions arise: firstly, is light rail the best or most cost-effective way of organizing public transit, and secondly, what are the effects on other parts of the traffic system, including cars, cycling, and pedestrians?

The debate about the best way to organize public transit appears in the interview material, especially in Turku, where competing solutions, such as "superbuses," were thoroughly discussed in the late 2010s. In addition, discussions about the initial route and possible connections to neighbouring towns took considerable time, as different options were repeatedly explored. The first route was not as obvious as it was in Tampere:

> We need to make choices and trust that the selections made will be supported in future decision-making. The selection of the route has been one of the most challenging aspects. It's not naturally determined, and perhaps our target network, which consists of about 5 or 6 branches, which are already regional, almost requires it. (I7)

At the same time, it's interesting that, at certain points, earlier discussions around urban development and the economic benefits of land use might outweigh the most obvious public transit choices. For example, the selected light rail route might be suboptimal for organizing transit but chosen due to other factors, such as its urban development potential. Examples of this can be seen in both Tampere and Turku:

> There was a point where the city (of Turku) decided to prioritize urban development and change the route to go through the center Varissuo to the port via Iso-Heikkilä, which isn't the most logical choice for public transportation. However, the city's leadership saw it as a priority, which reduced the role of public transportation at that point. (I8)

> I remember that there were divided opinions in favour of the route that goes through (existing) Pispala streets (in Tampere). It was the people who understood the long-term perspective of urban development who supported the waterfront option. This reflected the current mindset. (I5)

Of course, it's also relevant to consider that, when addressing traffic challenges, urban development can impact the long-term cost-effectiveness of the light rail route. A route that may seem suboptimal today might become optimal based on the urban development carried out in the coming years.

Transit-oriented development as means to prevent segregation

From the interview material, one theme emerges in addition to urban development and addressing traffic challenges: transit-oriented development, and in the cases of this article, especially the light rail projects, can be seen as tools for addressing segregation.

It should be noted that the rise of segregation in public discussion (Rosengren et al., 2024) might influence this as well. When the topic is already being discussed and causing concern in the public sphere, it may be beneficial to connect it to the development project at hand (March & Olsen, 2009) - such as the light rail project in Turku. It is also worth noting that segregation is addressed more in the material related to the Turku light rail, and it comes up more frequently in the interviews with stakeholders involved in the Turku project.

There may be several reasons for this. One is that the topic of segregation has become more emphasized in public discourse in the 2020s than it was in the 2010s, when Tampere was making its initial decisions regarding the light rail system. In addition, the urban development context in Turku differs: the suburb of Varissuo, with its diverse and more immigrant-based population, is mentioned in the interviews as an area that should be more strongly connected to Turku's city center through the light rail.

> Additionally, there's a huge passenger volume and potential, as well as the need to address segregation issues, particularly in Varissuo, known for its diverse population, in terms of language spoken etc. Thus, removing this image of being a 'foreign' neighborhood is seen as crucial. (I9)

In Tampere, a somewhat similar development occurred when the suburb of Hervanta was connected to the city center by the light rail, but in the interviews, this aspect is not highlighted as much. However, the light rail system and transit-oriented development are still seen as important tools for preventing segregation. The approach in the Tampere-related interviews is more general: the light rail is viewed as a means of bringing new developments to older urban areas and attracting more diverse population groups, which may also bring positive effects in terms of advocacy and activation within those areas.

> Rising average prices in an area are not necessarily a problem if more expensive housing is added and if it increases services and activates the area's residents. This can create a virtuous circle and advocates for the area. (I2)

Various other aims that are addressed with transit-oriented development

As seen from the research literature discussed earlier (Ali et al., 2021; Kimball et al., 2013), transit-oriented development provides a framework through which different aspects of sustainable urban development are addressed. In addition to urban development, traffic challenges, and social issues such as segregation, the interview material presents a wide range of other aims that can also be addressed.

One of the key goals linked to light rail is climate goals, and it is typically associated with greening cities in other ways as well. From the interview material, it is interesting to note that

in both Tampere and Turku, this overall greening is connected to creating more attractive and enjoyable neighbourhoods overall.

> Of course, these climate goals and others are crucial, in addition to the attractiveness of the city and for the entire light rail project. (I8)

> Urban development also increasingly focuses on biodiversity and preventing habitat loss. As cities grow and strive for sustainable development, the replenishment and modification of the existing urban fabric become essential. Beyond a purely economic perspective, there is recognition of the importance of investing in urban greening to create a high-quality living environment. (I3)

At the same time, the attractiveness of the city can be seen as a separate aim from sustainable growth. From the interviews, we find that stakeholders view the light rail project itself as something that adds value to the city, especially when it is connected to broader urbanism:

> As a social scientist, I would highlight the importance of human capital, which has an immeasurable impact on the attractiveness of a city. This translates into a positive reputation, urban pride, and positive headlines, the value of which is difficult to measure in euros alone. (I5)

> Urban city life, where services are close at hand, helps to reduce mobility needs and make everyday life smoother. The aim is to create a city where clusters of services are formed, and accessibility to the city centre is important. Regional centres and stop environments will develop in parallel. (I3)

Unification of views among decision-makers regarding transit-oriented development

Lastly, in addition to the physical and social changes in the urban areas of Tampere and Turku, the interviews reveal effects related to decision-making in general, especially concerning transit-oriented development. It is interesting to analyze what kind of unification of ideas, social cohesion, and "shared vision" is required from political decision-makers and civil servants to make the plans happen.

> Regarding Turku, one of the key moments shared in the interviews was a trip to Central Europe, where the idea of light rail was introduced as a future possibility for the city: I was elected as the chairperson of the public transport committee in 2005, and during my tenure, we organized a legendary study trip to Central Europe where we met many future high-profile decision-makers. (I9)

In Tampere, this kind of pivotal moment for identifying the light rail project as a transit solution is not as easy to pinpoint. As discussed earlier, different light rail systems were already being considered in the early 2000s, but more as part of overall urban planning (Tampere Region, 2010).

The political decision-making model itself, as noted in the interviews, might also have an effect. For example, in Tampere, the mayoral model, with a politically elected mayor and deputy mayors, has been in place since 2007, whereas in Turku, it only came into effect in 2021. In the interviews, the strong role of the politically elected mayor and deputy mayors is seen as significant in the new phase of the Turku light rail project:

> The mayor of the city, deputy mayors, and key politicians are determined to push this forward, injecting fresh energy into the project. Their limited terms in office prompt a sense of urgency to progress, ending years of deliberation. (I8, Turku)

At the same time, the shift in priorities, from a transit-focused project toward broader urban planning, as well as experiences from Tampere and other cities, has also influenced the senior officials of the city:

> Working with some senior officials, there's been a notable shift from initial skepticism to full support, reflecting a positive change within the mindset of public officials. (I6)

> The discourse has also involved individuals referred to as "T:s and J:s," where J:s represent traffic-oriented perspectives and T:s encompass broader viewpoints. The recent emergence of T:s's arguments may be one reason for the shifting opinions of some decision-makers—towards support or at least toward skepticism rather than outright opposition. Officials have also taken a more proactive role in pushing the project forward in its final stages. (I9)

Conclusions, Discussion and Further Study

In table 4 below are collected the key findings and conclusions, both from the documentation and from the interviews.

Table 4. Research questions and key findings from both cities

Research question	Tampere	Turku
The interconnection of urban planning and traffic planning	Transit-oriented urban planning - planning of urban structure and light rail since the early 2000s	Transit-oriented planning focused mainly on transit—stronger integration with urban planning only from the late 2010s
The geography and existing urban structure for light rail	First light rail route can be easily found from geography and existing urban structure	Geography and terrain more challenging for finding the economical first light rail route
The overall status of public transit and urban traffic before light rail project	Main bus lines exist, and more people around them, higher ridership in public transit	No main bus lines implemented yet, lesser ridership in public transit
The emphasis on segregation on the project	Less emphasis on segregation	More emphasis on solving segregation
Economic considerations related to building of the light rail	Relatively cost-effective to implement, and low interest rate driving private investments during 2010s	Economically more challenging to implement, higher interest rates in 2020s
Which group is driving the project?	In the beginning, civil servants especially from the transit side and minority of decision-makers, later large parts of civil servants and decision-makers	Civil servants and majority of decision-makers together throughout the project

One of the conclusive key findings that can be drawn from both the documentation and interviews is that only when multiple benefits for overall urban development are tied together can a transit-oriented development project, such as a light rail system, move forward. At the same time, in the interviews and material both from Tampere and Turku point out that measurable economic benefits are essential. However, it can be difficult to determine when urban development and related economic benefits is linked "enough" in the minds of decision-makers, especially at the political level.

Especially the findings from the interviews with Turku officials confirm this. As in Tampere, land use and urban development were already being combined in the official documentation in the early 2010s, when the light rail project was connected to the urban development of Turku and adjoining municipalities (Pöyry, 2012). This development was also tied to the land-use and traffic coordination agreement between the state and the Turku region (Ministry of the Environment, 2023). However, when comparing the two cities, Turku's development diverged from Tampere's timeline in the mid-2010s, when the Turku light rail master plan did not provide clear recommendations for a light rail system. Instead, a bus rapid transit (BRT) system emerged as a competing alternative (City of Turku, 2015).

This comparison of different transit modes, and the related planning, took considerable time in Turku. In 2019, the next step was a more detailed plan for the Turku light rail master plan, including further comparisons between BRT and light rail systems (City of Turku, 2019; interviewee no. 8). It is also worth noting that the discussion during this phase, according to interviews, did not relate significantly to urban development, but rather focused on how public transit should be organized. At the same time, Tampere had already planned and approved a light rail system that was heavily connected to the urban development of the city – and indeed both light rail and new urban development areas were built in late 2010s and early 2020s.

Eventually in Turku, the next step led to a master plan for a route between Turku Harbour and the Varissuo district, which was under discussion in 2023. This step also initiated construction planning and urban development planning for the route, with a strong emphasis on urban development.

It is interesting to note from both interviews and the documentation that, even though urban development was included from the beginning, its importance, and the related economic benefits, has gained more prominence in the Turku region in the early 2020s. This rise of urban development in the focus on transit-oriented development is evident in the interviews. As said, more integrated approach to urban and transit development since the mid-2010s in Tampere has created a notable difference in project timelines. For future developments as well, it may well be that the critical economic benefits (Ghebreegziabiher et al., 2010) and potential areas for urban development are more apparent in Tampere than in Turku, due to both geography and the availability of already developed urban areas.

Of course, other factors have also become more important. For example, preventing segregation was not a prominent factor in the Tampere light rail project in the mid-2010s. However, as the topic has gained more attention since the 2010s (Musterd, 2020), it has become more emphasized in the Turku light rail project—alongside other benefits, beyond solutions to traffic challenges. It is possible that public discussion around segregation has influenced this shift: in Turku, the light rail project is increasingly seen as one solution.

It may also be worth noting that the rise of these different elements is, in some interviews, linked to the introduction of a new governance model, politically elected mayors and deputy mayors, who must push projects forward during their limited terms. This shift in roles and the balance between decision-makers and public officials is also noted in recent research literature (Kyösti, 2024; Haveri et al., 2018).

However, the main conclusion in our two cases is evidently clear: in transit-oriented development projects such as light rail, the focus should not be solely, or even primarily, on solving transit or traffic issues, as previous studies also suggest (Renne, 2009; Salat & Ollivier, 2017). The mindset of decision-makers with varying perspectives often requires additional benefits beyond "just" solving traffic problems in the city. As has often been observed in urban politics, the power to push projects forward does not always align with rational choices focused on a single theme (Flyvbjerg, 1998). When a project simultaneously addresses challenges related to land use, segregation, proven benefits for the city economics, and the overall image of the city, a light rail project becomes much more attractive (Ibraeva et al., 2020). This can also be seen from the experiences of Tampere and Turku.

Limitations and further research

The main limitations of this article stem from the limited settings in which the interviews were conducted: the cities of Tampere and Turku have their own unique environments and cultures, which also influence their light rail and urban development projects. Another key limitation is the number of interviews and the roles of the interviewees: the focus of the article was strictly on the roles and interactions of public officials and decision-makers, which also shaped the interview approach.

These limitations open several questions for further research. One evident question is the nature of decision-making in cities beyond close-knit Finnish communities such as Tampere and Turku. For example, differences in funding models between projects (Xuto et al., 2023), and the interaction between city and state levels, may reveal different approaches among city decision-

makers and public officials. The reality may be quite different in urban environments where funding comes primarily from the state level.

Another interesting avenue for further study is the expectations at the state level regarding urban development in general. Recently in Finland, state-level funding for light rail projects has tightened, which naturally results in fewer transit-oriented development projects and less urban development overall. It would be valuable to explore the drivers and expectations in state-level policy that affect the funding of these kinds of projects - especially given that this kind of "leveraged" sustainable urban development has been a central focus in Finnish urban policy throughout the 2010s and early 2020s.

Lastly, the interaction between public officials, decision-makers, and other stakeholders, such as private investors and the public, is an area that could benefit from deeper investigation. In light rail projects, for example, public expectations vary significantly across different groups, while the expectations of business representatives may differ as well. These complexities merit further study so that the focus related to light rail projects can be broadened beyond the core actors in city halls - namely, public officials and decision-makers.

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Conflict of Interest

The author has no competing interests to declare that are relevant to the content of this article.

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